

AN ANALYSIS OF THE TRANSPORT  
INFRASTRUCTURE OF THE CAPE MIDLANDS  
AND KARROO REGIONS

by

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PREFACE

In 1966, the Karroo Development Association approached Rhodes University to undertake a socio-economic survey of their region. This survey was to form the basis for development planning in view of the expected benefit to the region of the Orange River Project. Similar requests were also received from the Midlands Planning Association and the South Eastern Areas Development Association.<sup>1</sup>

When Rhodes University consulted the Department of Planning, which strongly supported the principle of a regional survey, it was decided that, although Port Elizabeth and its hinterland comprised a logical economic unit, the area should be sub-divided. The University of Port Elizabeth was entrusted with the responsibility for an analysis of the metropolitan area, while the Institute of Social and Economic Research of Rhodes University was commissioned to undertake a socio-economic survey of the inland areas. This thesis on the transport infrastructure of the Cape Midlands and Karroo Regions represents one aspect of the survey.

The area which was allocated to Rhodes University comprises 21 magisterial districts in which the three local development bodies have their interest, as follows:

(a) Karroo Development Association

Graaff-Reinet  
Aberdeen  
Murraysburg  
Jansenville  
Steytlerville

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1. These three bodies are local voluntary associations operating in various parts of the research area. Their main objective is to promote the development of their respective areas.

(b) Midlands Planning Association

Cradock  
 Pearston  
 Middelburg  
 Noupoort  
 Steynsburg  
 Maraisburg  
 Tarka  
 Somerset East

(c) South Eastern Areas Development Association

Albany  
 Bedford  
 Adelaide  
 Fort Beaufort  
 Victoria East  
 Stockenström  
 Bathurst  
 Alexandria

The entire socio-economic survey was financed by grants from the Department of Planning, the Cape Provincial Administration and from local authorities situated within the area.

This thesis is divided into five chapters. Chapter I outlines the geographic, demographic and economic characteristics of the research area, all of which have had either a direct or indirect influence on its transport infrastructure and the types of goods and commodities transported. The historic development of the research area's road and railway networks is briefly covered in Chapter II, while the traffic carried by rail, and the traffic carried by the Road Transport Services division of the South African Railways, is analysed in detail in Chapters III and IV respectively. Chapter V considers the possibility of future growth and development in the research area and the effect this would have on its basic transport infrastructure. The Tables illustrating the volumes and types of commodities carried by road and rail have been included at the end of the relevant chapters, rather than in an appendix at the end of the thesis. Although realising that it would break

the continuity of the text, it was decided to adopt this approach in order to facilitate reference to the Tables which are an integral part of the study.

I wish to thank Professor D. Hobart Houghton, Director of the Rhodes University Institute of Social and Economic Research, for giving me the opportunity to make this study.

I particularly wish to express my gratitude to my supervisor, Professor H.H. Smith of Rhodes University, for his encouragement, for reading the drafts, and for his valuable comments and advice throughout.

I am also most grateful to my wife, Issy, for her patience and help with proofreading the final draft, and to my mother, Stella, for sponsoring the final stages of this study.

GRAHAMSTOWN

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CHAPTER ITHE CAPE MIDLANDS AND KARROO :AREA, GEOGRAPHIC, DEMOGRAPHICAND ECONOMIC BACKGROUNDA. DEFINITION OF THE RESEARCH AREA

This thesis is the result of an attempt to analyse the transport infrastructure of a certain area of the Cape Province. For convenience, this area which does not conform to any accepted territorial division—either administrative or geographical—shall be referred to as the "research area." The research area is situated between south latitudes  $30^{\circ} 56'$  and  $33^{\circ} 47'$  and east longitudes  $23^{\circ} 5'$  and  $27^{\circ} 7'$ .—See Map 1. The surface area of the research region covers 72 462 square kilometres which make up 10,11% of the total Cape Province surface area, and 5,9% of the Republic. The 21 magisterial districts which constitute the research area include:

(1) the eastern regions of the Great Karroo, (2) the bulk of what is known as the Cape Midlands, and (3) the western section of the Border region of the Eastern Cape.—See Map 2.

The research area, as defined, does appear to represent an illogical and unrealistic region for analysis, mainly because it is severed from the important metropolitan area of Port Elizabeth and Uitenhage, and to a lesser extent because it excludes the metropolitan area of East London. As J.P. Blumenfeld points out, "few regional definitions can ever be entirely satisfactory,



MAGISTERIAL DISTRICTS  
COMPRISING  
THE RESEARCH AREA



but where specific objectives are involved, some definitions are less advantageous than others".<sup>1</sup> In the following sections it shall be shown that, mainly because of the arbitrary manner in which it was demarcated, the research area does not qualify as a region on its own.

Traditionally, three different approaches have been adopted in defining regions, namely:

(1) homogeneity, (2) nodality or polarization, (3) programming or policy oriented.<sup>2</sup> The principles of these three approaches shall now be applied to the research area.

The homogeneous region concept is based on the idea that geographical areas possessing similar characteristics may be linked together. These characteristics may be either economic (similar consumption patterns and production structures), geographical (similar climate and topography) or even social or political. The main problem in connection with this approach is that a particular area may be homogeneous with regard to certain characteristics, but lack uniformity in other respects. The inapplicability of this concept to the research area will become evident upon examination of the heterogeneous nature of the area in terms of relief and climate, density and composition of the population, agricultural land use, and the secondary and tertiary sectors of its economy. In fact, the only semblance of

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1. Jesmond P. Blumenfeld, The Economy of the Cape Midlands and Karroo Region - A Sectoral and Spatial Survey, Institute of Social and Economic Research, Unpublished interim report, Rhodes University (Grahamstown: 1971), p.3.
  2. L. Needleman (ed.), Regional Analysis: Selected Readings (Harmondsworth, Middlesex: Penguin Books Ltd, 1968), p.23.

homogeneity within the region is that all the districts expect to benefit from the Orange River Project, albeit that some districts bordering on the boundaries of the research area such as Tarka, Alexandria, Murraysburg and Steytlerville, will experience minimal effects.

The concept of nodality recognises that a region is made up of heterogeneous units—"the distribution of human population leads to cities, towns, villages and sparsely inhabited rural areas—in other words, a hierarchy of settlements".<sup>3</sup> The nub of the matter, however, is that these heterogeneous units are inter-related functionally. Some of these units—large cities—are dominant and attract flows of population, goods and services, and communication and traffic. As Hugh Nourse points out, "if there is such a concept as a natural region, it is a city and its hinterland".<sup>4</sup> Thus, the exclusion of the Port Elizabeth-Uitenhage metropolitan area, is undoubtedly the critical factor preventing the research area from qualifying as a true economic region. In addition, functional interrelationships between the various constituent units of the research area, which are characterised by the flow phenomena mentioned earlier, are very weak and are only encountered in a few localised instances. Proof of this will be found in ensuing chapters which analyse the movement of goods and commodities into and out of the research area, but evidence has already emerged on this point in a study undertaken by Gillian P. Cook.<sup>5</sup>

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3. Harry W. Richardson, Elements of Regional Economics (Harmondsworth, Middlesex: Penguin Books Ltd, 1969), p.67.
  4. Hugh O. Nourse, Regional Economics: A Study in the Economic Structure, Stability and Growth of Regions (New York: McGraw-Hill, 1968), p.129.
  5. Gillian P. Cook, Survey of the Cape Midlands and Karroo Regions. Towns of the Cape Midlands and Eastern Karroo, A report by a subsidiary committee of the Planning Advisory Council, Volume No. 2, Department of Planning (Grahamstown: Institute of Social and Economic Research, Rhodes University, 1971).

A region which falls into the third category, namely a programming or planning region, "is an area over which economic decisions apply, and this fact gives a unity to the area".<sup>6</sup> As mentioned in the preface, the districts comprising the research area fall within the approximate zones of interest of the three local development associations. As these organizations do not have statutory powers to formulate policies, however, the concept of a planning region is of little value when examining the research area's qualifications for regional status. Initially, the bodies which commissioned the survey viewed the research area as a planning region in terms of the localities likely to be affected by the Orange River Project. As J.P. Blumenfeld points out, however, "areas such as Kirkwood, Addo and Port Elizabeth itself also fall within the ambit of this section of the overall Orange River Project—and these areas lie outside the study region".<sup>7</sup> Thus even on this basis, the research area does not completely qualify as a region.

Having recognised that the research area on its own, fails to meet the requirements of an economic region, as well as to facilitate an analysis of the transport infrastructure of the research area, its sub-division into smaller segments is both desirable and inevitable. The two main approaches used in defining regions, namely nodality and homogeneity, are the criteria used in dividing up the research area into sub-regions.<sup>8</sup> It must be admitted that, to some extent, this process of sub-division is unsophisticated and based on subjective

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6. Richardson, p.109.

7. Blumenfeld, p.4.

8. Blumenfeld, in his unpublished interim report, laid the foundation to this sub-division of the research area.

interpretation of the information available. Nevertheless, however, it is submitted that it does have use and validity.

The 21 magisterial districts are thus divided into five sub-regions as described below, and illustrated on Map 3:

(1) Sundays sub-region: the magisterial districts of Graaff-Reinet (node), Murraysburg, Aberdeen, Pearston, Jansenville and Steytlerville;

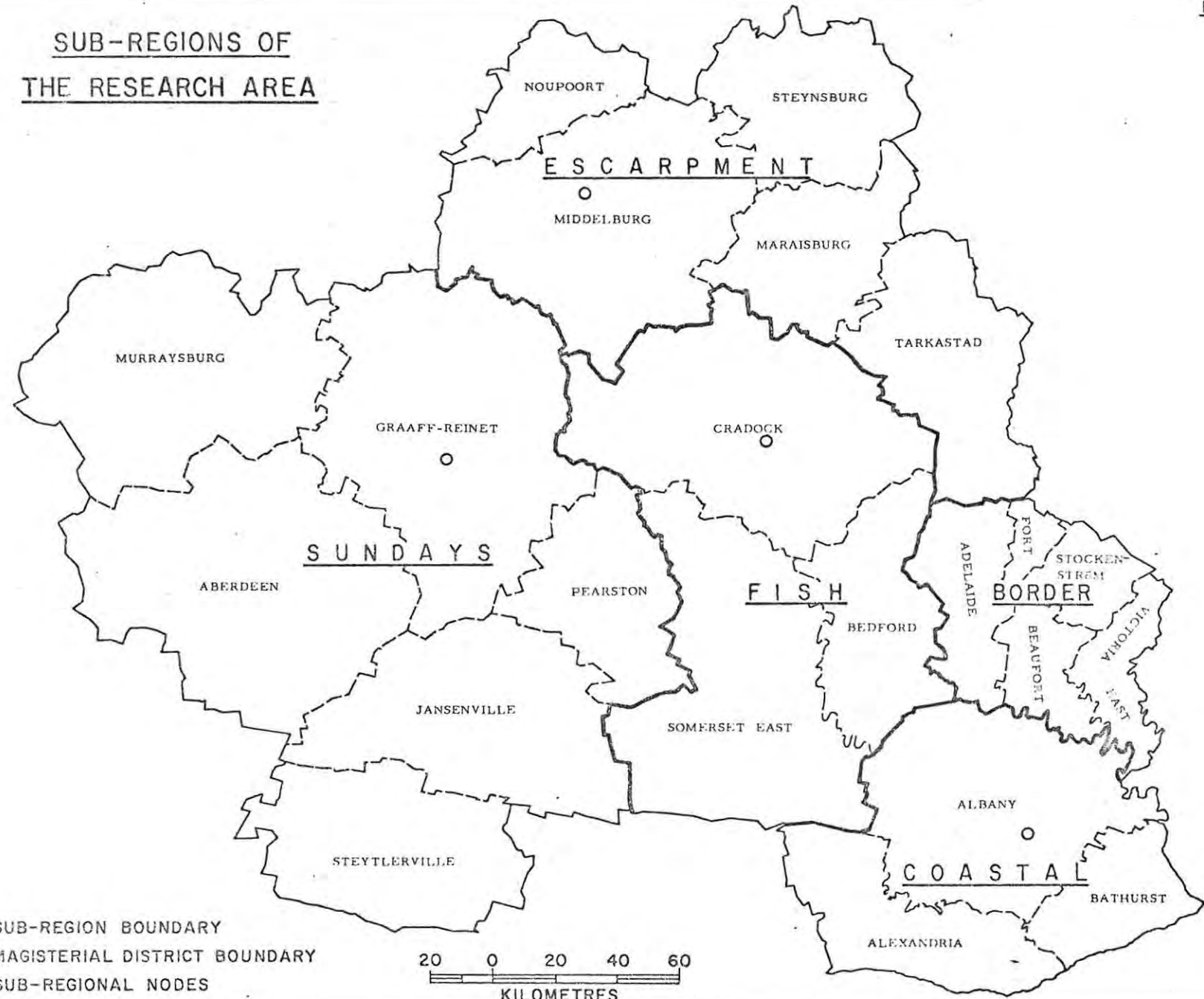
(2) Fish sub-region: the magisterial districts of Cradock (node), Bedford and Somerset East.

In order to portray a more realistic picture of the movements of commodities into and out of the research area, Bedford is included in the Fish, rather than in the Border sub-region. The boundary between the Bedford and Somerset East magisterial districts is the Great Fish River. Next to this boundary river, on the Somerset East side, runs the railway line to the north. A large proportion of goods traffic emanating from the Bedford magisterial district, is dispatched from railway stations situated in the Somerset East magisterial district. Thus, if Bedford were included in the Border sub-region, commodities produced in the Border sub-region would be classified as being "exported" from the Fish sub-region. The weight of this argument dispels any contention that Bedford should be included in the Border sub-region by virtue of the fact that the railway line from East London, which runs through the Border sub-region, also runs through the magisterial district of Bedford.

(3) Escarpment sub-region: the magisterial districts of Middelburg (node), Steynsburg, Maraisburg and Tarka;

(4) Border sub-region: the magisterial districts of Adelaide, Stockenström, Fort Beaufort and Victoria East.

SUB-REGIONS OF  
THE RESEARCH AREA



Although an urban centre did not emerge as a dominant node in the Border sub-region, the cluster of towns on the main road and railway line from Adelaide through Fort Beaufort to Alice and King William's Town, serves the same function.

(5) Coastal sub-region: the magisterial districts of Albany (Grahamstown being the node), Bathurst and Alexandria.

Each sub-region is essentially a nodal sub-region possessing a core and periphery between which flows of population, goods traffic, and communications take place. Each sub-region is also, to a large extent, homogeneous. To avoid confusion, the 21 magisterial districts shall be referred to as the research area, and the segments into which it has been subdivided, as the sub-regions.

The geographic characteristics, the racial composition, and the economic structure of the research area shall now be discussed in general terms.

## B. GEOGRAPHIC CHARACTERISTICS

### (i) Relief

A discussion of the physiographic character of the research area is important because, as it shall be seen later, it has had a profound influence on the development of the area's transport infrastructure.

The relative relief is comprised of "5% mountains, 23% very mountainous or broken terrain, 18% hilly or very broken terrain and 54% rolling or flat."<sup>9</sup> The relief of the research area is

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9. J.J. Badenhorst, Survey of the Cape Midlands and Karroo Regions. A Geographical Study, A report by a subsidiary committee of the Planning Advisory Council, Vol.1, Department of Planning (Grahamstown: Institute of Social and Economic Research, Rhodes University, 1970), p.2.

sketched on Map 4 which shows that the Great Escarpment constitutes the northern boundary of the research area. The Great Escarpment forms, roughly, the watershed between the north flowing tributaries of the Orange River and the southern coastal rivers, particularly the Kariega, Sundays and Fish Rivers.<sup>10</sup>

South of the Great Escarpment lies the Second Escarpment, or Tandjiesberg—Winterberg orographic line, which roughly dissects the research area in an east-west direction. This Second Escarpment is an unbroken hilly and mountainous belt, 50 to 80 kilometres wide. J.J. Badenhorst quotes W.C. Els as saying that the Second Escarpment region "is so mountainous that agriculture can hardly be carried out, and the region is then exploited mainly as summer grazing from the surrounding lower-lying regions".<sup>11</sup> This range is of great significance both from a physical relief and communications point of view. Not only does its western extremity, the Tandjiesberg, form the watershed between the Fish and Sundays Rivers, but the Second Escarpment also poses as an obstruction to traffic moving into and out of the Great Fish River basin. In fact, the only break in this mountain range is where the Great Fish River cuts between the Bankberg and the Bavians River Mountains.

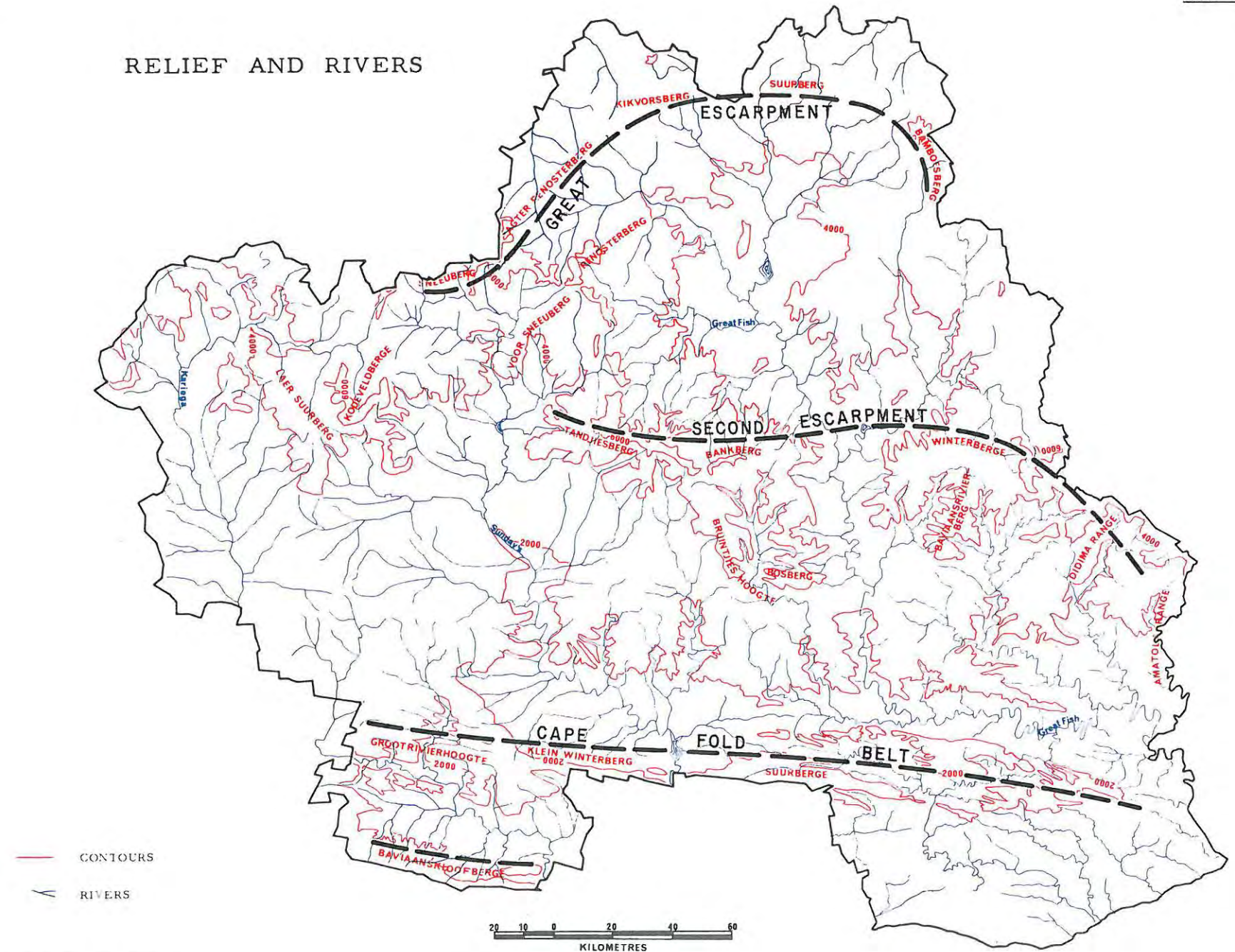
Between the Second Escarpment and the Great Escarpment lies the basin known as the Cape Eastern Midlands. This basin accommodates the head water basins of the Great Fish and Kei Rivers, of which only the former is of any importance to the research area.

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10. J.H. Wellington, "Some Physical Factors Affecting the Economic Development of the Eastern Cape Province and Adjoining Areas", South African Geographical Journal, II (December, 1928), 23.

11. Badenhorst, p.4.

# RELIEF AND RIVERS



After Badenhorst, J.J.

The southern boundary of the research area consists of 64 kilometres of the coast and then moves westwards along the Suurberg, Klein Winterberge and Baviaanskloof mountains. The former two mountain ranges, together with the Grootrivier-hoogtes and the Klein Winterhoek Mountains, represent the northern ranges of the Cape Fold Belt, while the Baviaanskloof Mountains is the only component, in the research area, of the middle range of the Cape Fold Belt.<sup>12</sup> Its southern or coastal range does not reach as far as the research area. The Cape Fold Belt stretches as far as the lower regions of the Great Fish River where it meets the coast. According to J.V.L. Rennie, "it introduces features of distinctly Western Province aspect well into the Eastern Cape".<sup>13</sup> This belt separates the Karroo and Midlands plateau from the Coastal plateau and "as the southern boundary of the Great Karroo, [it] contributes greatly to the arid conditions ... of the Karroo because it is a climatic barrier".<sup>14</sup> The "Eastern Karroo" is an integral part of the research area and its northern boundary is the Great Escarpment.

The Coastal Belt rises sharply to a height of about 60-90 metres and there is no low-lying coastal plain. One of the coastal features which has had at least some influence on the economic development of the research area, is the nature of the river mouths. All the rivers, from the Kowie River eastwards to

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12. Badenhorst defines the Cape Fold Belt as consisting "of a series of parallel [italics mine] mountain ranges which run from the west in an east-south-easterly direction". p.5.

13. J.V.L. Rennie, "The Eastern Cape as a Geographical Region", South African Geographical Journal, XXVII (1945), 1.

14. Badenhorst, p.6.

the Tugela River, are tidal rivers, and one would expect them to be ideal for harbour facilities. The extent to which they are suitable, however, depends firstly, on their ability to eliminate the sandbanks which are built up at their mouths by the action of the waves, and secondly, on their seasonal nature. During the dry seasons, many of the largest rivers are unable to keep their channels open to the sea, whereas during the rainy season, what were previously virtually only streams, turn into rivers and wash away the entire obstructing sandbanks.

From his geographical study, J.J. Badenhorst concluded "that there is no clearly defined central area of outstanding importance. ...The region consists of a dissected landscape in which it is difficult to single out any catchment area or lowland that has more than purely local importance".<sup>15</sup>

(ii) Climate

J.J. Badenhorst quotes J.S. Whitmore<sup>16</sup> as saying that "it is well known that the farming potentialities of any area tend to be determined not so much by the favourable as by the adverse or restrictive qualities of the environment. That is to say, success in farming is mainly a function of the least risk. Hence the need for particular study of the limitations of the climatic environment".<sup>17</sup> This is of particular importance in the research area, which as shall be seen more clearly in ensuing sections, is a predominantly agricultural and farming region. The main climatic factors influencing land use within the research area are rainfall, temperature, evaporation and the occurrence and duration of frost. Each of these factors shall now be discussed

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15. Ibid., p.8.

16. J.S. Whitmore, in 1957, undertook a study of the influence of climate factors in the agricultural development of South Africa.

17. Badenhorst, p.54.

in greater detail.

(a) Rainfall.—Map 5 illustrates the mean annual rainfall over different parts of the research area. The lowest mean annual rainfall (190-339 millimetres) is experienced in the eastern sector of the Great Karroo which includes the magisterial districts of Murraysburg, Aberdeen, Steytlerville and Jansenville, the greater part of the Graaff-Reinet, and the south-western extremities of the Somerset East magisterial districts. As will be recalled, the Cape Fold Belt is partly responsible for the relatively low rainfall in this area. Within this low rainfall area, there is a gradual increase in the mean annual precipitation as one moves to the north and east.

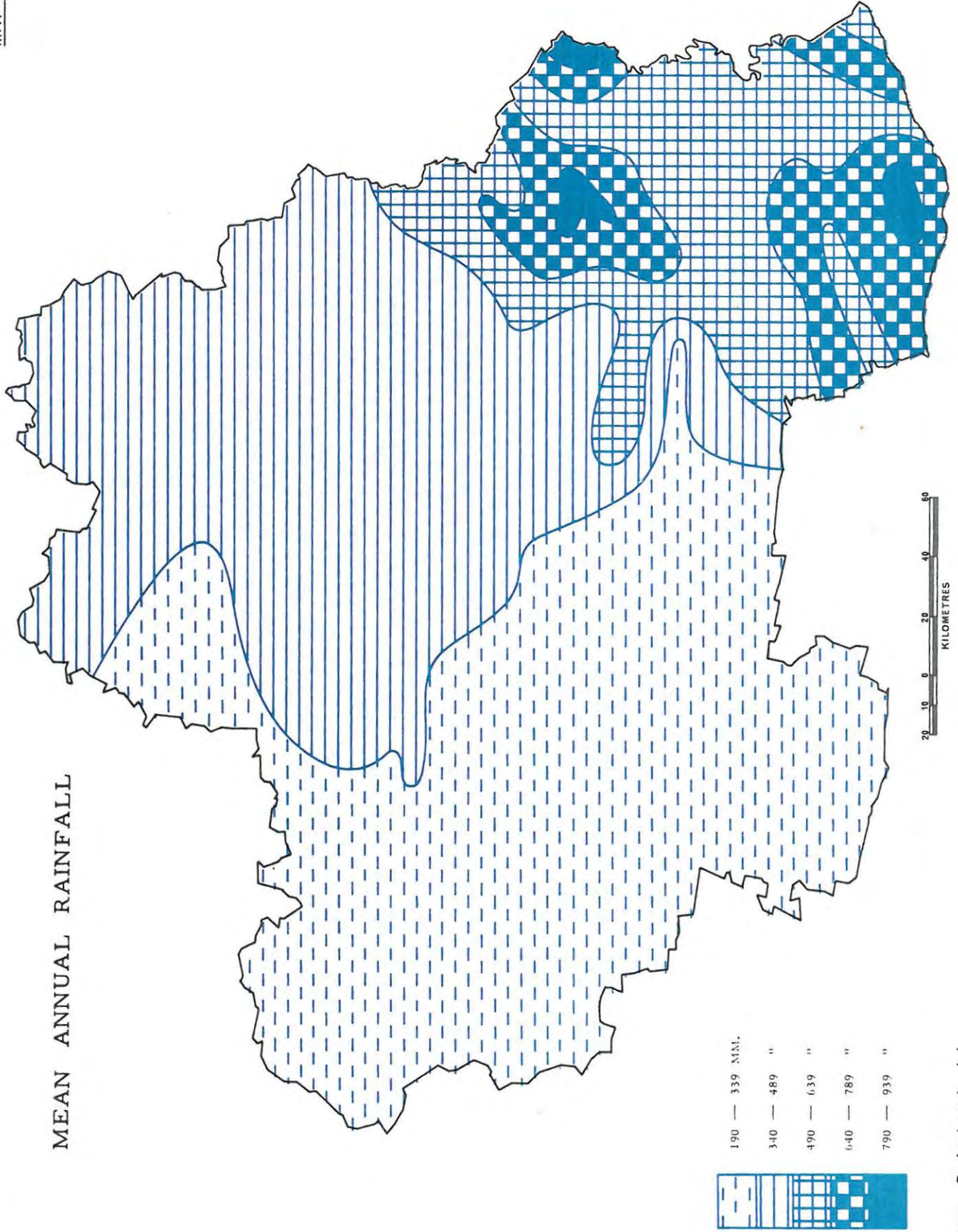
The highest rainfall area (790-939 millimetres per annum) is found along the Second Escarpment in the Winterberg area which embraces parts of the Fort Beaufort, Victoria East and Adelaide magisterial districts. From here there is a south-westerly decrease to the central and southern drainage areas of the Great Fish River. Towards the coast, there is an increase in the annual precipitation in the magisterial districts of Albany Bathurst and Alexandria, the latter in particular, experiencing a high rainfall.

In the Midlands, the rainfall varies from 340 millimetres per annum in the central part, to 500-625 millimetres per annum in the Bamboesberg and Suurberg, which form part of the Great Escarpment. The lesser precipitation in the central area is due firstly, to its lower situation, and secondly, to the rain shadow effect caused by the Second Escarpment.<sup>18</sup> Although

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18. W.G. Moore in A Dictionary of Geography (Harmondsworth, Middlesex: Penguin Books Ltd, 1957), p.141, defines rain shadow as "an area which has a relatively light average rainfall because it is sheltered from the prevailing rain-bearing winds by a range of mountains or hills; it is therefore situated on the lee side of the range".

MEAN ANNUAL RAINFALL



Cradock lies nearer the sea than Middelburg and Hofmeyr, the mean annual precipitation at the former is less than at the latter two ... This tendency can be ascribed mainly to the difference in height above sea level, Cradock lying 391 metres lower than Middelburg and in the rain shadow influence of the Winterberg".<sup>19</sup> The eastern periphery of the Midlands is characterised by mountainous terrain, and this accounts for the high annual rainfalls recorded at Steynsburg—409,5 millimetres—and Tarkastad—452,2 millimetres.

J.J. Badenhorst noted that, as is the case for the rest of the Republic of South Africa, there is an increase in rainfall within the research area as one moves from west to east over the interior plateau, and that orographic features influence the rainfall quite markedly.<sup>20</sup>

In the Midlands area, and in the central and western surrounding areas of the Second Escarpment, the bulk of the annual mean rainfall falls during the summer months. However, the precipitation during the months from October to December—the sowing season—is too small for the cultivation of summer crops. Notwithstanding, the distribution of the rainfall during the summer months is most erratic. "It appears that the Midlands is dependent on thunderstorms for between 70% and 80% of its total rainfall; in the Second Escarpment area it decreases to between 25% and 30%, while the coastal belt receives rain as a result of thunderstorms for only 5% to 10% of the time".<sup>21</sup> The rainfall during the months of March, April and May is adequate for winter crops although the precipitation thereafter

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19. Badenhorst, p.45.

20. Ibid., p.44.

21. Ibid., p.48.

is not usually sufficient to ensure the success of the harvest. In general, the climate of the Midlands area is not really suited to crops and as a result, it is a predominantly stock farming region. However, the cultivation of winter wheat for stock feeding purposes is carried out fairly extensively, while some farmers also grow lucerne and maize for their own use.

In the Karroo, the rainfall in both summer and winter is too low for the cultivation of crops; thus this area is almost solely devoted to stock-farming. Where irrigation water is available, however, wheat and other crops are grown.

The south-eastern section of the research area enjoys the highest rainfall and naturally, this is where arable farming is predominant. The coastal region, particularly the magisterial districts of Bathurst and Alexandria, produces virtually all the Republic's chicory, while it is also the main pineapple producing region in the country. The satisfactory rainfall in this corner of the research area also assists in the cultivation of fruit, vegetables and maize.

(b) Frost.—"Over the coastal plateau the winters are moderate and frost may occur from 25th May to 20th August. In the central parts of the Midlands, heavy frost occurs from the last week in April and is a nightly occurrence till the middle of September".<sup>22</sup>

Citrus production demands relatively warm winters and consequently, citrus is found only in those areas which experience moderate and reasonably frost-free winter months, namely, the magisterial districts of Albany, Bathurst, Fort Beaufort, Victoria East and Stockenström. The cultivation of deciduous fruit on the other hand, requires exactly the opposite climatic

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21. Ibid., p.48.

22. Ibid., p.55.

conditions. Depending on the availability of adequate water supplies and the amount of winter cold required by different types of fruit, there is reason to believe that the Midlands region may become a profitable deciduous fruit producing area. Whether this comes to pass, with its undoubted beneficial effects on the economy of the research area, depends very much on the ultimate outcome of the Orange River Project, and on the execution of studies similar to that of De Villiers.<sup>23</sup>

(c) Temperature.-Next to rainfall, temperature is the main determining factor as to whether or not, agriculture can be successfully carried out in any particular area. In many cases, temperature is in fact the main criterion of success as temperature cannot be artificially controlled, as can the supply of water via irrigation. It is the minimum temperatures and the duration of the frost-free period which are of particular concern, and about which little can be done. When the temperatures prevailing over the research area are compared with the annual rainfall of various sections of the research area, a negative correlation is observable, i.e. when the rainfall is higher than normal, the mean temperature tends to be lower than normal during the same period.

Along the coast, the minimum temperatures are inclined to be stable, while exceptional figures are recorded for the maximum temperatures. This latter factor is due to berg winds which plague coastal regions. Over the interior, the reverse occurs; maximum temperatures are relatively stable, whereas minimum temperatures are subject to extremes as a result of the

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23. G.D.B. De Villiers in "Winter Temperatures and Fruit Yield" (Farming in South Africa, Vol. 22, No. 257, 1947) investigated the amount of winter cold required by various types of fruit in the Western Province.

influence of sub-antarctic air. It would seem that the Midlands and Karroo areas experience the greatest temperature ranges of the whole research area and that this tendency decreases towards the coast.

C. DEMOGRAPHY

M.L. Truu revealed that the preliminary results of the 1970 population census showed a total population in the research area of 421 510 persons—excluding Asiatics—made up as follows<sup>24</sup>:

Whites: 54 430

Coloureds: 87 730

Bantu: 278 920

In absolute terms, there has been a long term decline in the total White population of the research area and this trend continued in the 1960s.<sup>25</sup> The urban component of the total White population of the research area however, has grown, albeit it very slowly.<sup>26</sup> On this point, however, M.L. Truu suggested that "it would not be a misleading summary of the general situation to state that during the 20th century the white urban population ... has tended to remain static, while the rural population of the region has experienced a fairly rapid decline".<sup>27</sup> J.P. Blumenfeld, however, points out that "even this situation appears to have changed in the last decade as the 1970 census figures suggest a decline of over 8% in the White urban population when compared with 1960. The rate of

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24. M.L. Truu, Survey of the Cape Midlands and Karroo Regions: Human Resources in the Cape Midlands, A report by a subsidiary committee of the Planning Advisory Council, Vol. No. 3, Department of Planning (Grahamstown: Institute of Social and Economic Research, Rhodes University, 1971), p.159.

25. Ibid., p.27.

26. Ibid., p.28.

27. Ibid., p.29.

decline in the rural population has, however, been more than twice as fast, with the result that the urban proportion of the White population in the region (excluding Steynsburg MD)<sup>28</sup> rose from 72,7% at 1960 to 74,4% at 1970—a remarkably high proportion for a 'rural' area".<sup>29</sup> The increasing depopulation of the platteland due to depressed farming conditions caused by the almost chronic drought conditions and the declining price of wool, has been one of the most salient features to emerge from the interdisciplinary socio-economic study of the Cape Midlands-Karoo region. This denudation of the research area in terms of the White population, and particularly of the school-leavers, will adversely affect the economy of the research area. Not only will the output of goods and services be seriously affected, but the demand for infrastructural services, and for goods and services provided by commercial and financial institutions, will also decline.

In terms of population density and racial composition of population, the research area is by no means homogeneous. From Table I, in which the magisterial districts are arranged in this order, it can be seen that as one moves across the research area from west to east and south-east, the population per square kilometre increases quite considerably. The Murraysburg magisterial district, for example, has only 1,04 persons per square kilometre, whereas the Victoria East magisterial district, in the east, and the Bathurst magisterial district, in the south-east, support 23,5 and 18,5 persons per

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28. Steynsburg was excluded because the 1970 census reveals that there has been a significant increase in the rural population of that district implying that the workers on the Orange-Fish tunnel have been classified as rural in the census.

29. Blumenfeld, p.14.

square kilometre respectively. Similarly, as one moves across the research area from west to east, the Coloured population as a proportion of the total population decreases, while the Bantu population as a proportion of the total population increases most markedly. Table I reveals for example, that while the Bantu population only accounts for 17,7% of Murraysburg's total population, in the extreme east, 92,1% of Victoria East's population is made up of Bantu.

TABLE I

POPULATION PER SQ.KM. AND RACIAL COMPOSITION OF THE POPULATION OF THE RESEARCH AREA ACCORDING TO MAGISTERIAL DISTRICT				
Magisterial district	Total population per sq.km.	Whites as percentage of total population	Coloured as percentage of total population	Bantus as percentage of total population
Murraysburg	1,0	17,5	64,7	17,7
Aberdeen	1,3	21,7	59,8	18,6
Steytleville	1,6	20,2	58,6	21,3
Jansenville	2,4	22,3	38,6	39,2
Pearston	2,2	13,7	47,6	38,8
Hanover*	2,5	23,5	30,6	45,9
Middelburg	3,6	18,9	30,0	51,3
Graaff-Reinet	4,2	22,0	49,8	28,2
Somerset East	4,6	16,5	30,0	53,5
Cradock	6,0	19,2	23,9	56,8
Bedford	5,5	11,1	17,7	71,2
Maraisburg	3,0	14,7	13,3	72,0
Steynsburg	3,1	15,4	15,5	69,2
Tarka	3,5	11,8	7,0	81,2
Adelaide	8,2	13,5	13,7	72,8
Alexandria	11,7	9,4	7,4	83,4
Albany	13,4	21,8	10,1	67,8
Stockenström	15,9	7,7	1,72	75,0
Fort Beaufort	17,7	8,4	10,2	81,4
Bathurst	18,5	9,5	3,2	87,4
Victoria East	23,5	5,4	2,3	92,1

Source : Population Census, Geographical Distribution of the Population (6th September, 1960) Vol. I, R.P. No. 62/1963.

\* In 1960, what is now known as the magisterial district of Noupoort, was then included in the Hanover magisterial district.

D. ECONOMIC STRUCTURE

(i) Primary Sector.—Almost the entire primary sector of the economy of the research area is comprised of agriculture. Fishing, forestry and the extractive industries are of minor importance and only exert a minimal influence on the economic situation. However, not only has the economy of the research area been virtually solely dependent on agriculture, but within the agricultural sector, wool has played by far the dominant role. This fact is well illustrated by J.P. Blumenfeld who reveals that "between 1954-55 and 1959-60 when the gross value added by agriculture to GGP varied between R23,4 and R32,3 million, ... the total value of the wool clip in the study region varied between R12,1 and R20,9 million".<sup>30</sup> As a direct result of this lack of diversification, the economy of the research area has readily felt the adverse effects of periodic drought conditions and the decline in the price of wool.

The overwhelmingly greater proportion of the surface area of the research area is used for stock farming; less than 2% is used for the cultivation of crops.<sup>31</sup> Merino sheep are farmed extensively over the whole research area, but are concentrated in the magisterial districts comprising the Karroo, Midlands and Escarpment areas, i.e. Murraysburg, Aberdeen, Graaff-Reinet, Steytlerville, Pearston, Somerset East, Cradock, Noupoort, Middleburg, Steynsburg, Hofmeyr, Adelaide and Bedford.

The vegetation in the districts of Jansenville, Steytlerville, Pearston, southern Somerset East and the adjoining areas, is ideally suited to goat farming—in fact Jansenville is one of the most important mohair producing areas in the Republic, and

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30. Blumenfeld, p.21.

31. Badenhorst, p.74.

is the only district in the research area where the Angora goat represents the most important type of livestock farmed. In general, however, because other varieties of small stock are run at the same time, Angora goat farming in the research area must not be regarded as specialised.

Cattle, and consequently dairy farming and beef farming, flourish in the coastal areas. In fact, more than 80% of the beef cattle which are slaughtered in Port Elizabeth, come from the research area.<sup>32</sup> The coastal plateau can be regarded as a transitional zone—as one moves westwards towards the Midlands, cattle decline in importance. J.J. Badenhorst draws attention to the correlation between the declining incidence of cattle as one moves westwards across the research area and the decreasing rainfall and change in vegetation from thorn and grass veld, to Karroo and false Karroo veld.<sup>33</sup> In the Midlands, however, cattle numbers have increased as a result of the increasing production of fodder achieved by means of irrigation.

The coastal area, represented by the districts of Albany, Bathurst and Alexandria, is the main region within the Republic for the commercial production of chicory. The Chicory Control Board, with its various processing and drying plants, is seated in Alexandria. The coastal section of the research area is also part of a belt which stretches from Port Elizabeth to the Kei River and which is the most important pineapple producing area within the Republic.

Lucerne constitutes the most important single crop grown in the research area and in 1963, it covered 43% of the area under tillage.<sup>34</sup> In those areas which are not normally suited

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32. Ibid., p.82.

33. Ibid., p.79.

34. Ibid., p.88.

to the cultivation of crops, lucerne is grown with the assistance of irrigation and used mainly for stockfeed purposes.

In the research area, wheat is of relatively negligible value in so far as a cash crop is concerned. In the principally sheep farming areas, wheat tends to be grown under irrigation mainly for the purposes of winter grazing due to the fear that the dry spring conditions will prevent the wheat from reaching maturity. In the Karroo, however, this attitude towards wheat appears to be changing. During the latter months of 1971, rain fell in the Karroo at the critical times for the wheat crop and, as a result, by 17th March 1972, 100 000 bags of wheat had been delivered to the local depot of the Wheat Control Board's agent in Graaff-Reinet. This shattered the previous record of 65 000 bags which was established in 1961. It is estimated that the 1972 wheat crop will earn between R650 000 and R750 000 for the Karroo grain farmers.<sup>35</sup> In addition, sizeable crops of kaffircorn, maize and lucerne were produced in the Karroo during 1971 and this seems to underline the fact that arable farming in the Karroo, when it has the water, can be successful.

Physiographically, the coastal belt of the research area is ideally suited to wheat farming. The considerable damage caused by rust and the increasing production of pineapples, however, have contributed to its relative decline in importance in this area. Although lucerne has taken over from wheat as a source of fodder in the research area as a whole, wheat still covered 15% of the total area under cultivation in 1963.<sup>36</sup>

The main determining factor for the successful cultivation of maize is an adequate rainfall—it can seldom be successfully

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35. Eastern Province Herald, January 22 1972.

36. Badenhorst, p.88.

grown in areas with an annual average rainfall of less than 500 millimetres. For this reason, the main maize growing areas are located in the magisterial districts of Victoria East, Alexandria, Bathurst, Albany, Stockenström and Fort Beaufort. "In these areas the cultivation of maize covered the largest surface area under tillage in 1963".<sup>37</sup> Maize is the staple diet of the Bantu, while the White farmers use it very largely for silage.

In the research area there are four forest plantations, all of which are owned by the State. These are located at Katberg in the Stockenström district, at Hogsback in Victoria East, at Ford Fordyce in Fort Beaufort, and near the town of Alexandria in the magisterial district of Alexandria. The only sawmill situated in the research area is at Katberg. The future prospects for silviculture appear promising, and increasing attention should be given to the establishment of additional sawmills in the research area.

Citrus production occurs in the irrigated areas of the districts of Bathurst and Albany, as well as in the Kat River valley which includes the Koonap River valley north of Adelaide. In addition to citrus, small quantities of apricots, pears and prunes are grown in the research area.

From this brief description of the agricultural land use within the research area, it can readily be seen that the coastal area is by far the most diversified in so far as agricultural activities are concerned. These include chicory, pineapples, dairy farming, beef farming and, to a certain extent, sheep farming. The two remaining broad areas, namely, the Karroo and the Midlands, are virtually solely dependent on sheep

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37. Ibid., p.89.

farming, with the cultivation of lucerne and wheat being mainly supportive in nature.

(ii) Secondary sector.—Between 1954-55 and 1959-60, secondary industry—manufacturing, construction and power generation—accounted for only 5% of the gross geographical product of the research area.<sup>38</sup> In addition, the number of private industrial establishments existing within the research area, declined from 120 in 1956-57, to 109 in 1959-60 and to 103 in 1967-68.<sup>39</sup> The extent of this decline may be aggravated by classification and definitive problems in connection with certain establishments, but nevertheless, the general trend reflects an unfavourable state of affairs.

The biggest declines during the years mentioned above, were registered in the bakeries division of the food and food products category of industrial establishments, as well as in the non-metallic minerals, and wood and cork categories. On the other hand, there was an increase in the number of industrial establishments within the metal products, transport equipment, and furniture and fixture categories. In J.P. Blumenfeld's words, "this suggests a movement away from the processing of local raw materials to the provision of services and commodities for the local population. If so, then this must be regarded as an unfortunate tendency as the latter types of establishment are far less likely than the former to sell their services or their wares beyond the boundaries of the region".<sup>40</sup>

The industrial establishments tend to be concentrated in the

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38. Blumenfeld, p.33.

39. Ibid., p.35.

40. Ibid., p.36.

coastal areas (district of Albany mainly), the Fish River area (districts of Cradock and Somerset East in the main) and the Border area (districts of Fort Beaufort, Victoria East and Adelaide).

(iii) Tertiary sector<sup>41</sup>.—This sector plays a very important role in the economy of the research area, and in 1959-60 it accounted for 55% of its gross geographical product.<sup>42</sup>

In the 1960-61 Distributive Trade Census, 847 retail trading establishments were listed within the research area. With regard to retail trade, a market consists of people with needs to satisfy, the ability to spend and the willingness to spend. In 1960-61 all these factors were present within the research area and most of the purchasing power available in the area was in fact spent within its borders. Ten years later, however, the situation is not as favourable. There are still people with needs to satisfy and the ability to spend, but there is no longer the same willingness to spend within the region.<sup>43</sup> Various people have already commented on the leakage of purchasing power from the region to the main metropolitan areas of Port Elizabeth, Uitenage and East London, and to a certain extent, Queenstown and King William's Town.<sup>44</sup> With the improvement in roads and communications over the last ten years, one has to

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41. This sector embraces all those economic activities not included in either the primary or secondary sectors. The three main categories are (i) commerce and finance, (ii) services—including government services, (iii) transport, storage and communications.

42. Blumenfeld, p.39.

43. The ability to spend should be qualified to the extent that farmers' income has declined as a result of reduced output caused by drought conditions and the falling price of wool in the recent past.

44. Gillian P. Cook, and F.E. Drennan, Survey of Wholesale, Retail and Service Establishments, Institute of Social and Economic Research, unpublished summary interim report, Rhodes University (Grahamstown: 1971).

accept that the metropolitan areas, with their greater variety of merchandise, are naturally going to be a greater attraction to the consumer. The writer, however, is under the firm conviction that the local retailers have themselves to blame, to a considerable extent, for the flow of purchasing power to the metropolitan centres. This has come about as a result of their failure to appreciate the marketing management concept. The retail trade structure of the research area is permeated by the old family business which has resisted the fact that the consumer has become "king", and that his needs must be satisfied at all times at the ultimate penalty of going out of business. In many cases, unsuitable goods and inefficient service predominate, with the result that the local consumer accumulates his requirements until he can travel to one of the metropolitan areas where he will achieve greater satisfaction.

Other contributing factors to the local retailers' plight, of course, are the growing competition of the "chainstores" and the tendency for many farmers to use general dealer's licences to purchase their requirements from wholesalers in Port Elizabeth and East London. The writer feels that the local chambers of commerce, instead of continually debating these problems at their annual conferences, should arrange short courses on effective business and management techniques to enable interested members to meet this competition by becoming more efficient.

When considering retail and service establishments, it is essential to consider the hierarchy of central places or urban areas existing within the research area. Miss Gillian P. Cook

categorised the urban places in the research area as shown in Table 2.<sup>45</sup>

TABLE 2  
THE HIERARCHY OF CENTRAL PLACES

ORDER	NAME	PLACES IN THE RESEARCH AREA
4	Major Country Town	Grahamstown and Stones Hill
5	Country Town	Cradock, Graaff-Reinet, Middelburg, Somerset East,
6	Minor Country Town	Adelaide, Alice and Fort Hare, Bedford, Fort Beaufort, Port Alfred.
7	Local Service Centre	Aberdeen, Alexandria, Hofmeyr, Jansenville, Murraysburg, Noupoot, Paterson and Sandflats, Pearston, Steynsburg, Steytlerville, Tarkastad.
8	Low Order Service Centre	Alicedale, Bathurst, Balfour, Boesmansriviermond, Cookhouse, Hertzog, Hogsback, Kenton-on-sea, Klipplaat, Nieu Bethesda, Riebeeck East, Rosmead, Seymour, Waterford.

Source : Gillian P. Cook, Table 6, p.10

The characteristics of each of the categories of central places applicable to the research area shall now be briefly described.

(a) Major Country Town. - The number of service establishments

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45. In categorising the urban places in the research area, use was made of the terminology suggested by R.J. Davies in "The South African Urban Hierarchy", S.A. Geographical Journal, 49 (1967), pp.9-19.

existing in a typical major country town, vary between 300 and 600. Miss G.P. Cook quotes Grahamstown as supporting 403.<sup>46</sup> Grahamstown is also able to provide 54 of the 55 categorised functions.<sup>47</sup> Services typical of this category of urban places, and which are provided by Grahamstown, are bank and postal agencies, as well as a building society branch and a medical specialist.

(b) Country Towns.—The country towns within the research area provide an almost full range of functions—48 out of the possible 55. The average for country towns in the Republic is 45. There are fewer establishments than in the major towns—Miss G.P. Cook recorded figures ranging between 126 and 300. Three of the four country towns in the research area have at least one wholesale firm, which reflects their regional importance. Equally, if not more significant, is the fact that these towns provide professional services such as architects, surveyors etc.

(c) Minor Towns.—Apart from Port Alfred, all the minor towns—population varying between 3 964 and 11 090—are clustered along the main road and railway line between Somerset East and King William's Town. The average number of functions provided is 38 and the number of establishments averages 80—the latter figure is somewhat below the average for the Republic as a whole. The services offered include those of a magistrate, dentist, secondary education, bakery, dairy and, in the more progressive places a library as well. The nature of the services made available in a minor country town, helps to extend its zone of

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46. Gillian P. Cook, p.12.

47. These 55 functions are listed by Miss G.P. Cook in Table 8; p.13. These functions vary from Post Office and newspaper, to general dealer and European higher education.

influence to various lower order places in the near vicinity.

(d) Local Service Centres.—Eleven places within the research area qualify for inclusion in this category, and they are evenly distributed throughout the region. Population varies between 2 120 and 6 322 persons, while the average number of establishments encountered in these centres is 55, and the average number of functions provided, is 27.

(e) Low Order Service Centres.—The population of these places is, on the average, 1 000. The number of establishments in existence in the typical low order service centre varies between 4 and 30 and they provide an average of 14 different functions, mainly for the local inhabitants.

Having discussed the geographic, demographic, and economic background of the research area, it is clearly evident that the research area as a whole is a combination of heterogeneous factors. As one moves from north to south, and from west to east across the region, the picture continually changes. This phenomenon, together with the lack of clear functional interrelationships between the constituent units of the research area, required its division into sub-regions. The area was so divided that, as far as possible, each sub-region is homogeneous and contains a dominant node attracting flows of goods and services, traffic, and population from its immediate hinterland, i.e. each sub-region represents what might be called a mini economic region. These sub-regions will be used as the basis for analysing the traffic forwarded from the research area, the traffic received by the research area, as well as the traffic moving within its boundaries.

CHAPTER II

DEVELOPMENT OF THE RAILWAY AND ROAD

NETWORKS OF THE RESEARCH AREA<sup>1</sup>

A. INTRODUCTION

Halfway through the nineteenth century, it was estimated that the population of the Cape Colony numbered just under 300 000. This number was divided between the Western and Eastern Districts of the Colony as follows:

Western Districts :	114 886
Eastern Districts :	<u>170 393<sup>2</sup></u>
TOTAL	<u>285 279</u>

At this time, the Cape seemed to be the least endowed of the British Colonial regions. Its poverty was accentuated by the ever present menace of native wars, while capital was scarce and interest rates were high. Perhaps the overriding problem, however, was that there were insufficient incentives for people and institutions to invest capital in the Cape Colony. There were no real industries, and the bulk of the population was engaged in agriculture and stock farming.

By 1860, wool was the major product of the Colony. Even taking into account the revenue earned from import duties however, wool and hides did not provide sufficient funds to subsidise all the needs of the Cape Colony at that stage of its

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1. This chapter is based on an unpublished report, "The development of the road and railway networks of the Eastern Cape", by Professor H.H. Smith, Dean of the Faculty of Commerce at Rhodes University.
  2. Although there was a greater number of people in the Eastern Districts than in the West, the majority of these would not have been White.

development. They could not pay for the immigration, the bridges, the roads, the railways, the harbour facilities and the efficient government administration which are so vital to the development of the economy of any area. It is against this background, prior to the discovery of diamonds in 1867, that the early history of road and railway development in the Cape Colony must be viewed.

It is also necessary to draw attention to the effect of the topography of the Cape Colony on the development of its transport infrastructure. Railways, like the roads before them, had to contend, not only with great distances and sparsely populated areas, but with steep gradients and semi-desert country.

Thus, it is not surprising that by 1860, communications in the Colony had not advanced far beyond the most rudimentary state in which the ox-wagon, using such roads as existed, was the principal form of transport.

#### B. DEVELOPMENT OF THE ROADS

From the beginning of White settlement in the research area, roads of some kind must have existed. In fact, even before this time, there must have been tracks or paths through the bush, across the veld, and over the mountains, to accommodate any regular patterns of movement of the indigenous Black population. With the development of the area as a result of the entry of Whites, the need would have arisen for some form of communication with the nearest drostdy in order to obtain supplies and to transport produce to such ports and markets as existed. In addition, traders would have been moving about the area—some to trade with the Black peoples—and the military

would have been concerned with the moving of troops and supplies from one point to another.

Such roads as then existed, obviously tended to follow the easiest routes, and were rudimentary in both their location and construction. Furthermore, co-ordination of road construction and road maintenance, which would have benefitted the Cape Colony as a whole, was completely lacking. It is no exaggeration to say that the roads in existence were not only totally inadequate for an expanding colony, but were also in a disgraceful state of repair. Many parts of the interior, including the research area, were to a great extent isolated from centres of administration, and markets alike. The most pressing need was to give to the interior districts, an easy access to the ports of the Colony.

John Montagu, the Colonial Secretary during the period 1843-1852, played a major role in improving and extending the system of roads in the Cape Colony.<sup>3</sup> In November 1843, an Ordinance was passed which made provision for a Control Board of Commissioners of Roads, as well as a Road Board in each of the divisions of the Colony. These bodies were independent of each other, except in cases where the areas of their responsibility overlapped. The activities of the Road Boards were to be financed by a road rate imposed on immovable property in each division.

The possibility of a great trunk road between Cape Town, the centre of administration, and the Eastern Districts, which includes the research area, had long occupied the attention of

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3. J.J. Breitenbach, "The Development of the Secretaryship to the Government of the Cape of Good Hope under John Montagu, 1843-1852". Archives Year Book for South African History 1959, Vol. 2., p.231.

those concerned with the Colony's administration. In December 1843, the Central Road Board decided that an immediate start should be made with this trunk road. The construction of this road involved the crossing of many formidable natural obstacles, such as the sandy stretch of the Cape Flats, numerous rivers, and the most difficult of all, the great mountain ranges which lie between Cape Town and Grahamstown. At the eastern end of this great trunk road, the main road from Port Elizabeth to Grahamstown was rebuilt; and a pass through the Suurberg, which gave the interior districts easier access to Port Elizabeth, was subsequently constructed.

Mainly as a result of the rivalry which existed between the Eastern and Western Districts of the Cape Colony, a great deal of dissatisfaction was expressed about the activities of the Central Road Board. In the Eastern Districts, it was generally felt that rates collected from their immovable properties were being used to finance work in the Western Districts, and that as a result the Eastern Districts were not receiving fair treatment. After 1853, the Central Road Board ceased to exist. During its ten year period of existence, however, it had provided the Cape Colony with a better transport system for that stage in its development than could ever have been anticipated before the occupancy of the post of Colonial Secretary by Montagu.

By 1864, Port Elizabeth was linked by road to Cape Town, as well as to all the main centres in the Eastern Cape. There were two routes from Aliwal North to Port Elizabeth, the former town being the most inland part of the Eastern Cape. One of the routes linked Colesberg, Graaff-Reinet, Uitenhage and Port Elizabeth, while the other linked Colesberg, Cradock, Grahamstown

and Port Elizabeth.

After responsible government was granted to the Cape Colony in 1853, the organization of the roads was re-arranged. Act No. 9 of 1858 made provision for the Government to maintain and improve such main roads as the funds voted by Parliament allowed, and it also authorised the establishment of toll-bars on these roads. Furthermore, the Act transferred the maintenance of divisional and branch roads to the Divisional Councils which had been created in 1855. Subsequently; these councils were also made responsible for maintaining such main roads as were constructed by the Government. These arrangements remained virtually unchanged till the declaration of the Union of South Africa in 1910.

By the mid nineteen-twenties, a new factor had entered the road transport situation in South Africa, namely, the motor vehicle. It was clearly evident that the rural roads and the river crossings, which were reasonably adequate for slow moving ox-wagon transport, were quite unsuited to the faster moving motor vehicle. As a result, in 1925, the Government appointed a committee to investigate the position with regard to roads and bridges in the Union. At that stage, because there was so much leeway to be made up, all the committee could recommend was that the construction of improved roads should be confined to heavy traffic routes in municipal areas and special localities. Notwithstanding the large expenditure recommended by the committee, gravel roads was the best class of road that could be made available in the majority of the rural areas.

By 1927, the demand for major highways of full width and hard surfaces, was increasing considerably. Apart from the roads within the boundaries of the various municipalities,

and the short stretch of road in the Western Cape from Bellville to Paarl, however, there was no other tarmac surfaced road in the Union.

In 1935, realising that only a rigorous approach to the Union's road situation could hope to achieve any success, the Government of the day created a National Road Fund with a National Road Board to administer it. The Fund was to be financed by appropriations made by Parliament, and by a tax of three pence per gallon on all petrol sold in the Union. While the newly appointed Chief Technical Adviser to the Board concentrated on recruiting engineers—who were almost non-existent in South Africa at that time—and other staff, the Board set to work selecting routes to be provided with a tarmac surface. This task became something of a nightmare, and understandably so, when it is remembered that virtually every mile of the location of a road is of vital importance to some or other vested interest. Because of the economic advantages which would follow, those with a stake in areas which were formerly inaccessible or difficult to reach, campaigned vigorously for surfaced road to serve their geographic locations; while interests in those areas which had hitherto flourished as a result of traffic on the routes serving their areas, fought fiercely to have the existing routes retained and their quality improved. Thus it can be appreciated to what extent the National Road Board had to cope with "string-pulling", rival influences, outright attempts at bribery, and all manner of emotional persuasions. It was impossible for the Board to avoid making enemies of many influential interests, and almost every decision resulted in the Board members being accused of favouritism, prejudice or incompetence. Particularly bitter

arguments came from those municipalities who found themselves bypassed.

Eventually, on 22nd February 1939, the Board presented to the Government, a five year plan of road construction embracing fourteen routes:

N1. The Road of South Africa from George to Beit Bridge. This was to be the backbone of the network. From it, roads radiated to Durban, East London, Port Elizabeth, Cape Town, etc.

N2. The Garden Route, the base connecting Cape Town to Durban.

N3. Durban - Johannesburg.

N4. Pretoria - Lourenco Marques.

N5. Winburg - Ladysmith.

N6. East London - Reddersburg.

N7. Port Elizabeth - Middelburg (Cape).

N8. Bloemfontein - Kimberley,

N9. Cape Town - Colesberg.

N10. Kokstad - Pietermaritzburg.

N11. Cape Town - Vioolsdrif.

N12. Outeniqua Pass - Oudtshoorn - Beaufort West.

N13. Three Sisters - Kimberley - Johannesburg.

N14. Durban - Zululand - Ermelo.

It was envisaged that from these fourteen basic trunk roads, numerous subsidiary roads would subsequently be constructed. This plan was by far the biggest single transport programme ever undertaken in South Africa. The national roads project was to be a concentrated effort, whereas, as shall be seen in the next section, the railway network was built piecemeal. Because the Board's men and machinery were absorbed into the army to contribute to South Africa's effort in the Second

World War, however, the whole project was delayed.

In 1948, the National Roads Board was absorbed into the National Transport Commission which continued the work begun by the Board. The years since 1948 have also witnessed many improvements in the roads serving the platteland and its towns. Despite these improvements, however, many of the roads serving the rural areas are still far from adequate for the heavier and faster vehicles of today. This is particularly serious when it is remembered that many of these rural communities depend solely on road transport for their communication requirements.

Having looked briefly at how the road network of the research area developed, it is now necessary to consider the development of its railway network.

#### C. DEVELOPMENT OF THE RAILWAY NETWORK

##### 1. Railways prior to 1870.

The earliest attempt to provide railway facilities in the Cape Colony was made in 1845 when it was proposed to form the Cape of Good Hope Western Railway Company. This venture however, did not come to fruition. Thereafter, efforts to stimulate railway construction continued, and the Cape Town Railway and Dock Company was formed in 1853.

By the mid eighteen-fifties, the Government also began to appreciate the pressing need for railway facilities and in 1856, the Governor of the Cape Colony directed that surveys and estimates be made for two railway lines:

(a) from Cape Town via Paarl to Wellington, with branch lines to Wynberg, Stellenbosch and Malmesbury; and

(b) from Port Elizabeth via Uitenhage to Grahamstown.

On 6th April, 1857, a select committee was appointed to examine the feasibility of constructing these proposed lines. By this

date, the reports of the railway surveys were available, and as far as the Port Elizabeth-Grahamstown line was concerned, the surveying engineer, Mr Matthew Woodifield, recommended two possible routes, both of which went via Uitenhage.

The select committee heard evidence on the desirability of constructing a railway line from Port Elizabeth to either Grahamstown or Graaff-Reinet, and on the basis of this evidence decided to set aside the plans for the line. The inhabitants of the Eastern Districts had apparently not considered the subject sufficiently, and the committee felt that it would therefore be premature to contemplate the construction of a railway in an area where the inhabitants were not convinced of the advantages to be gained thereby. Thus it would appear that it was the early inhabitants of the Eastern Cape who were responsible for the relatively late development of a railway line in the research area. It can also be postulated, however, that the reasons for the select committee's decision indicate that it had lost sight of the inducements which the line would have provided to the growth of the research area's economy.

With regard to the Cape Town-Wellington railway, on the other hand, the committee was convinced of the desirability of constructing the line, and also of financing it by guaranteeing a minimum interest on the capital outlay of a company willing to construct and operate the line. This method of financing railway construction was to dominate the thinking on this subject in the Colony for at least a decade. It commended itself because the Colonial Government did not incur any risk or expense until a railway line, or part of it, had been opened to traffic. Even then, the Colonial Government's liability was limited to the extent to which the profit earned

by a company fell below a stipulated rate of return—generally set at 6 per cent—on its capital outlay. Allied to the principle of the guarantee, was the principle of the sub-guarantee. In terms of the latter principle, the immoveable property in the vicinity of the railway line was to be rated to contribute one half of any amounts payable by the Government under the guarantee. Such an arrangement was considered equitable in view of the advantages which would immediately and directly accrue to the owners of landed property, following the opening of a railway line.

In the mean time, local interests in the Eastern Districts were giving thought to railway facilities. Mr Woodfield's proposed line had not been enthusiastically received by Grahamstown merchants. They objected to the unnecessary length of the tortuous and indirect line via Uitenhage. It was pointed out that the Woodfield line was 134 miles long, whereas in a direct line, Port Elizabeth was not more than 90 miles from Grahamstown. The Grahamstown merchants consequently formed a committee to oppose the construction of the Woodfield line, and to press for the construction of a shorter and less expensive line. They appointed Mr Stephen Mundy to survey the new proposed line, and his report was completed in January, 1858. Soon thereafter, the Grahamstown merchants submitted to Parliament, a report dealing with their proposed route.

At this stage, the Legislative Council and the House of Assembly each appointed a select committee to examine the question of the construction of a railway inland from Port Elizabeth. In their reports, both committees pointed to the inability of ox-wagon transport to cope adequately with the considerable volume of produce from the interior to the port,

and with imports from the port to the interior. It was recommended that no time should be lost in introducing railways into the Eastern Districts because, wherever they had been built, they had been found to be the most efficient, the most speedy and the most convenient way of carrying the traffic of a country, while they also contributed to the development of its resources.

The select committee representing the House of Assembly believed that lines from Port Elizabeth to Both Grahamstown and Graaff-Reinet, were of about equal importance. The point in favour of the Port Elizabeth-Grahamstown line was that it passed through an area in which the roads conveyed a great volume of traffic which was unlikely to be decreased very much, even if the harbour works then in progress at the Kowie, were to succeed to the extent anticipated. The Port Elizabeth-Graaff-Reinet line, on the other hand, would not only have opened up a large expanse of "waste land", but it would also have overcome the problems caused by the scarcity of grass and water on the road between the two towns. In addition, the volume of trade between Port Elizabeth and Graaff-Reinet also justified the construction of a railway line. It was obvious, however, that it was financially impossible to construct both lines and because it was shorter, and therefore cheaper to build, the committee recommended that the line from Port Elizabeth to Grahamstown be built first.

This was not the end of the matter, however. In Grahamstown there was a certain amount of controversy as to whether or not a railway line should be built linking the town with the Kowie, rather than with Port Elizabeth. Those favouring the Kowie line maintained that the line to Port

Elizabeth would take away the trade which Port Alfred—the Kowie—should derive from its natural hinterland. Others, however, felt that the Kowie would never be anything more than a coasting port, and that as it would never handle the overseas trade of its natural hinterland, the line between Port Elizabeth and Grahamstown would not harm it. This controversy, which was to recur from time to time as select committees investigated the question of railways in the Eastern Cape, must be viewed against the background of the harbour works then in progress at the Kowie and which showed every promise of meeting the requirements of the port's hinterland.

A major development, with regard to railways in the Eastern Cape, took place in 1862 when Parliament passed a Bill providing for the construction of a railway line from Port Elizabeth to Grahamstown along the route recommended by Mundy. Soon after the passing of the Act, the Government invited tenders for the construction of the respective lines but it soon became apparent that the form in which the tenders had been invited, was unacceptable to British railway constructors. These constructors objected to having to incur the expense of making the preliminary surveys without any certainty that their tenders would ultimately be accepted, and they required, instead, that the Government itself carry out the surveys. As a result of this development, the Government indicated that it did not intend to take any further action on the 1862 Act. This delay was really a blessing in disguise because, as a result of the information later obtained concerning the railway policies of India and other colonies, and the acquisition of the services of a railway engineer, the Cape Government was better

able to appreciate the difficulties which had to be contended with in the Cape.

In 1863, Parliament passed an Act providing for the preparation of the necessary surveys, plans and estimates for the line from Port Elizabeth to Grahamstown. On 7th April 1864, the Colonial railway engineer—Mr Bourne—reported to Parliament on the result of his surveys in the Eastern Cape. Mr Bourne's report suggested three possible routes for the Port Elizabeth-Grahamstown line: the direct route, the valley route, and a route representing a compromise between the former two. On 6th July, 1864, the House of Assembly resolved that it was then too late in the session of Parliament to give consideration to the subject of railways, and that legislation dealing with railway construction should be deferred to 1865.

After the close of the 1865 session of Parliament, the Government did invite tenders for the construction of the various railway lines sanctioned by the 1862 Acts, but in every case the tenders submitted were in excess of the sums granted by the Acts.

As it happened, after the completion of the line between Cape Town and Wellington in 1864, no more railway lines were to be constructed in South Africa until 1872. This was largely due to the fact that from 1862 until 1870, the Cape Colony was in the grip of a severe depression. As de Kiewiet sums up: "The truth was plain to see. Neither the wool of the Cape and the Orange Free State, nor the sugar which Natal found that it could grow, were enough to pay for the imports and public works needed to keep South Africa abreast of an industrial and commercial age."<sup>4</sup>

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4. C.W. de Kiewiet, A History of South Africa: Social and Economic (London: Oxford University Press, 1941), p.69.

During the 1866 session of Parliament, a bill was submitted to Parliament asking them to sanction for the East, the construction of the first portion of the railway from Port Elizabeth to Grahamstown, and for the West, the extension of the railway from Wellington towards Worcester. The main rationalisation behind this particular bill was to reduce the level of unemployment in the Cape Colony which had been caused by the depression, and which was contributing to the increasing incidence of petty crime. This bill was, however, thrown out in the House of Assembly.

There were no further major railway developments in the 1860s and the decade closed with the 1862 Acts still on the Statute Book and the House of Assembly's select committee of 1868 recommending that the first railway line in the Eastern Cape should be built from Port Elizabeth to near the present day Barkly Bridge.

## 2. Railway lines to the north : 1870-1881

The 1870s opened in circumstances completely different from those which had prevailed during the 1860s. In 1867, diamonds had been discovered, and in 1871, the most populous settlement in South Africa outside Cape Town, was Kimberley, where the total population—White and Black was reckoned at 50 000.<sup>5</sup> As a result of all this, the Cape Colony was on a wave of increasing prosperity. In the first 12 years after 1870, "the mines exported a greater value in diamonds than the agricultural and pastoral industries together had been able to export in a period three times as long before the discovery".<sup>6</sup> This allowed the Cape Colony to liquidate some of its public debt, but of far more significance, was the

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5. Ibid., p.89.

6. Ibid., p.97.

Cape's increasing strength and position on the London money market. Thus, not only could the Cape attract capital, but it could also obtain it at lower rates of interest than before.

Had it not been for the discovery of diamonds, "it is almost certain that the railway [from Cape Town to Wellington], would have followed the coastal belt of reliable rainfall to the Eastern Province, where there were wool, hides, and latterly, mohair. But diamond mining exerted a more powerful attraction. If the industry were to be made efficient, it imperatively needed the aid of modern transport. The organization of diamond mining was not the work of Rhodes's genius alone. Without railways which reached Kimberley in 1885, he could hardly have substituted the impressive equipment of the De Beers Company for the shovels and buckets and hand-made derricks of the diggers."<sup>7</sup>

During the 1871 session of Parliament, the Governor of the Cape, Sir Henry Barkly, submitted a comprehensive minute embodying his conclusions regarding the future construction of railways in the Cape Colony. In his report, the Governor recommended a re-examination and a re-survey of the country between the Bushman's River and Grahamstown, especially in the neighbourhood of Broekhuizen's Poort. As far as Commando Kraal, however, the gradients were fair, and as the trace had long since been pegged out on the ground, there seemed to be no reason why the execution of the earthworks should not immediately be undertaken by the public works department.<sup>8</sup> The Governor pointed out that this section of the line was of the utmost

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7. *Ibid.*, pp.98-99

8. Commando Kraal corresponds roughly to the present day Barkly Bridge near Port Elizabeth.

importance to the trade of Port Elizabeth because, if a direct line were to be constructed to the diamond fields, it would have to go as far as Commando Kraal in the same direction as the line to Grahamstown.

After the Governor's minute had been submitted, however, the House of Assembly considered it too late in that session of Parliament to legislate on the entire question of railway communication. It did, however, agree that the width of gauge on all new main lines be fixed at 3 feet 6 inches, and that the government be authorised to temporarily attach to the public works department such assistants as were necessary for carrying out surveys and for superintending the construction of the first seven miles of railway from Port Elizabeth to Swarkops. The House of Assembly also agreed that the Government be authorised to spend a sum, not exceeding £30 000, on the construction of a line from Port Elizabeth to the Swarkops River, provided that the Port Elizabeth and Uitenhage Railway Company commence their line from the Swartkops River to Uitenhage simultaneously, or guarantee interest on the sum spent by the Government on constructing the line to Swartkops.<sup>9</sup> It was obvious that the first seven miles from Port Elizabeth to the Swartkops River would be common to both the line from Port Elizabeth to the interior, and from Port Elizabeth to Uitenhage. The directors of the Company agreed to the second alternative, and in January 1872, construction of the line from Swartkops to Uitenhage began. After this had occurred, the governor directed the head of the public works department to arrange for the

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9. The Port Elizabeth and Uitenhage Railway Company had been incorporated by Act No. 8 of 1871 which authorised the company to construct and operate a railway between the two towns.

construction of the seven miles of railway line leading out of Port Elizabeth. After fifteen years of discussion and ten years after the Act authorising its construction had been passed, the building of the line had actually begun.

Meanwhile, a new emphasis had been given to railway development in the Eastern Cape. In 1871, the Chief Inspector of Public Works had instructed Mr W.A. Brounger, a railway engineer, to determine the most suitable trace for a railway line between any point on the Sundays River from Commando Kraal to five miles below it, and the iron bridge at the Cookhouse Drift, 40 miles below Cradock. Gone was the intention of building a line only to Grahamstown. An immense trade had opened up with the diamond fields, and existing transport facilities had experienced difficulty in meeting the unusual demand for transport. Because of this, the construction of railways had assumed far more importance than at any previous period in the history of the Colony.

In his report presented to the Governor on 8th January 1872, Mr Brounger drew attention to the essential problem of constructing a railway line from Commando Kraal to Cookhouse, namely, the direction which the line should take from the southern base of the Suurberg mountains. Mr Brounger suggested three possible routes as follows:

- (a) via Bushman's River Poort;
- (b) via Grahamstown; and
- (c) via Coerney River Valley.

The comparative lengths of these three lines were:

<u>Line</u>	<u>Total length</u>	<u>Difficult country</u>
via Grahamstown	123-130 miles	c. 52 miles
via Bushman's River Poort	90-100 miles	c. 37 miles
via Coerney River Valley	70- 80 miles	c. 35 miles

From a purely engineering point of view, and disregarding traffic and general policy considerations, the line via Grahamstown had least to recommend it and would be the most expensive to construct.

At the opening of the 1872 session of Parliament, Sir Henry Barkly indicated that he would not submit bills authorising the construction of any particular railway lines until Parliament had had full opportunity to consider the reports of the surveys which had been carried out since the close of the 1871 session. In case the line from Port Elizabeth to Swartkops was completed before Parliament met in 1873, the House of Assembly did, however, take the precaution of voting a sum of money for the continuation of the line from Swartkops in the direction of Bushman's River.

On 1st January 1873, the Government took over the assets of the Cape Town and Wellington Railway Company. This was the first step towards the establishment of the Cape Government Railways, and in fact marked the beginning of a policy of State ownership and operation of railways in South Africa.

With regard to railway construction in the Eastern Cape, mention has already been made of the shift in emphasis away from a railway to Grahamstown, and in favour of a railway to Cradock as part of a railway to the diamond fields. In all this, Grahamstown was naturally anxious to protect its interests to the greatest possible extent. From the point of view of Grahamstown's mercantile interests, the most favourable outcome

would have been to have the railway pass through the city. Such a line was becoming increasingly unlikely however, and instead, the main line was expected to go straight up to Cradock with Grahamstown being served by a branch line. The city's merchants foresaw that if they were to be at the end of a branch line, they would lose any advantage they had had over Port Elizabeth in supplying the farming communities and small urban centres within Grahamstown's sphere of influence. If, however, Grahamstown had to be served by a branch line, it was imperative that it leave the main line at a point as convenient to the town as possible.

At this stage of railway development, Graaff-Reinet was also beginning to increasingly urge for railway communication. As already stated, a line was being constructed from Port Elizabeth to Uitenhage; and in Graaff-Reinet, opinion was divided between the merits of a line to the town from Port Elizabeth via Uitenhage, and one branching off at Commando Kraal on the main line to the north. It was subsequently decided that the former alternative would be the most suitable.

In the mean time, the Grahamstown Railway Promotion Committee had appointed a sub-committee to find a route which a railway might take from the Bushman's River to Grahamstown, and on to the Fish River. Early in 1874, the sub-committee completed its report which was sent to the Government with a request to appoint a qualified engineer to test the accuracy of the suggestions made in the report. The Government agreed to this and appointed Mr D.J. Scott, a railway engineer, to make a thorough inspection of the country between the Bushman's River (up to which point Parliament had sanctioned railway construction in 1873) and Grahamstown, and between the Bushman's River and Cradock. On 14th May 1875, Mr Scott completed his

report in which he concluded that, solely from an engineering point of view, the most desirable route for a main line of communication to Cradock would not be through Grahamstown. The following were the main disadvantages of a line via Grahamstown:

- (i) it was 55 miles longer than the direct line;
- (ii) it contained heavy gradients which would add considerably to annual working and maintenance costs; and
- (iii) it would take much longer to build than the direct line.

If it were accepted that the line to Cradock should not go via Grahamstown, it then remained to establish how Grahamstown could best be served with a branch line.

While Mr Scott was surveying the Bushman's River-Cradock-Grahamstown area, Mr I.W. Foot was carrying out a survey for a proposed railway line from Port Elizabeth to Graaff-Reinet. Mr Foot reported on three feasible routes such a railway line might follow, namely:

A: leaving the main line to the north (i.e. the line authorised by Act No. 13 of 1873) near the point where it crossed the Swartkops River, and then going via Uitenhage and Klipplaat to Graaff-Reinet;

B: leaving the main line to the north at Coega, and following the Coega River valley to eventually join line A; or

C: leaving the main line to the north at Commando Kraal and following the Sundays River valley to eventually join line A.

Mainly because of the gradients involved, line A had least to recommend it from an engineering point of view.

Subsequently, Mr Foot was instructed to investigate the possibility of constructing a railway line from the point where the main line to the north crossed the Little Fish River near Kommadagga, to Graaff-Reinet. On the 25th February 1874, Mr Foot reported that he had examined the country from Kommadagga, via the Little Fish River, Somerset East and over the Bruintjies Hoogte mountains, to Kruidfontein. He concluded that it would be very expensive to build a line to Somerset East by way of the Little Fish River, because the winding river valley and the rocky nature of the ground would necessitate deep cuttings and many crossings of the river. Between Somerset East and Graaff-Reinet, Mr Foot considered that the Bruintjies Hoogte presented an insuperable barrier. He also reported that he had explored the country some 30 miles west of Somerset East, having heard that it might be possible to take a railway line through Rossow's Poort in the Little Bruintjies Hoogte. He was of the opinion, however, that it was almost impossible to take a railway through this pass. Thus, Mr Foot found himself obliged to recommend that the possibility of getting a railway from Kommadagga to Graaff-Reinet should be abandoned. The effect of this today, of course, is that Somerset East lacks direct rail contact westwards and north-westwards.

One must always remember that these early surveys were dominated by the relatively primitive technological environment in which the engineers worked. In addition, the engineers were hampered by having to think in terms of small locomotives with a low tractive force, and by the need to ensure that construction costs and subsequent working expenses were as low as possible.

Following Mr Foot's report, the Commissioner of Crown

Lands and Public Works ruled that line C was decidedly preferable to line A, but that the decision could not be made solely on engineering considerations. Parliament would have to decide whether or not the engineering considerations which favoured line C, should prevail. As will be apparent from the next section, these engineering considerations were not paramount in the final decision.

On 16th June 1874, the Governor introduced a bill into the House of Assembly to give effect to its intention of formulating a comprehensive railway policy for the Colony. Act 19 of 1874 was passed and provided, inter alia for the construction of the following lines:

- a. from East London via Blaney to King William's Town, and from Blaney to Queenstown;
- b. from Worcester via the Hex River to Beaufort West;
- c. from the Bushman's River to Cradock;
- d. from Grahamstown to the Little Fish River on the line from Bushman's River to Cradock; and
- e. from Swartkops River via Uitenhage to Graaff-Reinet.

As far as the research area is concerned, this Act had two important consequences. Firstly, Grahamstown's worst fears were confirmed: not only was the line to the north not to pass through Grahamstown, but the city was to be at the end of a branch line which started from a point on the main line, ninety-six miles from Port Elizabeth. This, together with the distance from the Little Fish River to Grahamstown, made the total distance from Port Elizabeth to Grahamstown 151 miles. This greatly displeased the Grahamstown merchants. Secondly, the line from Port Elizabeth to Graaff-Reinet was to run via Uitenhage, and this ended the idea of one main trunk line to the interior with branches to Grahamstown to Graaff-Reinet.

By the end of 1874, only some 27 miles of the main north line from Port Elizabeth had been laid, and because the bridge over the Swartkops River was still in the process of being built, no section of it was open to traffic. During 1875, work on the main north line continued, and the 32 miles to Commando Kraal were opened to traffic on 26th July, 1875. On 22nd September 1875, railway communication was established between Port Elizabeth and Uitenhage. The thirteen miles of line from the main north line at the Swartkops River to Uitenhage were constructed by the Port Elizabeth and Uitenhage Railway Company which, as will be recalled, had been incorporated by Act No. 8 of 1871.

While work was in progress extending the main north line in the direction of Bushman's River, the desirability of having Grahamstown's branch line diverge from the main north line at the Little Fish River, was questioned. As a result, the country between the northern end of Bushman's River Poort—where Alice-dale station was to be established—and Grahamstown was re-examined. The outcome of this re-examination was that it was considered more advantageous to construct Grahamstown's branch line via Highlands as it would reduce the distance between Port Elizabeth and Grahamstown from 155, to 106 miles. This alteration was ultimately sanctioned by both Houses of Parliament, and the construction of the shorter line via Highlands was authorised by Act No. 5 of 1876.

The year 1881 marked the ending of the first chapter in the history of railway construction in the research area. The chapter had begun with Mr Matthew Woodfield's survey in 1856 and thereafter involved seemingly endless surveys, discussions, decisions and indecisions. As far as the research area was

concerned, this chapter saw the change in emphasis, away from a railway between Port Elizabeth and Grahamstown, and in favour of a line to the diamond fields at Kimberley.

3. Extensions northwards from Cradock to the Orange River

Towards the end of the 1870s, it was realised that the three main lines from the coast to the interior which had been approved in 1874, could not be regarded as the complete railway system of the Cape Colony. These three lines were:

- (a) from Cape Town to Beaufort West; (the Western line)
- (b) from Port Elizabeth to Cradock; (the Midland line)
- (c) from East London to Queenstown. (the Eastern line)

It was obvious that these lines would have to be extended to the north, primarily to link up the rest of the country with the Kimberley diamond fields. In addition, the question of railway communication was beginning to attract attention in Bloemfontein, the capital of the Orange Free State Republic; and from the end of the 1870s onwards, the development of railways in the research area is increasingly bound up with, and influenced by, events in the Orange Free State.

On 15th January 1878, President J.H. Brand of the Orange Free State wrote to Sir Bartle Frere, then Governor of the Cape Colony, requesting information concerning the proposed dates when lines constructed by the Cape Government would reach the Orange River, as well as the direction they would take. This information was requested so that railways built in the Orange Free State could be integrated with the Cape lines.

The routes which the three Cape lines should follow to the Orange River, were the subject of numerous surveys and Parliamentary bills. The following are some routes which

received serious consideration:

- (a) from Cradock via Steynsburg to the Bethulie Bridge;
- (b) from Beaufort West via Richmond, Hanover and Colesberg to the Orange River;
- (c) from Queenstown to Aliwal North via Koup's Leegte;
- (d) from Graaff-Reinet to Richmond;
- (e) from Beaufort West to Hopetown via Richmond; and
- (f) from Cradock via Colesberg to the Orange River.

Throughout all these deliberations, the commercial interests in each of Cape Town, Port Elizabeth and East London, exerted tremendous pressure for a line which would give their port advantages over the others, with regard to the diamond field's trade. Routes (a) or (f) would have favoured Port Elizabeth; routes (b) or (e) would have favoured Cape Town; while route (c) would have given the advantage to East London.

Eventually, in 1881, some consensus of opinion on the matter was achieved, and a bill was introduced in the House of Assembly which, as far as the research area was concerned, provided for the construction of a line from Cradock to Colesberg. The bill also provided for the extension of the Beaufort West line to Hopetown, and the Queenstown line to Aliwal North. When the clause providing for the railway from Cradock to Colesberg was moved, a motion proposing that the line go via Middelburg was withdrawn; while a further amendment that the line go via Hanover was rejected by the House.

Graaff-Reinet was dissatisfied with the railway extensions proposed by the bill, and understandably so, because the town had not obtained a railway extension either northwards to the Orange River, or westward to the Western main line from Cape Town to Hopetown. The fact that Graaff-Reinet was not to have

an extension northwards until 1898, and then only to the Midland main line from Port Elizabeth, meant that the major railway development in the research area was to by-pass the town.

In January 1882, work began on the line from Cradock to Colesberg, but the route the line would ultimately take depended on which route was approved for the junction line between the Midland and Western main lines.

On 18th April, 1882, the House of Assembly approved that the Midland main line should run via Noupoort, from where a junction line would link up with the Western main line on the farm De Aar. In August 1883, the House of Assembly amended the route of the Western line so that it reached the Orange River, not at Hopetown, but at a point some miles to the east.

The following table shows how the three Cape main lines progressed towards the north.

Year	Western line station	miles	Midland line station	miles	Eastern line station	miles
1883	Orange River	150	Colesberg	126	Sterkstroom	36
1884					Molteno	21
					Aliwal North	70

The junction line between De Aar, on the Western line, and Noupoort, on the Midland line, was opened to traffic on 31st March 1884.

After some delay, caused mainly by the depression experienced in the Cape Colony, the railway line from De Aar eventually reached Kimberley in 1885. The completion of this line resulted in the ports of both Cape Town and Port Elizabeth being connected with the diamond fields.

In February 1886, when the main gold bearing reef was discovered on the farm Langlaagte, near the present day Johannesburg, the main railway lines in the Cape Colony were:

- (a) from Cape Town to Kimberley;
- (b) from Port Elizabeth to Colesberg, with a junction line from Noupoort to De Aar on the Cape Town-Kimberley line; and
- (c) from East London to Aliwal North.

On 19th July 1887, the House of Assembly resolved that the Cape Government should be authorised to confer with the Governments of the Orange Free State and the South African Republic to determine the best routes for the northern extension of the Cape railways to the gold fields, and how these extensions should be carried out.

On 30th January 1888, a conference was held in Cape Town to discuss, firstly, the basis upon which a South African Customs Union might be established, and secondly, the question of the northward extension of the Cape Railways. This conference was attended by delegates from Natal, the Cape Colony and the Orange Free State. With regard to the railway question, the Orange Free State delegates indicated that they favoured a link with the Cape lines near Colesberg, and with the Natal lines on the border near Harrismith. Opposing interests in the Orange Free State Volksraad threatened to wreck the work of the conference, but it was ultimately narrowly agreed to survey the routes decided upon at Cape Town.

Meanwhile, fearing what the divided Orange Free State might do in the future, and desiring a link with the gold fields as soon as possible, the Cape Government introduced a bill into the House of Assembly providing for two northern extensions: one from Colesberg to the Orange Free State border, and one from Kimberley to a point on the Vaal River, about

three miles from the Transvaal border. Although President Kruger of the South African Republic disliked the idea of a Cape-Free State line, he disliked the idea of the Kimberley extension even more, and as a result, he made a conciliatory move towards the Cape. He urged them to delay the line from Kimberley until he had induced the Free State Volksraad, which was to re-assemble in January 1889, to undertake the construction of a line from the Orange River. President Kruger made moves to evade his promise to the Cape, but the Free State Volksraad nevertheless resolved on the 17th January 1889, to construct a line from the Orange River via Bloemfontein to the Vaal River.

Work started on the proposed main line from Colesberg to the gold fields, and by 17th December 1890, the Midland line had been opened to the Orange River. On the same date, a line from the Free State side of the river to Bloemfontein was opened to traffic. This line reached the Vaal River in 1892, and on New Year's day 1893, the first train ran from a Cape port through to Pretoria.

In so far as the development of the transport infrastructure of the research area is concerned, it is now necessary to leave the main line to the north, and to consider the other railway lines in the area.

4. A link in the north between the Midland and the Eastern main lines

It will be recalled that on 16th October 1883, the line between Port Elizabeth and Colesberg, i.e. the Midland line, was completed. In 1884, the Midland line was joined to the Western line by a 68 mile junction line from Noupoot to De Aar. Thus when the Western line reached Kimberley in 1885, both Port

Elizabeth and Cape Town, together with their respective hinterlands, were linked with the diamond fields, at that stage the main area of economic activity in South Africa. The Eastern main line, however, did not have a link with either the Midland or Western lines, and consequently, East London and its hinterland lacked rail communication with the diamond fields. This state of affairs was most disadvantageous for East London in particular, and the Eastern Border Districts in general.

Although the question of a junction line joining the Eastern and Midland lines first received attention in 1879, it was not until 1892 that its construction was authorised. There were 2 major factors which contributed to this delay:

- (a) the unwillingness of Parliament to vote the money necessary for the construction of the line; and, more important,
- (b) the controversy as to the route which the line should take.

The commercial interests of East London desired that the junction line should be so located that the distance between East London and Kimberley would be as short as possible. The overriding factor from the point of view of the Cape Government, however, was how best to serve the coal mines which had been opened in various areas of the Eastern Cape. In 1859, coal had been discovered at Cyfergat in the north eastern part of the Cape Province, and in 1864 a colliery had been started near Molteno. Soon after this, coal was discovered at Indwe, 70 miles east of Molteno. Coal mining was started seriously in the Indwe-Molteno district a few years later when the opening of the diamond mines at Kimberley created a large demand for fuel. At that time imported Welsh coal was being used on the mines. The Colonial coal was inferior to the imported coal and consequently, more of it had to be used. Thus the decisive

factor was the price at which the Colonial coal could be delivered to Kimberley. The location of the junction line would naturally influence the delivered price of the coal, by either increasing or decreasing transport costs.

The Cape Government was also interested in the possibility of using Colonial coal, instead of imported coal, for locomotive purposes on the Western and Midland Systems of the railways, as had already been done on the Eastern line. Once again, the extent to which Colonial coal could be economically used on the Midland and Western Systems, depended mainly on the position of the junction line.

Many route surveys were commissioned, many suggestions were made and many Parliamentary debates took place, before Act No. 10 of 1890 was passed. This Act made provision for the construction of a junction line from a point ten miles north of Molteno on the Eastern line, via Steynsburg to Middelburg Road on the Midland line. (Middelburg Road is now known as Rosmead.)

Today there are no longer busy coal mines in the Molteno, Cyfergat and Indwe districts. The reason is that the coal which was so important in determining the route which the junction line between the Eastern and Midland main lines should take, was a low grade coal. This coal could not compete with the higher grade coal subsequently discovered in Natal and the Transvaal, and following Union in 1910, coal mining in the Eastern Cape ceased to be a profitable proposition.

##### 5. The Schoombie-Hofmeyr spur

The construction of a line from Schoombie on the junction line between Molteno and Middelburg Road, via the salt pans at Teviot to Hofmeyr, was authorised in 1906. This line was opened to traffic in 1912.

## 6. Extensions from Graaff-Reinet

The line from Port Elizabeth via Uitenhage to Graaff-Reinet was completed in 1879. Thereafter, Graaff-Reinet was most anxious that the line should be extended to the north, and in later years there was intense parliamentary activity on this subject. In this respect, there was great rivalry with the Port Elizabeth-Cradock line. Particularly after the discovery of diamonds at Kimberley and gold in the Transvaal, Graaff-Reinet was to resent the fact that it was the Cradock line which was selected to become the main line from Port Elizabeth to the north. Eventually, in 1897-98, the railway line from Graaff-Reinet was extended, but only to join the Midland line at Rosmead, some 98 miles to the north-east. Graaff-Reinet had been hoping for an extension to Richmond, and the line to Rosmead ruled Graaff-Reinet out of the main stream of traffic for it was over the Midlands line via Cradock that the passengers and goods to and from the north were to pass.

Graaff-Reinet was also interested in a junction line between the Graaff-Reinet - Port Elizabeth line and the main western line from Cape Town, but in 1898, the Cape Parliament only approved the construction of a line from Klipplaat to Oudtshoorn which was eventually completed in 1904. In 1913, a line from Mossel Bay to Oudtshoorn via George and the Outeniqua Pass was completed. As Mossel Bay was only a minor port however, the completion of this line (i.e. Mossel Bay-George-Oudtshoorn-Klipplaat - Graaff-Reinet - Rosmead) was of little significance to the economy of Graaff-Reinet.

7. A junction in the south between the Midland and Eastern main lines

Following representations received from interests in the cluster of towns situated between King William's Town and Cookhouse, the Cape Government, in 1879, ordered a survey to be made to determine the possibility of constructing a railway line between these two places. Such a line would have had the effect of joining the Midland main line, on which Cookhouse is situated, and the Eastern main line from which, at Blaney, a ten mile branch line ran to King William's Town. The route proposed by the surveyor, Mr Thomson, was in fact that which some twenty years later the railway line was to follow, viz. from Cookhouse, via Bedford, Adelaide, Fort Beaufort and Alice to King William's Town. Attention was however transferred to the construction of a junction line at or north of Queenstown, and nothing further was done towards connecting King William's Town with Cookhouse. In 1882, a survey was carried out on the country between Grahamstown and Fort Beaufort with a view to building a line between these two towns via Fort Brown, but this proposed line was not built.

In 1890, Sir Gordon Sprigg's Government proposed the construction of a railway line from Mossel Bay to King William's Town via George, Oudtshoorn, Willowmore, Klipplaat, Somerset East, Bedford, Fort Beaufort and Alice. This scheme, however, was rejected by the House of Assembly. It was not until 1895 that the House of Assembly passed an amended version of the scheme which provided for the construction of three lines:

- (a) from Mossel Bay to a point on the Port Elizabeth - Graaff-Reinet line at or near Kliplaat;
- (b) from a point at or near Somerset East, via Cookhouse to Fort Beaufort; and
- (c) from Fort Beaufort to King William's Town.

The Cape Government put the construction of these lines out to private contract, but because so many troubles and problems resulted and because the progress of the work was so unsatisfactory, the Government took over the works by an order of the Supreme Court dated 12th May 1902. Construction had started from both Somerset East and King William's Town and the line was completed in 1904 when, on 17th October, the two lines met at Adelaide. This line linked the Eastern and Midland systems at a second point, viz. Cookhouse, the first point being Rosmead. This line, however, left Somerset East at the end of a branch line which led to nowhere, and this situation still prevails today. It was left to the motor vehicle in future years, and not the train, to link Somerset East with the towns of Jansenville, Klipplaat, Aberdeen and Graaff-Reinet.

A narrow gauge line from Fort Beaufort to Katberg was opened in 1925 and extended to Seymour in 1926. In 1940, this line was converted to the standard gauge of the South African Railways.

#### 8. Other lines

(i) Grahamstown to Port Alfred.-Negotiations for the construction of a railway line between Grahamstown and Port Alfred began early in the railway history of the Eastern Cape, and were originally linked with attempts to improve the mouth of the Kowie River and to establish a harbour there. As mentioned before, there was considerable rivalry between Port Elizabeth and Port Alfred for a railway line to Grahamstown. Those who favoured the rail link with Port Elizabeth contended that it would not harm Port Alfred's trade. On the other hand, those who preferred the link with Port Alfred maintained that Kowie was the natural port for Albany, as well as for further

inland. In actual fact, the construction of the railway line from Grahamstown to Port Elizabeth did have a seriously adverse effect on the development of Port Alfred.

In 1880, the House of Assembly sanctioned the line between Grahamstown and Port Alfred and put the construction thereof out to private contract. In the same year, the Grahamstown and Port Alfred Railway Company was formed, and in 1881 it awarded the contract for the construction of the line from Grahamstown to Port Alfred to an English company, Firbank and Cooper. The line was opened in 1884 and was operated as a private railway until, following a disastrous accident at the Blaauwkrantz River bridge, it was taken over by the South African Railways in 1913.

(ii) Barkly Bridge-Alexandria.—In 1904, a survey was made of the route for a possible coastal railway from Barkly Bridge, 27 miles from Port Elizabeth on the Midland main line, through Alexandria to Round Hill, a siding near Trappes Valley on the Grahamstown-Port Alfred line, and on to Peddie and East London. In 1909, a railway line was constructed to Alexandria from Barkly Bridge, but the rest of the proposed line was not built, mainly because of the high cost involved in building across the difficult country between Alexandria and Peddie.

(iii) Bowker's Park-Tarkastad.—This 32 mile long branch line was constructed in 1900 and linked Tarkastad with the main Eastern line.

By 1910, when the Union of South Africa was declared, the pattern of railway communication in the research area had been very largely determined. Since 1927, no railway lines have

been built in the area, and it has been the motor vehicle, either privately owned or operated by the Railway Administration's road transport service, which has been responsible for providing communication in the areas not served by a railway line. The Railways Administration has, however, spent large sums of money on improving the lines in the research area, particularly the main line between Alicedale and Noupoort which has been completely re-constructed. On other lines, bridges and culverts have been strengthened, many tracks relaid with heavier rails, and signalling systems improved. In more recent years, steam engines on the main line have been replaced by diesel electric locomotives, and one confidently expects other improvements to be made as the future unfolds.

### CHAPTER III

#### RAILWAY TRAFFIC

##### A. DESCRIPTION OF THE RAILWAY NETWORK

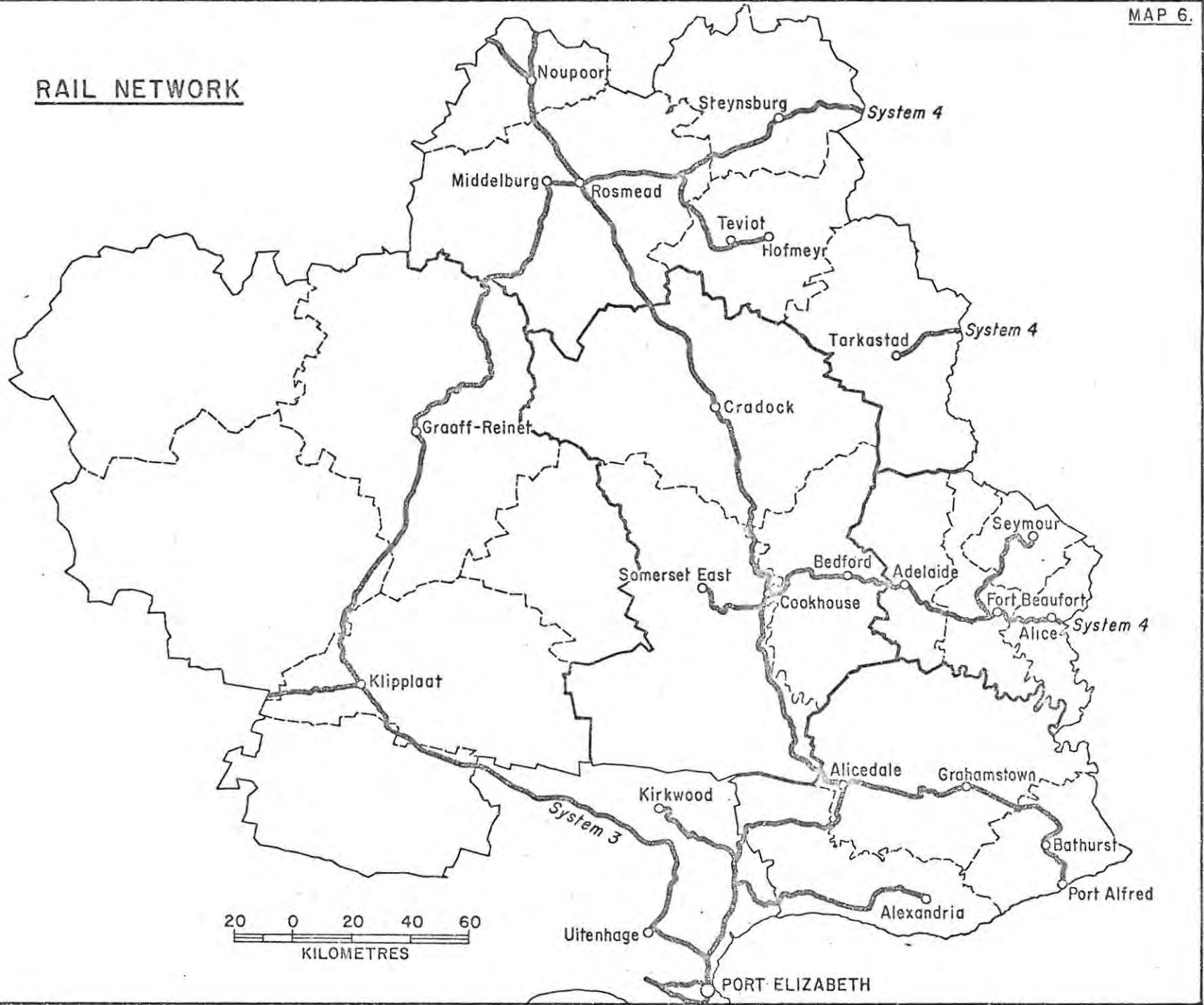
The research area is served by two railway systems, namely System 3 which commences at Port Elizabeth, and System 4 which commences at East London. The railway network of the research area is illustrated on Map 6.

A branch of the System 4 main line from East London to the north, traverses the Border sub-region and links up with the System 3 main line at Cookhouse. Another branch of the System 4 line ends at Tarkastad in the Escarpment sub-region, while a System 4 trunk line bisects the Escarpment sub-region and joins up with the System 3 main line at Rosmead. From Schoombie, located on this trunk line, a railway line links up Teviot and Hofmeyr, mainly to cater for the substantial salt traffic emanating from the salt pans located in the former area.

At the Swartkops River near Port Elizabeth, the System 3 line diverges. The main line to the north crosses the north-western section of the Coastal sub-region, the Fish sub-region, and finally the Escarpment sub-region; while the other line branches off to the left and passes through only the Sundays sub-region before converging again with the main line at Rosmead.

At Alicedale on the System 3 main line, a branch line veers off to the right and serves a major section of the Coastal sub-region from Grahamstown to Port Alfred. Just south of Addo, on the main line from Port Elizabeth, a branch line traverses the southern section of the Coastal sub-region and links up Alexandria, the centre of the Republic's main chicory producing region.

RAIL NETWORK



20 0 20 40 60  
KILOMETRES

The greatest concentration of stations is found in the Fish sub-region between Cookhouse and Alicedale on the System 3 main line, in the Border sub-region between Cookhouse and Alice on the System 4 trunk line, and in the Coastal sub-region. This phenomenon is a direct result of the greater population density of these areas, as compared with the rest of the research area, as well as of their relatively high rainfalls which facilitate the growing of crops and the earning of satisfactory yields from small farms. In the more arid areas only stock farming is practical on a large scale, and this activity requires much larger farms in terms of physical capacity. Thus fewer stations are required to meet the needs of individual farmers.

The areas served by the System 4 lines fall, for obvious reasons, within East London's sphere of influence in so far as "imports" and "exports" are concerned, while the areas linked by System 3 lines are served by Port Elizabeth. Middelburg in particular, and the whole of the Escarpment region in general, are "favourably located, lying almost midway between two Metropolitan centres on the fringe of their respective zones of influence".<sup>1</sup>

Two broad categories of rail traffic are carried on the research area's railway network, namely, "through-traffic" and "pick-up and transshipped traffic". "Through-traffic", as the name implies, is traffic destined for places beyond the boundaries of the research area and represents by far the greater volume of traffic carried on the research area's railway network. This type of traffic is conveyed mainly by diesel locomotives. The "pick-up and transshipped traffic" comprises the traffic moving

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1. Miss Cook, p.36.

between the various centres within the research area, and for which steam driven locomotives are principally used. In his opening address at the annual congress of the Cape Midlands Development Association at Port Elizabeth on 16th November, 1971, Mr J.G.H. Loubser, the General Manager of the South African Railways, indicated that the elimination of steam traction was high on the Railway Administration's modernisation objectives. "It is envisaged, dependent on the availability of funds, to eliminate systematically and completely, steam traction on all our standard gauge lines within the next 15 to 17 years at a cost estimated to exceed R1 100 million ... Dieselisation of the standard gauge branch lines is progressively contemplated."<sup>2</sup> This news heralds a revised transport infrastructure within the research area in the future, which should facilitate the movement of goods within and through the area, thus rendering it more efficient.

There are three railway junction depots within the research area, namely at Klipplaat, Cookhouse and Rosmead. In addition, Grahamstown, Alicedale, Cradock and Graaff-Reinet may also be regarded as railway "centres" at which trucks and locomotives are stationed. "Pick-up and transshipment" trains operate between the various railway "centres" and junctions, serving the minor stations located en route by stopping to load and off-load goods, commodities and livestock. "Through" trains do not stop at any of the intermediate minor stations and only stop at the railway "centres" to allow any local trains to pass, and to take on complete truck loads of commodities consigned to the Orange Free State and Transvaal, when the capacity of the train

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2. J.G.H. Loubser, opening address of the Cape Midlands Development Association congress held in Port Elizabeth on 16th November, 1971.

permits.

The only "concentration" depot within the research area is located at Noupoort. Consignments of commodities to the northern provinces which constitute less than full truck loads, are forwarded to Noupoort by means of the "pick-up and transshipment" trains. Here they are transferred to a "through" train at the earliest opportunity, or sent on to the next "concentration" depot on the main line. This procedure often accounts for the long delay in consignments of this nature reaching their destinations. Consignments constituting full truck loads are forwarded to the nearest railway "centre" where they are attached to "through" trains at the earliest convenience, depending on the length of the "through" train at a particular point and the capacity available. This system, too, is often responsible for a considerable delay in commodities exported from the research area reaching their destinations. It is the only economically viable method of handling this traffic at present, however, and as a more efficient system would involve additional capital investment, the research area shall have to show that it can provide the traffic to warrant it. This evidence, however, has not been forthcoming during the period 1959-60 to 1968-69. Local "pick-up and transshipped traffic" is, however, well catered for, by trains operating on the various sections on a daily basis.

During the past two decades, the traffic carried on the Port Elizabeth line, of which the rail network of the research area is an integral part, grew by approximately 7,5% per annum.<sup>3</sup> If this trend continues in the future, it has been recognised that the line between De Aar and Port Elizabeth, the greater portion of which passes through the research area,

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3. Eastern Province Herald, November 17, 1971.

will have to be electrified. To improve the carrying capacity of this line in the mean time, various improvements have been introduced—centralised traffic control has just recently been implemented on the Cradock-Noupoort section at a cost of R6 million—while it is envisaged that the section between Cradock and Swartkops will also be furnished with this method of train control during 1974-75. This investment on the Cradock-Noupoort section of the main line yielded immediate benefits in the form of staff savings and higher operating efficiency.

In addition, to enable the Railways to operate the long iron-ore trains which have recently started running from the Northern Cape to Port Elizabeth, it is planned to remodel the railway yards of several stations in the research area at a total cost of approximately R7 million.<sup>4</sup> The long iron-ore trains have been employed because they are far more economical to operate than a greater number of short trains. The following improvements are planned within the research area to facilitate the transport of iron-ore to Port Elizabeth:

- (a) improvement to the yards at Alicedale and Cradock stations;
- (b) additional rail loops at Noupoort station;
- (c) lengthening the yard tracks and loops at Sheldon, Cookhouse, Drennan and Rosmead.

An innovation in South Africa in the sphere of railway transport, was the introduction by the South African Railways in August 1972, of special double deck trains for carrying motor vehicles. These special trains run between Port Elizabeth and Kaalfontein in the Transvaal and are made up of

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4. Eastern Province Herald, March 24, 1972.

50 trucks each. The trains are capable of carrying 400 motor cars and light trucks at a time and will be more than a kilometre in length.

In 1971, Port Elizabeth and Uitenhage motor vehicle plants dispatched more than 31 000 cars and trucks to the Witwatersrand and Pretoria areas. Most of these were driven to their final destinations.<sup>5</sup> It is expected that the new trains will convey more than 20 000 vehicles a year. While this innovation is of great benefit to the motor industry, it is anticipated that it is going to have a detrimental effect on the petrol sales in Graaff-Reinet, the major centre in the research area on the road from Port Elizabeth and Uitenhage to the north. According to the manager of a Graaff-Reinet garage, in past years almost 500 cars in convoys passed through the town each week.<sup>6</sup> The introduction of the new special trains is expected to reduce this figure considerably.

Thus it is evident that the greater portion of the research area is served by its railway network. Only the magisterial districts of Murraysburg, the western extremities of the Aberdeen magisterial district, and the central areas of the Pearston magisterial district, are at any great distance from a rail link within the research area. It would appear desirable to have a more direct link between the line from Port Elizabeth to Rosmead via Graaff-Reinet, and the line from Port Elizabeth to Rosmead via Cradock, in order to preclude goods dispatched from Somerset East to Graaff-Reinet, for example, having to go

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5. Graaff-Reinet Advertiser, April 20, 1972.

6. Graaff-Reinet Advertiser, April 20, 1972.

via Rosmead or Port Elizabeth. There have in fact been many protagonists for a rail connection between Somerset East and the railway junction at Klipplaat, but while the Railway Administration is sympathetic to such representations, it contends that the issue is complicated by the excessively expensive nature of new railway construction. For this reason, it is Railway policy not to undertake the construction of new lines, except under the following circumstances:

- (a) where the line is essential for the Department of Transport purposes;
- (b) where the Railway Administration can be adequately indemnified against operating losses;
- (c) where potential development in a region is such that the economic viability of a new line is beyond doubt; and
- (d) where road transport can no longer cope with the traffic.

None of these criteria are met by the research area at present, and from current projections, it is highly unlikely that the area will qualify for new lines in the near future. In fact, succeeding sections of this study will reveal that most of the sub-regions are not functionally related to other sub-regions to any great extent, and goods and commodities which leave a sub-region are destined mainly for centres beyond the research area. As described in previous pages, the existing facilities for accommodating this type of traffic are adequate, although delays encountered do tend to be frustrating. Thus a case should be made for the more systematic handling of traffic exported from the research area, rather than for the construction of additional lines.

At present, a proposed rail link between Grahamstown and King William's Town via Committees and Peddie is being investigated by the Railway authorities. This proposal came

about as a result of a resolution supported by delegates at the 1971 conference of the South Eastern Areas Development Association held in Port Alfred. This resolution was an alternative to an earlier plea by the same organization for the extension of the railway line from Alexandria via Port Alfred to East London.

The rationale for the new line is as follows:<sup>7</sup>

- (i) the proposed route traverses the most densely populated areas of the Ciskei and a ready labour force would be available for future industrial growth and development;
- (ii) Grahamstown has been declared a border industry preference area, but labour will have to be brought in on a daily basis from a proposed new location at Committees, 32 kilometres away. Thus a rail link with Grahamstown's industrial area is essential;
- (iii) such a link would give the Coastal sub-region easy access to the ports at both East London and Port Elizabeth, as well as to the two main lines to the north;
- (iv) a R3 million clay washery is about to start production in Grahamstown. This washery will produce kaolin for export and its f.o.b. costs will be high since it cannot be exported through Port Elizabeth because of the dust created by the ore berth. It will therefore have to follow the devious route from Grahamstown via Alicedale, Cookhouse and Blaney to East London;
- (v) vast lime deposits suitable for cement production have recently been discovered in the Peddie district, and in view of this, a railway line passing through Peddie will be of inestimable value in relieving the congestion on the already over-crowded road to King William's Town.

The verdict of the Railway Administration's deliberations on the proposed line is eagerly awaited as it is keenly anticipated that the above justifications will satisfy the authorities as to the economic viability of the proposed new line.

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7. Daily Dispatch, October 8, 1971.

Having outlined the railway network which serves the research area, consideration must now be given to the volume of traffic carried on the rail system; to the types of commodities "exported" from, and "imported" into, each sub-region; as well as the destinations of the "exported" traffic.

B. ANALYSIS OF TOTAL RAILWAY TRAFFIC : 1959-60 to 1968-69

(i) Total forwarded goods traffic.-Table 3 illustrates the total revenue earning rail traffic forwarded from, and received by, each of the sub-regions in the research area for the period between 1959-60 and 1968-69. The first salient point to emerge from Table 3 is that, during the ten years under consideration, consistently more revenue earning traffic was forwarded from the stations in the Coastal sub-region, than from those in any of the other sub-regions. This is largely to be expected by virtue of the fact that the Coastal sub-region represents the most important chicory producing area of the Republic, as well as being one of its major pineapple producing regions. In addition, it not only supports arable farming, but also livestock farming in the form of sheep and cattle.

In so far as the volume of forwarded revenue earning traffic is concerned, the Escarpment sub-region is second in importance, followed by the Fish, Border and lastly the Sundays sub-regions. The Escarpment sub-region, however, may be regarded as having exaggerated importance in this regard. Because Rosmead is a fuel and oil storage and redistribution depot, the bulk of the Escarpment's forwarded traffic consists of originally "imported" commodities, as opposed to the other sub-regions whose forwarded traffic is largely indigenous in nature. It appears that the Border sub-region is taking over from the Fish

TABLE 3

TOTAL REVENUE EARNING RAIL TRAFFIC FORWARDED FROM AND RECEIVED BY EACH OF THE

SUB-REGIONS IN THE RESEARCH AREA

(IN TONNES)

YEAR	Total Revenue Earning Traffic Forwarded					Total Revenue Earning Traffic Received				
	Sub-region					Sub-region				
	Sundays	Fish	Escarpment	Border	Coastal	Sundays	Fish	Escarpment	Border	Coastal
1959-60	14 667	49 113	76 150	29 965	105 345	45 260	126 595	111 694	50 485	142 160
1960-61	12 566	40 291	66 295	34 585	98 254	64 101	120 712	119 731	54 288	155 878
1961-62	13 663	38 654	63 119	30 472	103 392	64 014	110 720	113 318	55 331	162 589
1962-63	12 467	36 600	82 195	33 931	90 670	61 684	117 343	110 755	61 404	158 987
1963-64	15 268	38 053	63 629	34 953	100 072	69 074	119 434	119 227	74 302	162 456
1964-65	17 155	45 118	73 662	39 391	100 829	64 928	116 564	133 919	71 504	176 174
1965-66	21 178	42 905	68 961	31 374	106 798	66 990	118 451	135 455	90 190	169 441
1966-67	15 512	35 553	59 792	46 927	100 858	74 741	126 497	137 703	104 561	171 819
1967-68	16 934	32 363	70 402	33 130	92 561	71 371	114 587	111 189	106 410	168 365
1968-69	17 349	33 689	67 172	29 087	86 560	94 000	120 310	145 554	107 488	179 149

sub-region as the area with the third highest volume of forwarded traffic. This trend, however, is only incipient.

Although there were fluctuations in the traffic forwarded from each sub-region during the period under consideration, the annual forwarded tonnes were relatively constant. This fact is highlighted in Figure 1 which reveals that, during the period 1959-60 to 1968-69, the Border and Sundays sub-regions experienced an incipient upward linear trend with regard to annual forwarded tonnes; whereas the remaining sub-regions experienced a declining linear trend. This clearly reflects the state of the economy of the whole research area and adds weight to Miss G.P. Cook's conclusion that "the region as a whole presents a picture of a static, and in certain instances, retrogressive economy when compared with the rest of the Republic".<sup>9</sup>

(ii) Total received goods traffic.-Table 3 also reveals that the Coastal sub-region regularly received more revenue earning traffic than any of the other sub-regions. The Escarpment sub-region occupies second place in the rank order of sub-regions receiving the greatest volume of commodities, followed by the Fish, Border and Sundays.

By far the larger portion of the revenue earning traffic received by the various stations in the research area is in the form of general supplies and basic requirements. Consequently, the reasons for the distribution of received traffic amongst the various sub-regions, as reflected in Table 3, can partly be found in the population densities as well as the statuses of the central places of each sub-region. The Coastal sub-region possesses the only major country town in the research area and it also

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9. Miss Cook, p.1.

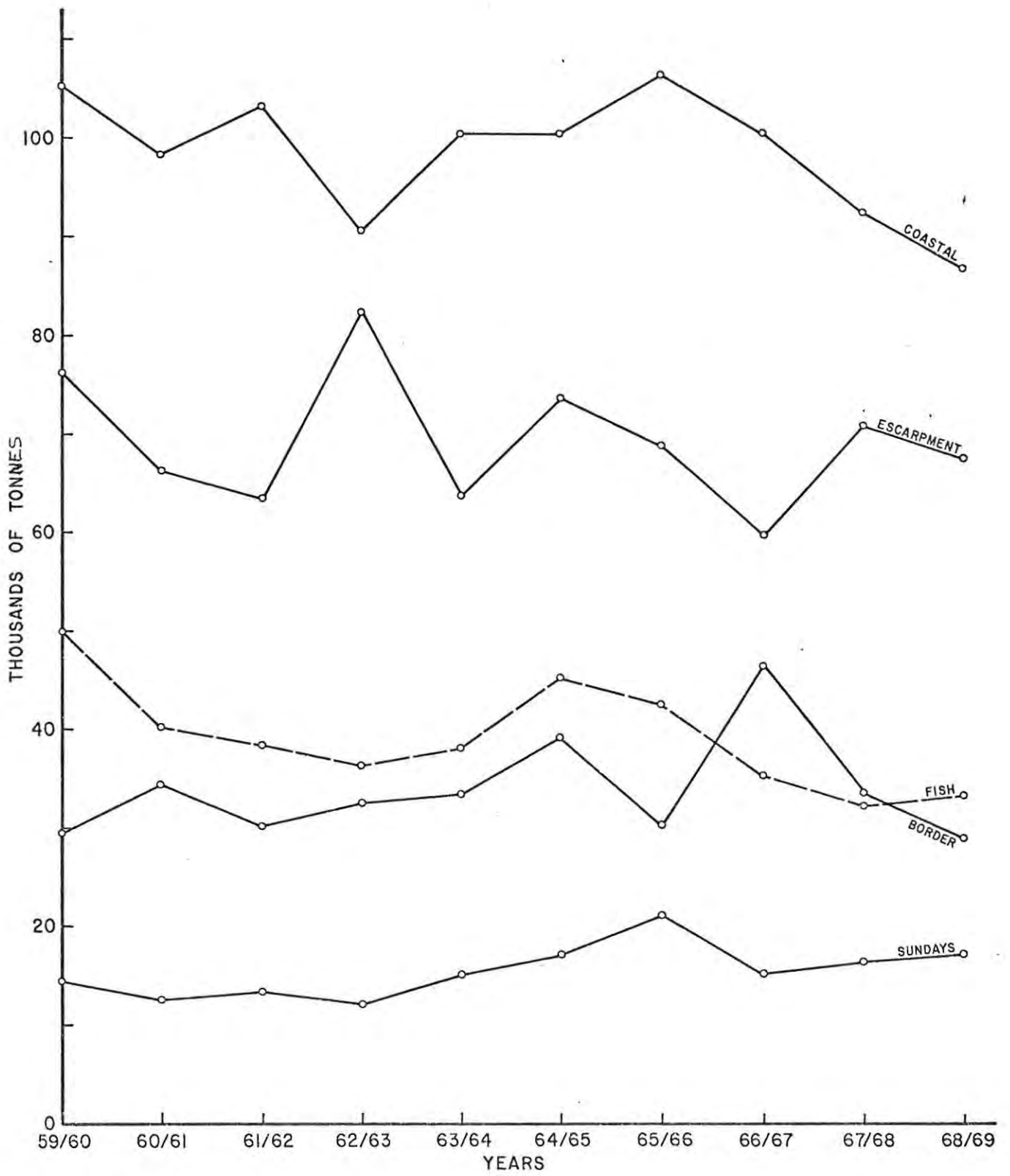


FIGURE I. TOTAL TRAFFIC FORWARDED FROM EACH SUB-REGION 1959/60 TO 1968/69.

has the second highest population density. Although the Escarpment only ranks fourth in so far as population density is concerned, and only contains one country town, its position is once again influenced by the large volumes of fuel and oil it receives for ultimate redistribution to points beyond the boundaries of the research area. The Fish sub-region contains two of the four country towns within the research area, while it ranks third with regard to population density. The Border sub-region is the most densely populated, but has the highest proportion of Bantu to total population. This factor adversely influences the total purchasing power available within the sub-region and hence the volume of general supplies and commodities received. In addition, this sub-region possesses only minor country towns which have very limited zones of influence. The Sundays is the most sparsely populated sub-region and can only boast of one country town and a number of local service and low order service centres. These characteristics of the Sundays sub-region correlates with it receiving the lowest volume of traffic of all the sub-regions.

Between 1959-60 and 1968-69, the traffic received annually by most of the sub-regions increased substantially. This is illustrated in Figure 2 which reveals that the Escarpment sub-region was the only one which did not experience a dramatic growth in annual received traffic between 1959-60 and 1968-69.

Comparing the rates of growth of forwarded and received revenue earning traffic, it would appear that efficient train services bringing goods and commodities into the research area are more crucial to the well-being of the region as a whole, than are railway facilities concerned with forwarding goods and commodities from the research area to other destinations.

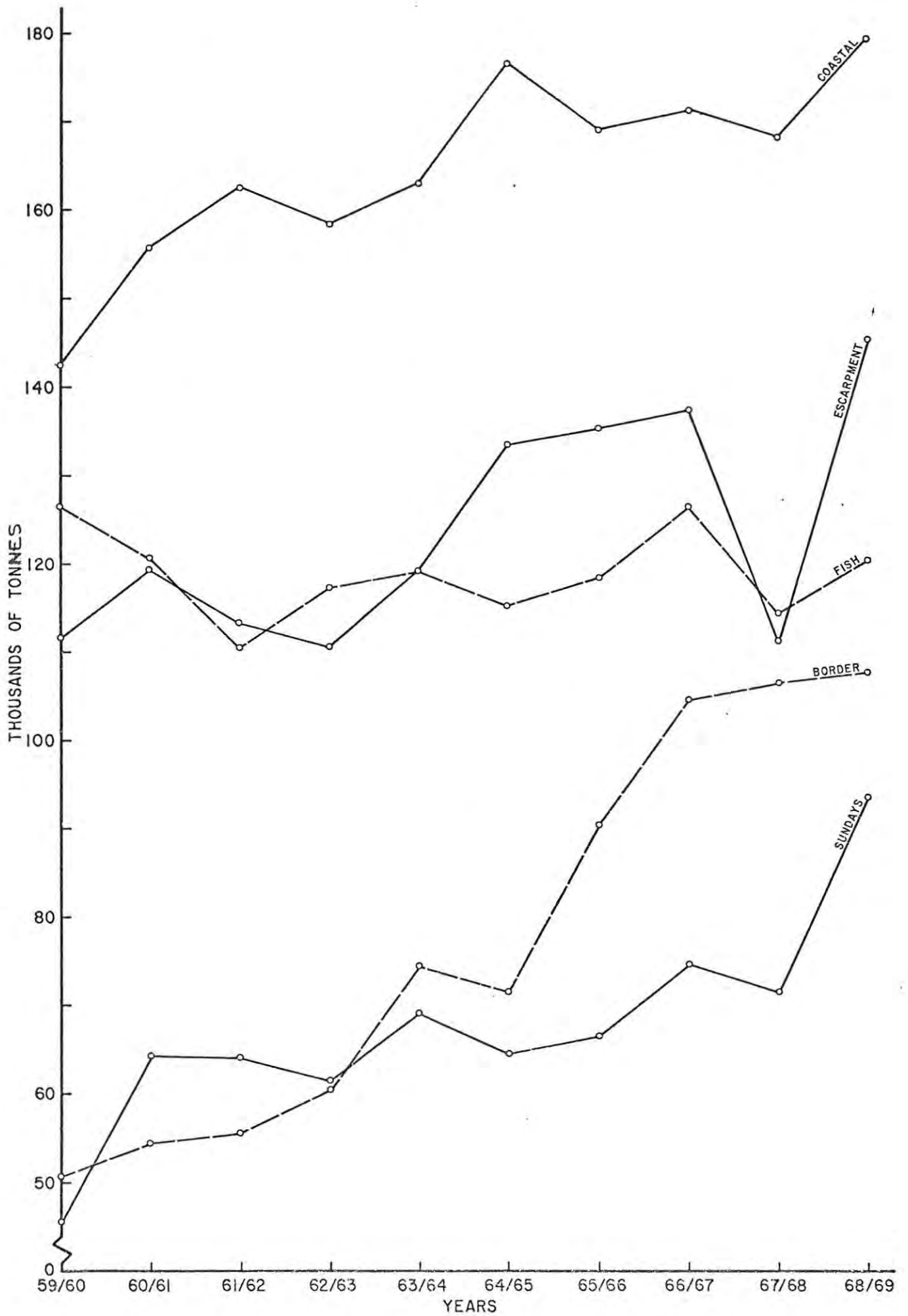


FIGURE 2. TOTAL TRAFFIC RECEIVED BY EACH SUB-REGION 1959/60 TO 1968/69.

(iii) Total passenger traffic.-Table 4 shows the total number of passenger tickets issued at all stations within each of the sub-regions. Unfortunately, the statistics available do not permit a break down of passenger traffic into first, second and third class. A general observation reveals however, that by far the greater number of tickets issued within the research area are for third class passengers. Apart from the research area's Black population being much larger than its White, one of the contributing factors to this phenomenon is the preference of the bulk of the more affluent White population to travel in their privately owned vehicles to nearby destinations, particularly Port Elizabeth and East London.

TABLE 4

SUB-REGIONS - RAILWAY PASSENGER TICKETS

YEAR	Sub-regions				
	Sundays	Fish	Escarpment	Border	Coastal
1959-60	31 965	106 819	138 940	118 482	83 398
1960-61	31 241	93 248	131 171	116 327	72 923
1961-62	33 418	93 484	125 284	130 359	76 145
1962-63	35 304	93 784	100 760	129 187	79 186
1963-64	37 706	97 478	111 272	165 152	81 589
1964-65	47 955	103 145	130 697	137 138	87 752
1965-66	40 511	114 736	162 939	136 406	96 108
1966-67	56 338	111 232	160 458	172 900	108 329
1967-68	49 247	106 421	135 945	155 074	111 981

It must be remembered that Table 4 gives only a very rough indication of the passenger traffic carried by the railway services operated in each sub-region. Many of the tickets issued

are seasonal and return tickets and thus Table 4 understates the actual number of passengers who travel by train from points within the research area. In addition, some passengers only buy tickets once they have boarded the train, and these too are not reflected in Table 4.

TABLE 5

SUB-REGIONS: WHITE, NON-WHITE AND TOTAL POPULATIONS: 1960

Sub-region	Total Population	White Population	Non-White population
Sundays	65 924	13 650	52 273
Escarpment	63 355	10 779	52 576
Fish	76 487	12 777	63 710
Border	71 000	5 832	65 168
Coastal	115 232	18 154	97 078

Source: Geographical Distribution of the Population R.P. No. 62/1963.

In Table 5 it can be seen that, with the exception of the Coastal sub-region, the total population, the total White population and the total non-White population of each sub-region are very similar. Thus quite clearly the population figures of each sub-region cannot explain why certain sub-regions supported far more train passenger traffic than others. To partially explain this phenomenon, one must consider the extent to which the Railways operate road transport passenger services in each sub-region. To compensate for the lack of railway facilities in a large area of the Sundays sub-region, the Railways Administration provides it with extensive road transport services. (See Map 12 in Chapter IV) This accounts for the relatively low number of train tickets sold in the Sundays sub-region. On

the other hand, the Escarpment, Border and Fish sub-regions are relatively well endowed with railway facilities and do not require, and are therefore not provided with extensive road transport services by the Railway Administration. This accounts for the large number of passengers travelling by train from these three sub-regions. Although the Coastal sub-region has by far the highest total population and non-White population of all the sub-regions, comparatively few train tickets were sold at railway stations within its boundaries. Once again, this can be largely attributed to the extensive road transport services operating within the area and which carry substantial numbers of third class passengers.

C. DETAILED ANALYSIS OF TRAFFIC FORWARDED FROM EACH SUB-REGION: April 1966- March 1969<sup>10</sup>

The variety and volume of commodities forwarded from each sub-region are, quite naturally, a reflection of the type of livestock and arable farming practised in each sub-region, as well as the nature of the industries located there, and the extent to which these various activities are pursued.

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10. For the period under consideration, the Railway Administration possesses monthly data on the number of pounds of each commodity forwarded from each station in the Republic. In order to facilitate and expedite the analysis of the movement of traffic into and out of the research area, it was decided to eliminate those shipments of commodities which constituted less than 1 000 pounds. Thus the maximum possible error in the volume of any one commodity, on an annual basis, would amount to 6 tons (5,422 tonnes). This was not considered to be significant. In addition, it was decided to exclude from the analysis, the indeterminate commodities classified under the "general" or "other" category of each commodity group. Attention was also focussed on those commodities which represent the results of productive activities carried out in each sub-region. Consequently, the movement of railway materials and supplies, empty cardboard and other trade containers, and empty tankers, was ignored.

The destinations of the commodities forwarded from the various sub-regions have been grouped under the following headings, as illustrated on Map 7:

Port Elizabeth,<sup>11</sup>  
 Port Elizabeth-Uitenhage district,<sup>11</sup>  
 East London,<sup>11</sup>  
 Cape East,  
 Northern Cape,  
 Western Cape,  
 Other Cape,<sup>12</sup>  
 Transvaal,  
 Natal,  
 Orange Free State,  
 South West Africa,  
 Sub-regions of the research area.

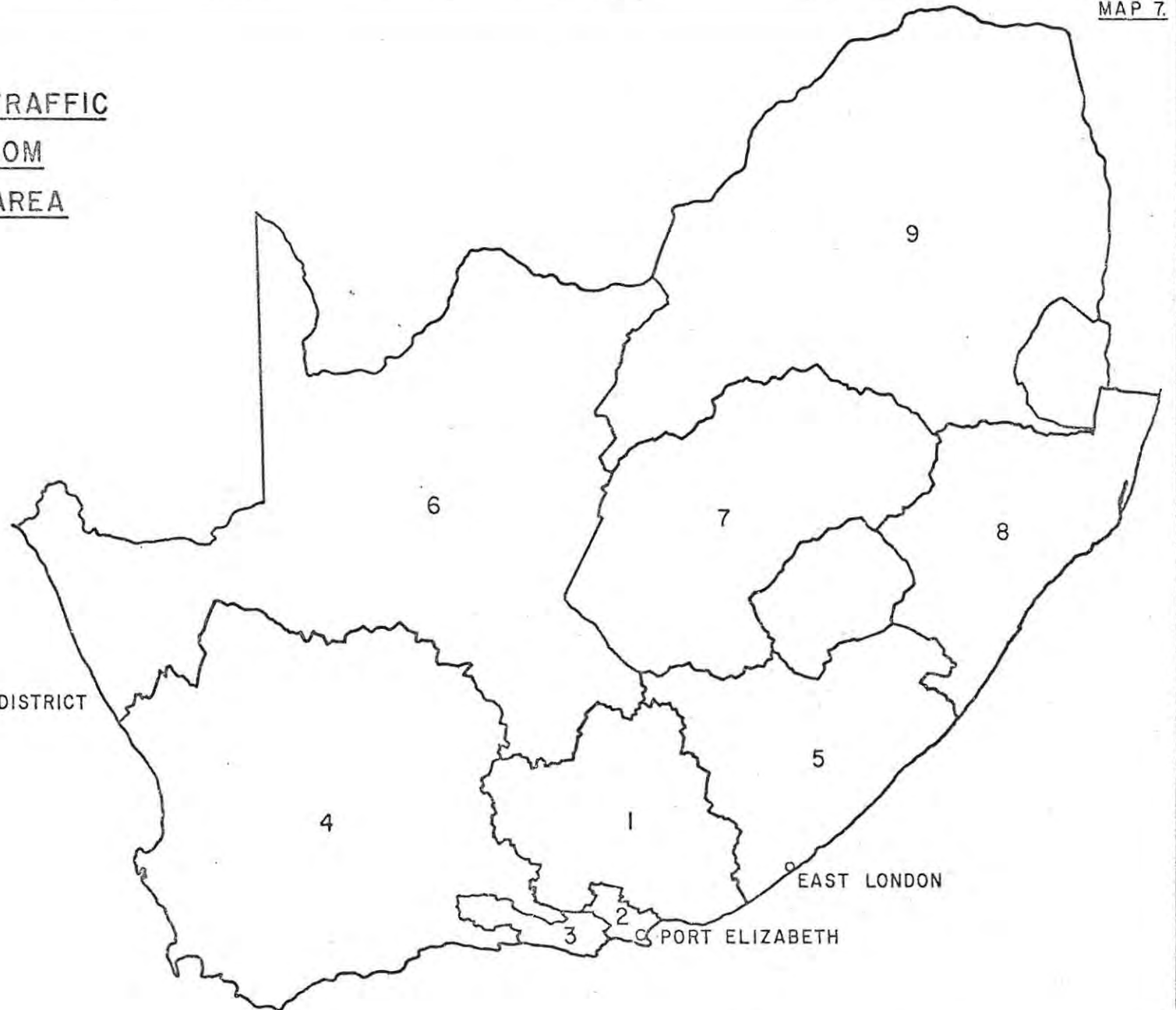
The following represents an analysis of the goods and commodities forwarded from each sub-region.

(i) Coastal sub-region.-(See Tables 6-11) The most important commodity exported from this sub-region was fresh fruit, mainly pineapples and citrus. Although all the major centres of South Africa received a portion of the Coastal sub-region's fresh fruit, the main destination was Port Elizabeth, followed by the Transvaal and Western Cape. The fresh fruit destined for overseas markets was also sent to Port Elizabeth, to be stored in refrigeration facilities for eventual dispatch from that port.

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11. The fact that it has been necessary to identify Port Elizabeth, the Port Elizabeth area and East London as particular destinations of commodities forwarded from the research area, rather than to include them as part of the Cape Province, adds weight to the argument that the research area must be linked to Port Elizabeth and, to a lesser extent, East London, in order to qualify as an economic region on the basis of nodality.
12. The Other Cape is a transitional area which cannot really be classified as part of the Western Cape. It includes the magisterial districts of Humansdorp and Uniondale.

DESTINATIONS OF TRAFFIC  
FORWARDED FROM  
THE RESEARCH AREA

1. RESEARCH AREA
2. PORT ELIZABETH - UITENHAGE DISTRICT
3. OTHER CAPE
4. WESTERN CAPE
5. CAPE EAST
6. NORTHERN CAPE
7. ORANGE FREE STATE
8. NATAL
9. TRANSVAAL



Fresh vegetables were also distributed to all parts of the Republic, East London and the Orange Free State being by far the largest customers during the period under consideration. The importance of East London in this regard adds weight to the argument for a railway line to be built from Grahamstown to King William's Town via Peddie.

The Coastal sub-region is the only area within the research area where chicory is grown. As will be recalled, it is the Republic's major chicory producing region, and the Chicory Control Board is located at Alexandria. The main destinations of the chicory root were Port Elizabeth and the Transvaal.

Grahamstown has a thriving brick industry which is reflected in the consignments of bricks to the areas bordering on the research area, as well as to South West Africa. Grahamstown also possesses rich clay deposits of which large quantities were sent to the Western Cape and the Transvaal where the pottery industry is situated.

Compared with the other sub-regions, relatively small quantities of wool were sent to the Port Elizabeth and East London wool sales. This clearly indicates the lesser extent to which sheep farming is practised in this segment of the research area. The balanced feeds manufacturer at Paterson accounted for the cattle and calf-meal delivered mainly to the neighbouring areas of the research area.

The coastal sub-region was an important source of fertilizer for the Western Cape and Other Cape in which areas arable farming is carried out extensively. This sub-region also supplied Port Elizabeth with eggs, but the quantity delivered declined considerably during the period from 1966-67 to 1968-69. A certain amount of cotton, the bulk of which is sent to East London, is grown in this area. Here again, the quantity delivered

declined substantially during the period under review.

Of the commodities forwarded to points within the boundaries of the research area, the greater part went to centres in the Coastal sub-region itself. The core of this sub-region is Grahamstown from which most of the commodities, in the form of general supplies such as paraffin, salt, sugar, coal, cement, fertilizer, maize, flour, fresh fruit and vegetables, are sent to the peripheral centres of the sub-region. Of those commodities delivered to the other sub-regions, by far the greatest volumes went to the Fish. This is not only because of the close proximity of the Fish to the Coastal sub-region, but also because of the direct rail links between them. It is interesting to note that, although the major towns of the Border sub-region are, on the average, only 90 kilometres by road from Grahamstown, whereas Middelburg, the core of the Escarpment sub-region, is approximately 300 kilometres from Grahamstown, more traffic was forwarded to the latter than to the former sub-region.<sup>13</sup> The main reason for this is that there is a more direct rail link between the Escarpment and Coastal sub-regions, than between the Border and Coastal sub-regions. Similarly, because goods and commodities have to follow devious rail routes to get to their destination, the Sundays sub-region does not fall within the sphere of influence of the Coastal sub-region to any great extent. These observations clearly reflect the extent to which the transport infrastructure of a particular area helps to determine both the location and size of that area's zone of influence.

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13. In drawing this conclusion, the volume of bricks forwarded was not taken into account. Because Grahamstown is one of the closest points of manufacture in terms of railway kilometres, the Border sub-region has virtually no option but to obtain a large proportion of its brick requirements from that city.

(ii) Border sub-region.-(See Tables 12-17). Because of the direct rail link, East London and the Cape East, are by far the most important destinations of this sub-region's forwarded traffic.

Fort Beaufort is the centre of the research area's citrus producing region, and the Kat River Citrus Co-operative located in the Fort Beaufort district, handles the bulk of its crop. Large volumes of citrus were forwarded to the main centres of the Republic for local consumption, while citrus for export was sent to East London, and to a lesser extent, Port Elizabeth.

Large quantities of rough timber left the Hogsback forests, destined mainly for the Western Cape, the Transvaal, Port Elizabeth, East London and the Cape East. Shooks, for assembly into crates for packing fruit, were supplied by the sawmill at Katberg, to East London, the Cape East, as well as to the Port Elizabeth-Uitenhage district.

Cattle farming is the most important branch of livestock farming practised in this area, but because the Adelaide magisterial district is situated on the fringe of the major sheep farming region of the research area, fairly substantial volumes of wool are forwarded from the Border sub-region. Largely because the town of Adelaide is located reasonably close to the main railway line from Port Elizabeth, being only approximately 50 kilometres from Cookhouse, more wool was sent to Port Elizabeth than to East London during the period under consideration.

Within the research area, the Border sub-region supplies primarily the centres lying within its own boundaries. Most of its other local forwarded traffic was destined for the Fish sub-region, although substantial quantities of rough timber, and shooks for packing the fruit of its pineapple and citrus industries, were delivered to the Coastal sub-region.

(iii) Fish sub-region.-(see Tables 18-23.)

The fact that this is an important sheep and angora goat farming area is reflected in the large volumes of wool and mohair which were sent to Port Elizabeth. Lucerne is grown extensively in this sub-region and this accounts for the substantial quantities of lucerne and lucerne meal exported to various destinations beyond the boundaries of the research area, particularly to the Cape East, the Western Cape, the Orange Free State and Transvaal.

The other major commodities exported from the Fish sub-region are bone-meal and stock-feed supplements manufactured in Somerset East.<sup>14</sup> These commodities were distributed throughout the Republic but principally to the Northern Cape, the Western Cape, the Transvaal, Natal and East London.

Fresh fruit and vegetables, dispatched mainly from Cradock, were sent regularly to Port Elizabeth and East London, although large consignments were also regularly delivered as far afield as Natal, the Orange Free State and Transvaal.

The creamery located at Cookhouse was the main source of the substantial quantities of cheese, and to a lesser extent butter, which left the sub-region. These commodities were destined mainly for the Transvaal and Port Elizabeth, as well as East London, the Western Cape, Northern Cape, Natal and Orange Free State.

Of the traffic forwarded from the Fish sub-region to destinations within the research area, the bulk went to points within the Fish sub-region itself. In addition, substantial quantities of traffic were dispatched to the Coastal and Escarpment sub-regions. In particular, the Coastal sub-region relied

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14. Somerset East also has the largest animal glue factory in the Republic. This commodity has not been included in the analysis, however, because it is classified under an "other tariff" number, and consequently the glue could not be specifically identified as a separate commodity.

on the Fish for a fairly large proportion of its meal and flour, and granite, gravel and stone requirements.

(iv) Escarpment sub-region.-(see Tables 24-29.)

The salt pans at Teviot account for the vast quantities of salt delivered from this sub-region to all parts of South Africa. The main areas supplied, however, are the Western Cape, Natal, the Transvaal, the Orange Free State and the Cape East.

Sheep farming is the principal type of livestock farming practised in the Escarpment sub-region, and because it is served by railway lines linking both Port Elizabeth and East London, large quantities of wool were sent to both these ports. Lucerne is the main crop grown in this area and the Cape East was the major customer for its surplus production, although consignments were also regularly delivered to the Transvaal, Natal and Orange Free State. Vegetables are extensively grown under irrigation, and during the period under consideration, fresh vegetables were supplied to all the major centres in South Africa.

The Escarpment sub-region is a large distributor of granite, gravel and stone; pipes and windmills; unworked iron and steel sheets and bars; and meal and flour; mainly to areas lying adjacent to the research area. Rosmead, which is a fuel depot, supplies part of the Northern Cape and the Orange Free State with a portion of their petrol requirements, and the Northern Cape with a portion of its paraffin requirements. In fact, the quantities of all products shipped to the Northern Cape, indicates that at least its south-eastern section clearly falls within the zone of influence of the Escarpment sub-region. The same can be said for the eastern section of the Western Cape and the western parts of the Cape East. The primary contributing factor to this

phenomenon, is the pattern of the railway network which links these areas with the research area.

The observation, that of the traffic forwarded to centres within the research area the bulk goes to towns in the same sub-regions as the forwarding stations, is confirmed by Tables 27-29. However, because the Escarpment sub-region borders on both the Sundays and Fish sub-regions, and has a direct rail link with them, both these areas receive regular supplies of commodities from the Escarpment. In addition, Teviot distributes its salt throughout the whole research area.

(v) Sundays sub-region.-(See Tables 30-35.) This sub-region forms part of the Great Karroo and as such, is an important sheep farming area. In addition, the magisterial district of Jansenville is the centre of the research area's angora goat farming region, although this type of farming is also practised in the Pearston and Steytlerville magisterial districts. These factors contribute to the very large quantities of wool, mohair and hides and skins which were transported to Port Elizabeth during the period from 1966-67 to 1968-69.

The main crop grown is lucerne, and lucerne meal is exported from the Sundays sub-region to most parts of the Republic. In addition, wheat is grown fairly extensively, mainly as a winter feed for livestock. During the past decade, however, substantial surpluses have occurred which have made possible the export of large quantities to Port Elizabeth.<sup>15</sup>

From Tables 30-32 it is evident that Port Elizabeth, the Port Elizabeth-Uitenhage district, and part of the Western

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15. It will be recalled from Chapter I that the 1972 harvest was a particularly good one for the Karroo wheat farmers.

Cape, clearly fall within the Sundays sub-region's sphere of influence in so far as forwarded traffic is concerned. The reason for this can not only be traced to the proximity of these areas to the Sundays sub-region, but more specifically to the direct rail links between them.

The bulk of this sub-region's internally forwarded traffic was destined for centres within its own boundaries. Of the other sub-regions, only the Escarpment emerged as a customer of any significance for the Sundays sub-region's wares. In fact, apart from bones which were delivered to the stock feed supplements manufacturers in Somerset East (Fish sub-region) and Paterson (Coastal sub-region), as well as to the animal glue factory in Somerset East, the traffic which was forwarded to the other sub-regions was negligible.

The most salient point to emerge from Tables 6-35 is that the sphere of influence of any sub-region, and the extent to which flows of commodities occur between one <sup>area</sup> area and another, is determined essentially by the nature of the railway network which exists between them. The only exception to this conclusion occurs where a particular area possesses a clear comparative advantage in the production of a particular commodity as compared with a sub-region's alternative suppliers. Thus the lack of direct rail facilities between the Border and Coastal sub-regions did not deter the flow of bricks from the latter to the former, or the flow of shooks and rough timber from the former to the latter.

Having analysed the traffic forwarded from each of the sub-regions comprising the research area, the next step is to examine the traffic received by the research area, both in terms

of the type of commodities and their points of origin.

D. ANALYSIS OF TRAFFIC RECEIVED BY EACH SUB-REGION

April 1966-May 1969<sup>16</sup>

(i) Coastal sub-region.-(see Tables 36-38.)

For the three years under consideration, respectively 34%, 38% and 35% of the total traffic received by this sub-region, was obtained from Port Elizabeth, the Port Elizabeth-Uitenhage district and East London combined.<sup>17</sup> These figures emphasise that the Coastal sub-region relies very heavily on Port Elizabeth and its surrounding areas, as well as on East London to a lesser extent, for its general supplies and basic commodities.

During the three year period, the volume of each category of commodities received, remained fairly constant. The amounts of mixed groceries, grains, and meal flour received from Port Elizabeth, did decrease slightly however, while the fuel and oil category registered a steady increase.

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16. The traffic entering the research area from Port Elizabeth, the Port Elizabeth-Uitenhage district and East London, was analysed in detail. Because of the computational difficulties involved in determining the type and quantity of each commodity forwarded from every station in the Republic, to destinations within the research area, the traffic received from other parts of the Republic shall merely be indicated in general terms. In the context of the analysis of the traffic received by the research area, Port Elizabeth refers only to the main Port Elizabeth railway station. The Port Elizabeth-Uitenhage district incorporates (1) all the stations on the Port Elizabeth-Cradock main line as far as the Alexandria magisterial district, including the railway siding at Algoa Bay—the Port Elizabeth harbour, and (2) all the stations on the Port Elizabeth - Graaff-Reinet line as far as the Steytler-ville magisterial district boundary.
17. Because consignments of commodities from the Port Elizabeth-Uitenhage district constituting less than 0,4355 tonnes (1 000 lbs), as well as commodities falling under other tariff numbers, were ignored, these figures for all sub-regions will err on the low side.

The main commodities within the mixed groceries and household requirements category obtained from Port Elizabeth, were toilet soap and soap powders; jams, golden syrup and treacle; condensed milk and milk powder; confectionery, sweets and chocolates; and canned vegetables.

Ordinary building cement comprised the major item—approximately 90%—of the hardware and building materials category imported from Port Elizabeth, while wheaten meal and flour represented by far the most important commodity within category 9.

Salt from the salt pans at Swartkops and sugar from Algoa Bay accounted for virtually the entire volume of mixed groceries and household requirements delivered to the Coastal sub-region from the Port Elizabeth-Uitenhage district.<sup>18</sup> In addition, this area—Uitenhage in particular—supplied substantial quantities of granite, gravel and stone for building purposes.

Wheaten meal and flour were the only commodities which were obtained from East London in any significant quantities.

Apart from the commodities which were obtained from the centres in whose zone of influence the Coastal sub-region clearly lies, Grahamstown, the core of this sub-region, received by rail substantial quantities of maize and maize products from the Orange Free State; maize, potatoes and factory goods from the Transvaal and coal from Vandyksdrift, Kromklip and Witbank, which is its largest supplier. In addition, Natal was responsible for supplies of factory goods and coal from Glencoe.

(ii) Border sub-region.—(See Tables 39-41.)

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18. The sugar forwarded from Algoa Bay—the Port Elizabeth harbour—is obtained from Durban by coaster. As explained before, Algoa Bay is classified as being in the Port Elizabeth-Uitenhage district.

During 1966-67, 1967-68 and 1968-69, respectively 48%, 49% and 52% of the total traffic received by this sub-region was obtained from Port Elizabeth, the Port Elizabeth-Uitenhage district and East London combined. Due to the direct rail link between the two areas, the Border sub-region relies on East London for the bulk of its supplies. The western section of the sub-region lies relatively close to Cookhouse, an important rail junction on the main line from Port Elizabeth to the north, and consequently, substantial quantities of some commodities are also obtained from Port Elizabeth and its surrounding areas. The main items in the hardware and building materials category received from Port Elizabeth, were building cement and granite, gravel and stone. In addition, very large quantities of granite, gravel and stone were obtained from Uitenhage. The only other commodity of note to come from Port Elizabeth, was wheaten meal and flour.

(iii) Fish sub-region.-(See Tables 42-44.)

Here again, the fact that this sub-region relied on Port Elizabeth, the Port Elizabeth-Uitenhage district and East London for approximately 29%, 33% and 31% of the total traffic received respectively during 1966-67, 1967-68 and 1968-69, indicates that the influence of Port Elizabeth, and to a lesser extent East London, cannot be ignored in any type of economic analysis of the research area as a whole. The influence of these two metropolitan areas is, of course, made possible and facilitated by the prevailing transport infrastructure.

Tables 42-44 reveal that quantities of the various commodities received from the three areas concerned remained fairly constant, although there were minor fluctuations in some product categories.

The major items of mixed groceries and household requirements

obtained from Port Elizabeth, were toilet soap and soap powders; confectionery, sweets and chocolates; sugar, jams, golden syrup and treacle; and canned vegetables. Cement, and wheaten meal and flour, comprised the bulk of the volumes of categories 2 and 9 respectively, which were supplied by Port Elizabeth. Part of the miscellaneous category from Port Elizabeth was made up of bones destined for the animal feeds and animal glue factories of Somerset East.

Large quantities of sugar and salt were respectively received from Algoa Bay and Swartkops in the Port Elizabeth-Uitenhage district. The building materials obtained from this area comprised granite, gravel and stone.

East London was responsible for regular supplies of many commodities although in relatively small quantities.

The Fish sub-region has two core centres located within its boundaries, namely, Somerset East and Cradock. Somerset East obtained large consignments of coal, building materials, cement, timber, bones, granite for tombstones and stock-feed from the Transvaal. Maize products, both for human consumption and stock-feeding purposes, were received from the Orange Free State, while stock-feed, molasses and treacle were received from Natal. In addition, supplies of salt were drawn from the Western Cape.

Apart from the goods traffic received from the two nearby metropolitan areas, Cradock obtained manufactured goods and coal from the Transvaal, cement from the Northern Cape, maize and maize products from the Orange Free State, and some factory goods from Natal and the Western Cape.

(iv) Escarpment sub-region.-(See Tables 45-47.)

For the three years under consideration, respectively 29%, 35% and 31% of the total traffic received by this sub-region, was

obtained from Port Elizabeth, the Port Elizabeth-Uitenhage district and East London combined.

The Escarpment sub-region is served by railway lines originating at both Port Elizabeth and East London. Although Port Elizabeth was responsible for a far larger portion of the traffic received from these two metropolitan areas, the towns located in the eastern section of the region relied more heavily on East London for their general supplies.

Tables 45-47 reveal that relatively constant quantities of the various product categories were received during the period from 1966-67 to 1968-69, although in 1968-69, there was an overall increase in total traffic received.

The large volumes of fuel and oil obtained from Port Elizabeth were not for local consumption, but for storage, and ultimate redistribution to parts of the Northern Cape and Orange Free State.

The main items of mixed groceries and household requirements obtained from Port Elizabeth, were toilet soap; confectionery, sweets and chocolates; jams, golden syrup and treacle; and condensed milk. This sub-region also relied on Port Elizabeth for the major portion of its building cement requirements, as well as for wheaten meal and flour.

The only commodities to be obtained from the Port Elizabeth-Uitenhage district in any significant quantities, were sugar and salt; and granite, gravel and stone for building purposes. Regular supplies of most of the general commodities were received from East London, particularly by those stations situated on the East London trunk line.

In addition, Middelburg, the core of the Escarpment sub-region, obtained coal from the Transvaal; firewood, wattles and maize and maize products from the Orange Free State; and sugar

from Natal.

(v) Sundays sub-region.-(See Tables 48-50.)

During 1966-67, 1967-68 and 1968-69, respectively 42%, 50% and 44% of the total traffic received by this sub-region was obtained from Port Elizabeth, the Port Elizabeth-Uitenhage district and East London combined. This reconfirms that these metropolitan areas, as compared with the rest of the Republic exert a tremendous influence on the research area in terms of flows of goods and services.

The Sundays sub-region is particularly dependent on Port Elizabeth for its general supplies, and during the period under consideration, the volumes received of each product category increased steadily. As was found with the other sub-regions, the main items of mixed groceries and household requirements which were supplied by Port Elizabeth, were toilet soap; confectionery, sweets and chocolates; and jams, golden syrup and treacle. Large quantities of building cement and wheaten meal and flour were also received from Port Elizabeth. It is interesting to note that of all the sub-regions, this was the only one which received any significant quantities of dairy products from either of the two nearby metropolitan areas. The reason for this is that the Sundays sub-region is primarily a sheep farming area.

As with the other sub-regions, the main items of mixed groceries and household requirements obtained from the Port Elizabeth-Uitenhage district were sugar and salt; while the hardware and building materials obtained from this area consisted mainly of granite, gravel and stone.

Only very small quantities of commodities were obtained from East London. The main contributing factor to this is not only the location of the Sundays sub-region in relation to East London, but also the lack of direct rail facilities between the

two areas. Commodities sent from East London to Graaff-Reinet, the core of the Sundays sub-region, either have to go via Cookhouse and Middelburg, or via Queenstown, Molteno and Middelburg. The use of either of these two devious routes contributes substantially to the costs of the commodities and renders ordering supplies from East London an uneconomic proposition.

Graaff-Reinet, the core of the Sundays sub-region, also obtained by rail, coal, timber and fresh vegetables from the Transvaal; maize and maize products from the Orange Free State; coal, firewood and sugar from Natal; fertilizer and explosives from the Western Cape; and cement and gypsum from the Northern Cape.

The two salient points to emerge from Tables 36-50 are firstly, that Port Elizabeth, the Port Elizabeth-Uitenhage district and East London, together account for a significant proportion of the annual goods traffic received by the research area, and secondly, that the extent to which either Port Elizabeth or East London is relied upon for general supplies, depends upon the transport infrastructure which exists between a particular sub-region and the two metropolitan areas.

TABLE 6

TRAFFIC FORWARDED FROM THE COASTAL SUB-REGION TO DESTINATIONS BEYOND THE  
BOUNDARIES OF THE RESEARCH AREA : APRIL 1966-MAY 1967  
 (IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Wool and mohair	672	2			1						
Hides and skins	106										
Citrus for export	1 240										
Citrus	499	2		30	157				126	48	131
Fresh fruit (excl. citrus)	23 161	9	1 573	66	15	3	2	2	4	95	2 467
Fresh fruit (excl. citrus for export)	431										
Fresh vegetables	304	9 373	13	436	804	9	64		6	698	48
Wheat	361			13	1	14	89			1	38
Wheaten meal and flour	14	6					1			1	
Maize	28				10		47			3	
Maize meal	9	122			14	24	13			1	
Chicory root	9 640	23			447				502	10	3 488

TABLE 6 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Barley	21		14				44				18
Cotton	1	41									
Lucerne	1	82	24		90		11			20	
Morghum	7				7		42				2
Bricks	1 345		3 298	67	491	33	276	354			
Storage, chaff and straw	16		8	4	177		4				
Cattle and calf meal	126	16	3		60	197	25		1		
Eggs	420	16			6		12			28	
Butter	13										
Clay	126	2	586								25 652
Fertilizer	1		804		12	933	21				
Peas and beans dried	23	2			7						33
Gar			56		2				6		2

TABLE 7

TRAFFIC FORWARDED FROM THE COASTAL SUB-REGIONS TO DESTINATIONS BEYOND THE  
BOUNDARIES OF THE RESEARCH AREA : APRIL 1967-MAY 1968

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Wool and mohair	572	14									
Hides and skins	83				1						
Citrus for export	1 322										
Citrus	601	9	65	262	92		5	34	161	179	269
Fresh fruit (excl. citrus)	18 281	132	1 601	92	25	2	10	1	16	94	1 989
Fresh fruit (excl. citrus for export)	310										
Fresh vegetables	406	612	109	251	115		89		2	409	3
Wheat	113						74				
Wheaten meal and flour	9	9					5				
Maize					26	6	13				
Maize meal	5		55		1		5				
Galbanicory root	5 534								474		2 646
Barley							2				64
Cotton	1	21									
Lucerne		97	41		23	3	25			4	

/Table 7 contd.

TABLE 7 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	V.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tv1.
orghum					7	7					
ricks	51		2 843	17	251	56	189	170			
orage, chaff and straw	7				4		6				
attle and alf meal					16	1	1				
eggs	242				1		3			16	
utter	21										
lay	116	50	514		537						23 375
ertilizer	18	3	427		49	1 033	7				
oas and beans dried	24				14						3
ats			83		14		4				76
ar	26		29		10	1			3		10
eggs for export	16										

TABLE 8

TRAFFIC FORWARDED FROM THE COASTAL SUB-REGION TO DESTINATIONS BEYOND THE  
BOUNDARIES OF THE RESEARCH AREA : APRIL 1968-MAY 1969

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Wool and mohair	589	6			8 613						
Hides and skins	53										
Citrus for export	295										
Citrus	316	150	16	10	6				7	30	42
Fresh fruit (excl. citrus)	6 605	21	1 443	84	2	1	7	1	6	181	2 216
Fresh fruit (excl. citrus or export)	401										
Fresh vegetables	267	738	21	288	139		52	1		635	9
Wheat	1 939		3				208				16
Heat-treated meal and flour	4	2									
Maize					2		84			3	
Maize meal	1				1		11			1	
Chicory root	5 380	6			48				636		3 445
Barley			169		187					12	397
Cotton		12									
Lucerne		10	7		178		5			6	
Barghum					2						

TABLE 8 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tv1.
ricks	496		1 611		284	263	223	198			
orage, chaff and straw		3			812	5	12			35	7
attle and calf meal	5		1		110	24	7				7
eggs	157	1	18	1			1			14	
maize for export	24										
lay	142		530		1 122					52	26 679
ertilizer		76	705		11	577	29				
oas and beans dried	6	5			8		2				1
ats	43				30		23				
ar	84		25		8	4			20		15
eggs for export	4										

TABLE 9

TRAFFIC FORWARDED FROM THE COASTAL SUB-REGION TO DESTINATIONS WITHIN THE  
RESEARCH AREA : APRIL 1966-MAY 1967

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Fresh fruit (excluding citrus)	3	2	20		44
Citrus			8		79
Fresh vegetables	51	40	124	27	42
Maize			92		580
Maize meal			207		360
Sorghum					22
Lucerne	11	3	313		90
Barley			13		45
Chicory root	11	68	85		5
Oats			18		20
Cattle and calf meal	16	1	632	154	190
Forage, chaff and straw	37	52	279	5	11

/Table 9 contd.

TABLE 9 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Fertilizer		17	12	4	434
Eggs				2	37
Wheaten meal and flour			18	2	413
Bricks	16	210	194	170	29
Cement					142
Coal			6	1	73
Sugar			8		106
Salt					20
Paraffin					23
Dried peas and beans			4		3
Granite, gravel, and stone					18

TABLE 10

TRAFFIC FORWARDED FROM THE COASTAL SUB-REGION TO DESTINATIONS WITHIN THE  
RESEARCH AREA : APRIL 1967-MAY 1968  
 (IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Fresh fruit (excluding citrus)	2	6	18	3	60
Citrus	17	38	32		52
Fresh vegetables	41	45	97	36	42
Maize			94		568
Maize meal			100		287
Wheat			4		9
Lucerne			26		131
Barley		21			
Oats			27		13
Cattle and calf meal					1
Forage, chaff and straw	7		43		12

/Table 10 contd.

TABLE 10 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Fertilizer			8	12	324
Eggs					82
Wheaten meal and flour			15	3	419
Bricks	4	58	67	647	151
Cement					157
Coal				5	129
Sugar			9		58
Salt					28
Paraffin					32
Dried peas and beans			1	1	4
Granite, gravel and stone					86

TABLE 11  
TRAFFIC FORWARDED FROM THE COASTAL SUB-REGION TO DESTINATIONS WITHIN THE  
RESEARCH AREA : APRIL 1968-MAY 1969

( IN TONNES )

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Fresh fruit (excl. citrus)	1	1	26	3	12
Citrus					6
Fresh vegetables	20	71	59	29	6
Maize			68	6	633
Maize meal	3		79	1	215
Wheat					3
Lucerne	16		139		76
Barley				1	2
Chicory root					32
Oats		1	32	1	24
Cattle and calf meal			346	9	64
Forage, chaff and straw	44	29	269	4	12

/ Table 11 contd.

TABLE 11 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Fertilizer		44	1	11	430
Eggs	1			2	68
Wheaten meal and flour			3	3	407
Bricks	105	33	152	292	244
Cement					136
Coal			1	2	106
Sugar			2	3	42
Salt					23
Paraffin					37
Granite, gravel and stone					85

TABLE 12  
TRAFFIC FORWARDED FROM THE BORDER SUB-REGION TO DESTINATIONS BEYOND THE  
BOUNDARIES OF THE RESEARCH AREA : APRIL 1966-MAY 1967

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	V.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Wool and mohair	1 022	1 337	36		2						
Hides and skins	138	8									
Citrus for export		11 048	558								
Citrus	234	1 169	53	87	703		1		81	412	274
Fresh fruit (excl. citrus)	27	11			1						
Fresh vegetables	35	95	2		74		5				
Lucerne and lucerne meal			18	15	444		6			78	6
Oats					33						
Forage, chaff and straw				3	112						4
Maize	3				36	1					
Rough timber	35	541	791		491			2	330	142	570
Cheese		115									
Bricks		83			111						
Fertilizer		1	66	2		11					
Granite, gravel and stone	818	22			392	1 451	836				

/Table 12 contd.

TABLE 12 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Wheat	16									1	
Crude ore	76										
Bones				5	14						
Uncooked bacon and ham		11									
Shooks	6	70			61		18				
Cement			39								

TABLE 13

TRAFFIC FORWARDED FROM THE BORDER SUB-REGION TO DESTINATIONS BEYOND THE  
BOUNDARIES OF THE RESEARCH AREA : APRIL 1967-MAY 1968

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Wool and mohair	1 086	588			4						
Hides and skins	121	4					1				
Citrus for export	17	9 568							8		
Citrus	659	1 004	8	50	982		81	4	74	649	268
Fresh fruit (excl. citrus)	143	358		40	286				49	144	62
Fresh vegetables	66	123	1		89	30	3				
Lucerne and lucerne meal		31	24	3	403		5				6
Oats					5						
Forage, chaff and straw	2	2			137						
Maize		1	1		26						
Rough timber	403	248	41	55	821				50	67	134

/Table 13 contd.

TABLE 13 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Cheese	7	26									
Granite, gravel and stone			2		93		575				
Wheat	52		2		3						
Bones					10					16	
Shooks		173			55		6				
Wheaten meal and flour	2	1			8						
Maize meal					2					8	

TABLE 14

TRAFFIC FORWARDED FROM THE BORDER SUB-REGION TO DESTINATIONS BEYOND THE  
BOUNDARIES OF THE RESEARCH AREA : APRIL 1968-MAY 1969

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Wool and mohair	806	495			6						
Hides and skins	118	10					1				
Citrus for export	609	6 285	104								
Citrus	179	1 153	281	74	811		4	3	60	305	68
Fresh fruit (excl. citrus)		104			8						
Fresh vegetables	47	82		20	188		16		5	60	7
Lucerne and lucerne meal		75		26	506					10	
Oats	2				1				1		
Forage, chaff and straw		9			92		8				
Maize	10				119						3

/Table 14 contd.

TABLE 14 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tv1.
Rough timber	998	438	231	31	896		16		67	48	253
Cheese	8	29	6						83	6	63
Wheat	57				4						20
Bones	5			7	15						
Shooks		131	175		19		12				
Fertilizer	10		9		5		544				
Tobacco leaf					8		4				
Eggs									6		

TABLE 15

TRAFFIC FORWARDED FROM THE BORDER SUB-REGION TO DESTINATIONS WITHIN THE  
RESEARCH AREA : APRIL 1966-MAY 1967

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Wscarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Citrus			2	420	2
Fresh fruit (excluding citrus)			3	53	
Fresh vegetables	1	1	20	8	1
Maize			13	91	
Lucerne		104	178	5	
Rough timber		1	11	11	154
Granite, gravel and stone			86	274	
Bones			26		5
Fertilizer				184	11
Shooks					180
Mixed groceries			6	23	1
Forage, chaff and straw		13		2	
Grain				4	1

TABLE 16

TRAFFIC FORWARDED FROM THE BORDER SUB-REGION TO DESTINATIONS WITHIN THE  
RESEARCH AREA : APRIL 1967-MAY 1968  
 (IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Citrus			1	482	
Fresh fruit (excluding citrus)		1	5	7	
Fresh vegetables		1	18	4	4
Maize			13	33	
Lucerne			20	29	
Rough timber			19	1	153
Granite, gravel and stone			18	52	
Bones			43		20
Fertilizer				12	19
Shooks	6			2	162
Bricks				154	
Mixed groceries				30	
Grain			2	4	1
Forage, chaff and straw			11		

TABLE 17

TRAFFIC FORWARDED FROM THE BORDER SUB-REGION TO DESTINATIONS WITHIN THE  
RESEARCH AREA : APRIL 1968-MAY 1969

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Citrus		1	3	63	22
Fresh vegetables	4	3	20	15	4
Maize			6	29	
Lucerne		7	6	43	
Rough timber			20	20	66
Granite, gravel and stone				11	
Bones			88		20
Mixed groceries			5	31	5
Fertilizer			57	7	
Shooks			1	3	173
Wheat				9	4
Forage, chaff and straw			17	157	
Tobacco leaf			12	4	1
Cement			10	5	
Coal				16	

TABLE 18

TRAFFIC FORWARDED FROM THE FISH SUB-REGION TO DESTINATIONS BEYOND THE  
BOUNDARIES OF THE RESEARCH AREA : APRIL 1966-MAY 1967

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Wool and mohair	3 918	261									
Hides and skins	390	26	1								
Fertilizer	139		2 662		546	21	460		168		55
Eggs	145				1						6
Butter	33	8	1		1						
Cheese	110	74	25		11				17		125
Fresh fruit and vegetables	107	197		15	42	2	11		61	28	105
Lucerne and lucerne meal	6		157	52	224	28	6			122	70
Wheat	7		3		15					3	
Wheaten meal and flour	5				99	6					

/Table 18 contd.

TABLE 18 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tv1.
Granite, gravel and stone	3 419				2 035		190				
Bone meal, stock feed supplements and stock licks	21	670	712	998	145	2	1	3 389	452	229	610
Forage, chaff and straw				6	15				43		10
Bricks							293				
Oats	13		11		7					1	7

TABLE 19  
TRAFFIC FORWARDED FROM THE FISH SUB-REGIONS TO DESTINATIONS BEYOND THE  
BOUNDARIES OF THE RESEARCH AREA : APRIL 1967-MAY 1968

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tv1.
Wool and mohair	4 025	57									
Hides and skins	312	2									
Fertilizer			435		288	52	1 769		168		74
Eggs	74	1									
Butter	48	7	2					6	7		6
Cheese	195	79	14		2			7	83		135
Fresh fruit and vegetables	178	58		2	6	5	4		30	23	101
Lucerne and lucerne meal		88	138	31	1 232	1	63		31	97	134
Wheat			21		188		40			11	
Wheaten meal and flour	41									8	
Granite, gravel and stone	2 435		73	10							802

/Table 19 contd.

TABLE 19 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Bone meal, stock feed supplements and stock licks	158	352	891	878	148	3	1	557	805	198	693
Forage, chaff and straw	12	7			101					129	24
Bricks							31				
Oats	15				164				10	79	
Maize			37		3	26				5	2
Maize meal	2	1			3					3	9
Limestone			19		24		16				
Barley					34						5
Cattle and calf meal							1		43		92
Crude asbestos	55										

TABLE 20

TRAFFIC FORWARDED FROM THE FISH SUB-REGION TO DESTINATIONS BEYOND THE  
BOUNDARIES OF THE RESEARCH AREA : APRIL 1968-MAY 1969

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Wool and mohair	3 626	201					8				
Hides and skins	269	2	1								
Fertilizer			729			161	462		1	3	
Eggs	47										
Butter	171	29	27		27				41		186
Cheese	197	68	25		50				62	56	430
Fresh fruit and vegetables	151	142	12	1	27		10		42	6	262
Lucerne and lucerne meal	1		279	132	1 722		108		31	397	19
Wheat	2 091	215	2	8	483					12	4
Wheaten meal and flour	234	3	6		23					2	3
Granite, gravel and stone			19		9		69				

TABLE 20 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Bone meal, stock feed supplements and stock licks	138	391	729	717	158	3	2	339	746	189	655
Forage, chaff and straw	5			8	53		9			29	15
Bricks	38										
Oats	6		1			41			2	37	
Maize meal	27				1					2	3
Limestone			27				24				
Barley	43				2						
Crude ores			73								
Grain	7				30						

TABLE 21

TRAFFIC FORWARDED FROM THE FISH SUB-REGION TO DESTINATIONS WITHIN THE  
RESEARCH AREA : APRIL 1966-MAY 1967

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Eggs	3			1	
Butter		32	89	1	
Cheese		3	1		10
Maize	14	5	110	6	98
Maize meal		6	30	4	42
Wheat			44		1
Wheaten meal and flour		58	409	3	505
Fresh vegetables		8	2	1	59
Lucerne and lucerne meal	56	48	228	22	117
Oats		4	34		2

/Table 21 contd.

TABLE 21 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Bones			18		52
Granite, gravel and stone		179	73		1 168
Coal		5	47		
Cement		2	23		
Treacle (Cattle feed)		1	35		
Bone meal	8	57	53	74	7
Limestone			728		169
Bricks		115			30
Fertilizer			53		5
Forage, chaff and fodder		11	72		
Fuels and oil		1	25		

TABLE 22

TRAFFIC FORWARDED FROM THE FISH SUB-REGION TO DESTINATIONS WITHIN THE  
RESEARCH AREA : APRIL 1967-MAY 1968

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Eggs	6	1			
Butter		23	85	1	1
Cheese		1			3
Maize			70	6	
Maize meal		2	53	8	32
Wheat			1 593		
Wheaten meal and flour		64	323		550
Fresh fruit and vegetables		8	8	1	5
Lucerne and lucerne meal	303		486	104	374
Oats		8	157	14	17
Bones			34		36
Granite, gravel and stone		177	709		1 561
Coal		3	65		
Cement		1	35	1	
Bone meal	8	82	79	89	28
Limestone			990		
Bricks			40		
Fertilizer			20		54
Forage, chaff and fodder		6	56		9
Fuels and oil			58		

TABLE 23

TRAFFIC FORWARDED FROM THE FISH SUB-REGION TO DESTINATIONS WITHIN THE  
RESEARCH AREA : APRIL 1968-MAY 1969

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Eggs	1	1			
Butter		5	10	1	2
Cheese					2
Maize	5	12	23	8	
Maize meal		14	53	4	51
Wheat	28		656		1
Wheaten meal and flour	4	68	262		306
Fresh fruit and vegetables	2		12	5	11
Lucerne and lucerne meal	211	226	431	419	147
Oats		7	32		5
Bones			56		88
Granite, gravel and stone		454	22		844

/Table 23 contd.

TABLE 23 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Coal		2	69		
Cement			28		
Treacle (cattle feed)			15		
Bone meal	7	37	15	94	16
Limestone			883		
Bricks		186			
Fertilizer		8	42		17
Forage, chaff and straw	7	36	52	39	
Fuels and oil			24		
Grain			9		17

TABLE 24

TRAFFIC FORWARDED FROM THE ESCARPMENT SUB-REGION TO DESTINATIONS BEYOND THE  
BOUNDARIES OF THE RESEARCH AREA : APRIL 1966-MAY 1967

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Wool and mohair	2 049	1 070									
Hides and skins	264	2									
Lucerne and lucerne meal		7	27	18	479		3		48	13	63
Fresh vegetables	52	94	1	24	33				48	9	21
Salt	4	380	2 534	229	560	90	44	110	1 008	465	689
Maize	1		44	45	6						
Maize meal				84	21	1			9	5	
Wheat			2		48						
Wheaten meal and flour	15		66	2 264	1			6		1	
Bones	6			9	58					4	
Fertilizer			30	1		1					36
Granite, gravel and stone	10 190			469	52	1 867	533			361	

/Table 24 contd.

TABLE 24 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Bricks				68	17						
Pipes and windmills	45	25	12	62	82		1	1		1	
Iron and steel bars and sheets	81	119	35	96	27	18				9	
Mineral waters			77	1							
Paraffin			32	1 589							
Petrol	3		68	2 370						1 233	
Oil	3	7	253						13	6	8
Fish, seal and whale oil			2	74							
Gases	4			58							
Sugar				18	1						
Cement		7			41						

TABLE 25

TRAFFIC FORWARDED FROM THE ESCARPMENT SUB-REGION TO DESTINATIONS BEYOND THE  
BOUNDARIES OF THE RESEARCH AREA : APRIL 1967-MAY 1968

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Wool and mohair	2 254	1 801			6		3 519				
Hides and skins	175	32			10						
Lucerne and lucerne meal	10	55	95	35	1 369				70	69	135
Fresh vegetables	45	65	1	9	155				19	5	18
Salt	4	403	2 232	120	445	8	9	108	381	420	1 121
Maize			18	1	7					3	
Maize meal				20	15					3	
Wheat	9		1		916					18	2
Wheaten meal and flour	18		82	2 066	37			7	1	4	6
Bones	3			1	6					1	
Fertilizer	1			2							
Granite, gravel and stone	10 914			2 286	402	3 981				39	
Bricks				355							

/Table 25 contd.

TABLE 25 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Pipes and windmills	7	2	7	45	11	42	1	1			
Iron and steel bars and sheets	120	75	177	95	11	7					
Mineral waters			53	1							
Paraffin		8	225	2 254	10						
Petrol	5		61	2 107	157					1 089	
Oil	41		4	1 171						60	
Cement	2		37		20					39	
Sugar				22							
Grain						2	14			2	3
Treacle			27		2						
Forage, chaff and straw					31					3	

TABLE 26

TRAFFIC FORWARDED FROM THE ESCARPMENT SUB-REGION TO DESTINATIONS BEYOND THE  
BOUNDARIES OF THE RESEARCH AREA : APRIL 1968 - MAY 1969

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Wool and mohair	2 074	1 873			1						
Hides and skins	192	38									
Lucerne and lucerne meal		88		6	778			19	32	170	
Fresh vegetables	95	85		8	25	3	16	1	20	11	11
Salt	23	430	2 600	109	619	17	19	92	989	496	1 125
Maize			11	4	23	1				6	
Maize meal			1	36	28					16	
Wheat					124					3	
Wheaten meal and flour	9		103	1 940	2					5	.5
Bones				6	4					4	
Fertilizer			1	1	22						2
Granite, gravel and stone	9 485		2 755	229	101	3 924	1 409			408	
Bricks			18								

/Table 26 contd.

TABLE 26 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Pipes and wind-mills		4	3	38	8					6	3
Iron and steel bars and sheets	26	34	118	98	16	32					
Mineral waters			64	2							
Paraffin	14		175	1 480	26						
Petrol			67	2 067	264					557	
Oil			21	817						61	
Fish seal and whale oil			2								
Cement					24						
Grain				1	20	5			10		
Forage, chaff and straw		8			155						

TABLE 27

TRAFFIC FORWARDED FROM THE ESCARPMENT SUB-REGION TO DESTINATIONS WITHIN THE  
RESEARCH AREA : APRIL 1966-MAY 1967

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Pipes and windmills	76	55	38	2	4
Bones		4	102		34
Maize	12	78	1		
Maize meal		296	88		
Wheat	2	1	2		
Wheaten meal and flour		1 282	60	2	
Lucerne		89	71	6	
Coal	140	18			
Coal tar		158			
Salt	114	166	546	152	485
Gases	8	18	8		
Granite, gravel and stone	1 595	152	4 175		419
Petrol	66	195	7		
Paraffin	27	406			
Oil	2	228			
Fish, seal and whale oil		14			
Cement		66		39	
Bricks	14	16			
Treacle		11			
Sugar	2	44			

TABLE 28

TRAFFIC FORWARDED FROM THE ESCARPMENT SUB-REGION TO DESTINATIONS WITHIN THE  
RESEARCH AREA : APRIL 1967-MAY 1968

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Pipes and windmills	20	4	12	1	1
Bones			61		30
Maize		367	3		
Maize meal		171	1		
Wheat	1	24	202		
Wheaten meal and flour	61	1 444	103		
Lucerne	6	73	42	6	
Coal		45			
Salt	43	94	343	113	171
Gases		13			

/Table 28 contd.

TABLE 28 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Granite, gravel and stone		6 289	2 552		1 210
Petrol	57	85	1		
Paraffin	24	298			
Oil		140			
Cement		121			
Treacle		10			
Sugar		38			
Grain		11	21		
Mixed groceries		27			
Unworked iron and steel		57			

TABLE 29

## TRAFFIC FORWARDED FROM THE ESCARPMENT SUB-REGION TO DESTINATIONS WITHIN THE

RESEARCH AREA : APRIL 1968-MAY 1969

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Pipes and windmills	29	15	10		
Bones			117		25
Maize		85	4		9
Maize meal		169	13		
Wheat	2	2	4		
Wheaten meal and flour		1 591	99		
Lucerne	5	192	18	6	6
Coal	35	77			
Salt	62	36	315	149	196
Gases		14			
Granite, gravel and stone	1 752	8 799	2 487		114
Petrol	41	114			
Paraffin	16	279			

/Table 29 contd.

TABLE 29 (contd.)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Oil	1	119			
Cement	17	51		19	
Treacle		27			
Sugar		32			
Grain	1	6			1
Mixed groceries		31			
Unworked iron and steel		38			
Fresh vegetables	5	34	3		2

TABLE 30

TRAFFIC FORWARDED FROM THE SUNDAYS SUB-REGION TO DESTINATIONS BEYOND THE  
BOUNDARIES OF THE RESEARCH AREA : APRIL 1966-MAY 1967

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tv1.
Wool and mohair	5 301	23					9				
Hides and skins	714		5								
Fertilizer	1		559			51					
Lucerne and lucerne meal	22		284	215	174		68	29	84	161	70
Wheat	118										15
Fresh vegetables	46	7	6	3			30		7	8	6
Meat	29		12				2				
Maize	1		102				12			5	
Wheaten meal and flour	4		45				1				
Granite, gravel and stone	1 196		4	69	38		74				2
Bricks			35				78				

TABLE 31

TRAFFIC FORWARDED FROM THE SUNDAYS SUB-REGION TO DESTINATIONS BEYOND THE  
BOUNDARIES OF THE RESEARCH AREA : APRIL 1967-MAY 1968

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tv1.
Wool and mohair	5 302	31	2				23				
Hides and skins	344		1							1	
Fertilizer	3		108			4	3				
Lucerne and lucerne meal	90	123	665	123	554	1	60	16	48	61	130
Wheat	1 256		1		2		1		7		76
Fresh vegetables	19	2	15	3			19		2	1	
Meat	30		10								
Maize and maize meal			20				2				
Wheaten meal and flour	2		78	1							
Granite, gravel and stone	11		17	18			620				
Bricks	91		1 375				24				
Oats	31		35	12	2	1	1				

TABLE 32

TRAFFIC FORWARDED FROM THE SUNDAYS SUB-REGION TO DESTINATIONS BEYOND THE  
BOUNDARIES OF THE RESEARCH AREA : APRIL 1968-MAY 1969

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC										
	P.E.	E.L.	W.Cape	N.Cape	Cape East	Other Cape	P.E.-Uitenhage District	S.W.A.	Natal	O.F.S.	Tvl.
Wool and mohair	5 014	45					12				
Hides and skins	377										
Fertilizer	2		221			39					1
Lucerne and lucerne meal	69	31	69	70	279		75		19	48	27
Wheat	512		12				2		12	17	
Fresh vegetables	82	5	2	1	1	1	38		5	3	
Meat	35		13				1				
Maize and maize meal	19		52	1			6		3	2	28
Wheaten meal and flour	3		81	6			14				
Granite, gravel and stone			72				152				
Bricks			1 297								

TABLE 33

TRAFFIC FORWARDED FROM THE SUNDAYS SUB-REGION TO DESTINATIONS WITHIN THE

RESEARCH AREA : APRIL 1966-MAY 1967

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Lucerne	144	100	24		8
Maize	363	6	2		
Wheat	117	2			
Oats	20	4			1
Wheaten meal and flour	823		2		
Maize meal	123		1		
Bones			117		78
Mixed groceries	61				
Cement	64	4			
Coal	69				
Granite, gravel and stone		49	82		
Bricks		245			
Fresh fruit and vegetables	12	43	10		5
Forage, chaff and straw	27	3			
Fuel	2		6		
Treacle	4				

TABLE 34

TRAFFIC FORWARDED FROM THE SUNDAYS SUB-REGION TO DESTINATIONS WITHIN THE  
RESEARCH AREA : APRIL 1967-MAY 1968

(IN TONNES)

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Lucerne	30	30		13	32
Maize	92				
Wheat	191	5			
Oats	31	3			
Wheaten meal and flour	725	1			
Maize meal	132				
Bones			105		64
Mixed groceries	31				
Cement	15				
Coal	144	1			
Granite, gravel and stone	368	115	41		9
Bricks	9	44			
Fresh fruit and vegetables	2	36	13		1
Forage, chaff and straw	37	6			
Fuel	3				
Barley	1				

TABLE 35

TRAFFIC FORWARDED FROM THE SUNDAYS SUB-REGION TO DESTINATIONS WITHIN THE  
RESEARCH AREA : APRIL 1968-MAY 1969

( IN TONNES )

Commodity	DESTINATION OF FORWARDED TRAFFIC				
	Sundays S.R.	Escarpment S.R.	Fish S.R.	Border S.R.	Coastal S.R.
Lucerne	57	47	49	38	
Maize	186				
Wheat	244	2			
Oats	17	2			
Wheaten meal and flour	636	2			
Maize meal	99	1			
Bones			129		30
Mixed groceries	19	1			
Cement	105	21			
Coal	163	3			
Granite, gravel and stone	54	73			
Bricks	18	387	4		
Fresh fruit and vegetables		18			
Forage, chaff and straw	3	12			
Fuel	12		15		
Treacle	14				
Barley	18				

TABLE 36

COMMODITIES RECEIVED BY THE COASTAL SUB-REGION FROM PORT ELIZABETH,  
THE PORT ELIZABETH-UITENHAGE DISTRICT, AND EAST LONDON : APRIL 1966-MAY 1967

Product Category	Traffic received from Port Elizabeth (In Tonnes)	Traffic received from Port Elizabeth- Uitenhage district (In Tonnes)	Traffic received from East London (In Tonnes)
Mixed groceries and household requirements	1 460	3 874	41
Hardware and building materials	9 468	777	311
Tobacco, spirits, wine and beer	2 344	19	--
Motor vehicles, components and spare parts	316	80	26
Fuels and oils	21 976	33	1
Farming requisites	618	349	39
Meat, fish and eggs	120	11	--
Dairy products	5	--	--
Grains, meal and flour	5 392	86	857
Fresh produce	115	40	1
Miscellaneous	10 008	41	102

TABLE 37

COMMODITIES RECEIVED BY THE COASTAL SUB-REGION FROM PORT ELIZABETH,  
THE PORT ELIZABETH-UITENHAGE DISTRICT AND EAST LONDON : APRIL 1967-MAY 1968

Product Category	Traffic received from Port Elizabeth (In Tonnes)	Traffic received from Port Elizabeth- Uitenhage district (In Tonnes)	Traffic received from East London (In Tonnes)
Mixed groceries and household requirements	1 314	3 916	37
Hardware and building materials	11 576	1 265	506
Tobacco, spirits, wine and beer	3 130	3	--
Motor vehicles, components and spare parts	218	30	13
Fuels and oils	22 293	100	1
Farming requisites	545	402	55
Meat, fish and eggs	164	5	--
Dairy products	2	--	--
Grains, meal and flour	5 314	110	1 577
Fresh produce	136	33	3
Miscellaneous	10 033	186	109

TABLE 38

COMMODITIES RECEIVED BY THE COASTAL SUB-REGION FROM PORT ELIZABETH,  
THE PORT ELIZABETH-UITENHAGE DISTRICT AND EAST LONDON : APRIL 1968-MAY 1969

Product Category	Traffic received from Port Elizabeth (In Tonnes)	Traffic received from Port Elizabeth- Uitenhage district (In Tonnes)	Traffic received from East London (In Tonnes)
Mixed groceries and household requirements	1 219	3 928	32
Hardware and building materials	11 074	1 184	108
Tobacco, spirits, wine and beer	3 177	3	--
Motor vehicles, components and spare parts	225	10	1
Fuels and oils	23 991	18	111
Farming requisites	534	344	42
Meat, fish and eggs	146	2	--
Dairy products	--	--	--
Grains, meal and flour	4 598	82	1 303
Fresh produce	100	1 157	1
Miscellaneous	9 771	78	171

TABLE 39

COMMODITIES RECEIVED BY THE BORDER SUB-REGION FROM PORT ELIZABETH,  
THE PORT ELIZABETH-UITENHAGE DISTRICT AND EAST LONDON : APRIL 1966-MAY 1967

Product Category	Traffic received from Port Elizabeth (In Tonnes)	Traffic received from Port Elizabeth- Uitenhage district (In Tonnes)	Traffic received from East London (In Tonnes)
Mixed groceries and household requirements	144	213	871
Hardware and building materials	3 208	17 241	759
Tobacco, spirits, wine and beer	132	--	922
Motor vehicles, components and spare parts	19	1	37
Fuels and oils	104	--	17 104
Farming requisites	41	60	321
Meat, fish and eggs	30	--	72
Dairy products	--	--	3
Grains, meal and flour	1 738	2	1 814
Fresh produce	20	36	297
Miscellaneous	275	46	4 690

TABLE 40

COMMODITIES RECEIVED BY THE BORDER SUB-REGION FROM PORT ELIZABETH,  
THE PORT ELIZABETH-UITENHAGE DISTRICT AND EAST LONDON : APRIL 1967-MAY 1968

Product Category	Traffic received from Port Elizabeth (In Tonnes)	Traffic received from Port Elizabeth- Uitenhage district (In Tonnes)	Traffic received from East London (In Tonnes)
Mixed groceries and household requirements	140	190	638
Hardware and building materials	626	20 447	600
Tobacco, spirits, wine and beer	56	--	953
Motor vehicles, components and spare parts	7	--	23
Fuels and oils	119	--	16 470
Farming requisites	77	150	298
Meat, fish and eggs	25	--	90
Dairy products	--	--	--
Grains, meal and flour	1 380	5	2 151
Fresh produce	183	75	469
Miscellaneous	648	1 227	5 121

TABLE 41

COMMODITIES RECEIVED BY THE BORDER SUB-REGION FROM PORT ELIZABETH,  
THE PORT ELIZABETH-UITENHAGE DISTRICT AND EAST LONDON : APRIL 1968-MAY 1969

Product Category	Traffic received from Port Elizabeth (In Tonnes)	Traffic received from Port Elizabeth- Uitenhage district (In Tonnes)	Traffic received from East London (In Tonnes)
Mixed groceries and household requirements	152	156	544
Hardware and building materials	6 371	17 484	909
Tobacco, spirits, wine and beer	70	--	971
Motor vehicles, components and spare parts	27	--	16
Fuels and oils	99	--	18 139
Farming requisites	70	65	256
Meat, fish and eggs	10	--	58
Dairy products	--	--	1
Grains, meal and flour	1 357	20	2 312
Fresh produce	70	59	336
Miscellaneous	464	9	5 760

TABLE 42

COMMODITIES RECEIVED BY THE FISH SUB-REGION FROM PORT ELIZABETH,  
 THE PORT ELIZABETH-UITENHAGE DISTRICT AND EAST LONDON : APRIL 1966-MAY 1967

Product Category	Traffic received from Port Elizabeth (In Tonnes)	Traffic received from Port Elizabeth- Uitenhage district (In Tonnes)	Traffic received from East London (In Tonnes)
Mixed groceries and household requirements	1 333	2 140	122
Hardware and building materials	4 767	1 236	161
Tobacco, spirits, wine and beer	1 518	9	65
Motor vehicles, components and spare parts	120	--	18
Fuels and oils	12 718	17	3
Farming requisites	211	496	198
Meat, fish and eggs	196	4	--
Dairy products	16	--	--
Grains, meal and flour	4 633	121	370
Fresh produce	291	49	24
Miscellaneous	5 678	458	34

TABLE 43

COMMODITIES RECEIVED BY THE FISH SUB-REGION FROM PORT ELIZABETH,  
THE PORT ELIZABETH-UITENHAGE DISTRICT AND EAST LONDON : APRIL 1967-MAY 1968

Product Category	Traffic received from Port Elizabeth (In Tonnes)	Traffic received from Port Elizabeth- Uitenhage district (In Tonnes)	Traffic received from East London (In Tonnes)
Mixed groceries and household requirements	1 173	2 136	121
Hardware and building materials	6 370	4 630	218
Tobacco, spirits, wine and beer	1 669	10	54
Motor vehicles, components and spare parts	127	--	11
Fuels and oils	11 859	19	47
Farming requisites	223	117	134
Meat, fish and eggs	170	2	--
Dairy products	15	--	--
Grains, meal and flour	4 269	6	434
Fresh produce	345	46	11
Miscellaneous	3 867	84	19

TABLE 44

COMMODITIES RECEIVED BY THE FISH SUB-REGION FROM PORT ELIZABETH,  
 THE PORT ELIZABETH-UITENHAGE DISTRICT AND EAST LONDON : APRIL 1968-MAY 1969

Product Category	Traffic received from Port Elizabeth (In Tonnes)	Traffic received from Port Elizabeth- Uitenhage district (In Tonnes)	Traffic received from East London (In Tonnes)
Mixed groceries and household requirements	1 209	2 203	119
Hardware and building materials	7 902	1 613	90
Tobacco, spirits, wine and beer	1 724	--	44
Motor vehicles, components and spare parts	182	7	24
Fuels and oils	11 950	53	58
Farming requisites	232	77	131
Meat, fish and eggs	183	--	2
Dairy products	--	--	1
Grains, meal and flour	4 174	7	354
Fresh produce	315	86	7
Miscellaneous	4 089	121	26

TABLE 45

COMMODITIES RECEIVED BY THE ESCARPMENT SUB-REGION FROM PORT ELIZABETH,  
THE PORT ELIZABETH-UITENHAGE DISTRICT AND EAST LONDON : APRIL 1966-MAY 1967

Product Category	Traffic received from Port Elizabeth (In Tonnes)	Traffic received from Port Elizabeth- Uitenhage district (In Tonnes)	Traffic received from East London (In Tonnes)
Mixed groceries and household requirements	977	2 161	214
Hardware and building materials	4 913	432	245
Tobacco, spirits, wine and beer	832	--	210
Motor vehicles, components and spare parts	82	4	31
Fuels and oils	19 273	49	388
Farming requisites	51	22	345
Meat, fish and eggs	56	2	21
Dairy products	5	--	--
Grains, meal and flour	1 601	--	51
Fresh produce	40	29	61
Miscellaneous	6 737	399	391

TABLE 46

COMMODITIES RECEIVED BY THE ESCARPMENT SUB-REGION FROM PORT ELIZABETH,  
THE PORT ELIZABETH-UITENHAGE DISTRICT AND EAST LONDON : APRIL 1967-MAY 1968

Product Category	Traffic received from Port Elizabeth (In Tonnes)	Traffic received from Port Elizabeth- Uitenhage district (In Tonnes)	Traffic received from East London (In Tonnes)
Mixed groceries and household requirements	877	1 593	151
Hardware and building materials	4 012	2 118	235
Tobacco, spirits, wine and beer	819	--	166
Motor vehicles, components and spare parts	87	6	18
Fuels and oils	18 642	39	452
Farming requisites	71	11	33
Meat, fish and eggs	50	3	15
Dairy products	3	--	--
Grains, meal and flour	1 321	--	17
Fresh produce	117	1	25
Miscellaneous	7 324	252	196

TABLE 47

COMMODITIES RECEIVED BY THE ESCARPMENT SUB-REGION FROM PORT ELIZABETH,  
 THE PORT ELIZABETH-UITENHAGE DISTRICT AND EAST LONDON : APRIL 1968-MAY 1969

Product Category	Traffic received from Port Elizabeth (In Tonnes)	Traffic received from Port Elizabeth- Uitenhage district (In Tonnes)	Traffic received from East London (In Tonnes)
Mixed groceries and household requirements	883	1 699	147
Hardware and building materials	6 918	1 692	220
Tobacco, spirits, wine and beer	946	--	204
Motor vehicles, components and spare parts	109	1	29
Fuels and oils	19 249	71	2 717
Farming requisites	63	14	63
Meat, fish and eggs	58	5	19
Dairy products	--	--	--
Grains, meal and flour	1 423	--	2
Fresh produce	96	8	19
Miscellaneous	7 138	297	1 429

TABLE 48

COMMODITIES RECEIVED BY THE SUNDAYS SUB-REGION FROM PORT ELIZABETH,  
THE PORT ELIZABETH-UITENHAGE DISTRICT AND EAST LONDON : APRIL 1966-MAY 1967

Product Category	Traffic received from Port Elizabeth (In Tonnes)	Traffic received from Port Elizabeth- Uitenhage district (In Tonnes)	Traffic received from East London (In Tonnes)
Mixed groceries and household requirements	1 276	2 224	29
Hardware and building materials	3 640	1 157	32
Tobacco, spirits, wine and beer	927	--	--
Motor vehicles, components and spare parts	134	9	15
Fuels and oils	13 579	46	--
Farming requisites	130	114	91
Meat, fish and eggs	236	6	--
Dairy products	217	--	--
Grains, meal and flour	2 064	39	90
Fresh produce	410	85	--
Miscellaneous	4 571	21	--

TABLE 49

COMMODITIES RECEIVED BY THE SUNDAYS SUB-REGION FROM PORT ELIZABETH,  
THE PORT ELIZABETH-UITENHAGE DISTRICT AND EAST LONDON : APRIL 1967-MAY 1968

Product Category	Traffic received from Port Elizabeth (In Tonnes)	Traffic received from Port Elizabeth- Uitenhage district (In Tonnes)	Traffic received from East London (In Tonnes)
Mixed groceries and household requirements	1 386	2 159	26
Hardware and building materials	5 638	2 176	7
Tobacco, spirits, wine and beer	949	--	--
Motor vehicles, components and spare parts	186	15	8
Fuels and oils	14 615	46	--
Farming requisites	168	82	16
Meat, fish and eggs	215	3	--
Dairy products	119	--	--
Grains, meal and flour	2 301	77	27
Fresh produce	360	156	3
Miscellaneous	4 529	94	2

TABLE 50

COMMODITIES RECEIVED BY THE SUNDAYS SUB-REGION FROM PORT ELIZABETH,  
 THE PORT ELIZABETH-UITENHAGE DISTRICT AND EAST LONDON : APRIL 1968-MAY 1969

Product Category	Traffic received from Port Elizabeth (In Tonnes)	Traffic received from Port Elizabeth- Uitenhage district (In Tonnes)	Traffic received from East London (In Tonnes)
Mixed groceries and household requirements	1 386	2 210	37
Hardware and building materials	7 636	4 102	11
Tobacco, spirits, wine and beer	1 028	--	--
Motor vehicles, components and spare parts	163	4	11
Fuels and oils	15 478	49	--
Farming requisites	126	81	1
Meat, fish and eggs	252	--	--
Dairy products	72	--	--
Grains, meal and flour	2 415	54	30
Fresh produce	280	115	1
Miscellaneous	5 706	343	--

CHAPTER IVROAD TRAFFICA: THE ROAD NETWORK1: Introduction

South Africa possesses a wholly public roads system as opposed to a public and toll road system found in America and Britain. With a toll road, a private undertaking raises capital to provide highway services to motorists who wish to use a high quality, limited access road, and who are prepared to pay for it according to the weight of vehicle and distance travelled. The main objective of the toll road authority is the maximisation of net revenue and the main constraint on its ability to charge any price that it wishes is the competition from the public roads and other forms of transport.

One of the most important characteristics of public roads is the "systems" aspect. A system may be defined as "a heterogeneous set of things and parts which, when connected, form a complex whole. The individual components of the system are joined together, because thus arranged, they function more efficiently and render better service."<sup>1</sup> The influence of this concept on the decisions of road building authorities, should be paramount.

A public road system consists of a heterogeneous collection of roads ranging from the simple farm road to the highly engineered freeway. If all these different components of the public road system are fully integrated and well connected,

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1. Tilo E. Kuhn, The Economics of Road Transport (Montreal, 1957), pp.142-145.

together they will produce more highway services of a better quality and at lower total costs than when operating separately. Closely linked to the systems concept of public roads is the fact that roads are operated by public authorities in the "public interest". Roads serve the public interest when they fulfill two of their most important functions viz., economic penetration and spatial integration. "That means that roads must go into outlying areas to stimulate economic development and social progress and that for economic, social and strategic reasons, all parts of the country must have sufficient road communications with each other in order to further the 'unity of the nation'".<sup>2</sup>

It is necessary to consider the bodies which are responsible for financing the construction and maintenance of the various types of roads comprising South Africa's public road system, before outlining the research area's road network and examining its suitability and adequacy.

2: Bodies responsible for the construction and maintenance of the various types of roads in South Africa

Up until May 1971, the National Transport Commission was responsible for the costs of constructing and maintaining the national roads, which are the principal roads connecting the most important centres of economic, agricultural and social activities in South Africa. It was also responsible for 70% of the construction costs of special roads which are, in fact, rural extensions of the national road system. Although the National Transport Commission financed these roads, the

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2. C. Verburgh, South African Transportation Policy (Bureau for Economic Research, University of Stellenbosch, 1961), p:102.

Provincial Administrations were entrusted with their actual construction and maintenance. In terms of the National Roads Act No. 54 of 1971, however, approximately 90% of the national roads network was transferred to provincial control as part of the re-arrangement of the country's administrative machinery following the Borckenhagen and Schumann reports.<sup>3</sup> This transfer will, in effect, lead to a R24,2 million increase in spending on roads.<sup>4</sup> This is the amount which the provinces will receive as compensation for the costs of maintaining and rebuilding their additional responsibilities. This money is to come from general revenue, however, so that the National Roads Fund will not be correspondingly reduced.

The National Road Fund's capital will in future be used to finance a comprehensive nationwide freeway network, tentatively planned to comprise 6 000 kilometres. Nine hundred kilometres have already been built, and it is these roads, as well as 400 kilometres in the Transkei, which—of the old national roads network—will remain in the hands of the Central Government. It is anticipated that of the rest of the proposed freeway network, 3 500 kilometres will be built during the next decade,

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3. In 1956, a Committee of Enquiry under Carl Borckenhagen was set up to enquire into the financial relations between the three tiers of government, namely, the Central Government, the Provincial Administrations and the smaller local authorities. Its final report was submitted to the Minister of Finance in 1967 and it dealt with, amongst other matters, the financing of roadworks.

In 1960 a Commission of Enquiry under Dr C.G.W. Schumann was set up to consider financial relations between the Central Government and the provinces. It submitted its final report in 1964.

Two White papers, one on the Borckenhagen Committee's investigations, and one on the Schumann Commission report, were prepared in 1969. Dr Chris du Plussis, a Reserve Bank economist, was entrusted with their revision.

4. Financial Mail, May 7, 1971, p.455.

with the remaining portion being completed in the 1980s. At the present time, approximately 170 kilometres is built annually, but this rate should rise sharply once the new road building organization is in operation. The proposed freeway network for South Africa is illustrated on Map 8.

The Commission of Enquiry into the Co-ordination of Transport in South Africa came to the conclusion that the continuing expansion of the national economy, as well as of the total estimated vehicle miles, pointed to the constant need for providing more and better roads.<sup>5</sup> The Commission did not neglect the fact that the excessive cost of road construction is an important limiting factor in this regard, and it recommended that "machinery be introduced for the strict control of the planning and designing of roads now undertaken by consulting engineers on private contract".<sup>6</sup> Although the Commission as a whole was rejected by the Government, cognizance does seem to have been taken of this particular recommendation in the new arrangements. As the National Transport Commission is to establish its own road building organization in about 1973, it is proposed that private contractors will be used much less than in the past, although work will still be contracted out to the provinces.

In addition to the previous national roads which are now classified as trunk roads under the Provincial Administrations, the Provincial Administrations of the Transvaal, Natal, Orange Free State and, to a lesser extent, of the Cape, are also financially responsible for all other rural roads in their territories. The Cape Province differs from the other three

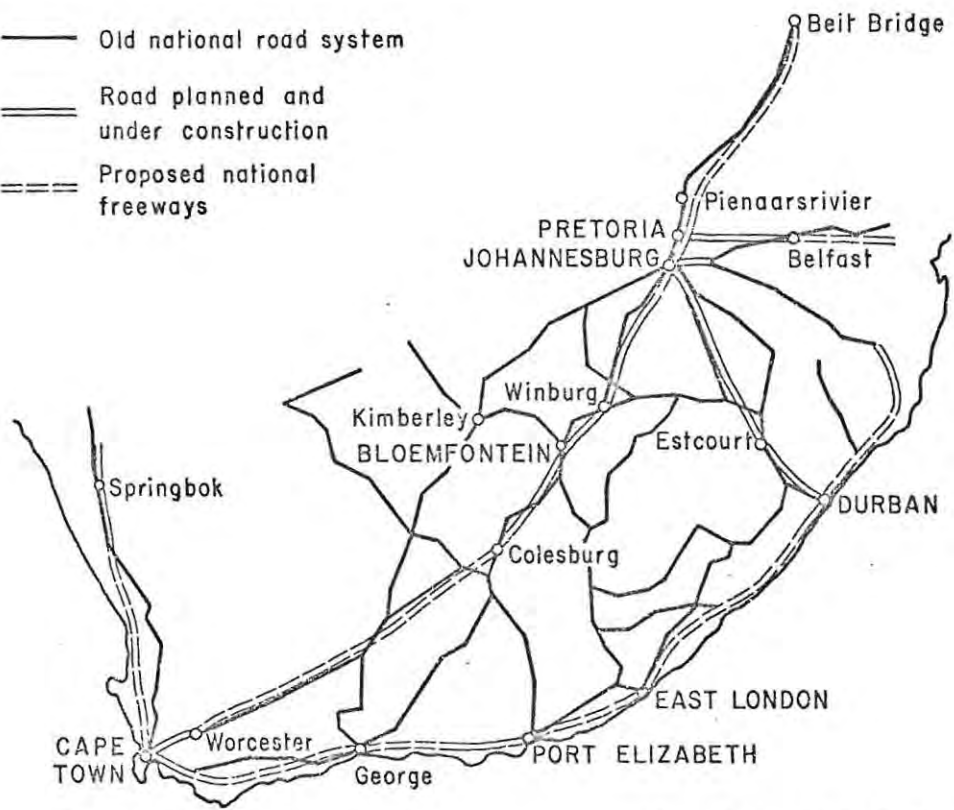
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5. R.P. 32/1969.

6. Ibid., p.50.

PROPOSED NATIONAL FREEWAYS

- Old national road system
- == Road planned and under construction
- === Proposed national freeways



from Financial Mail, 7-5-71

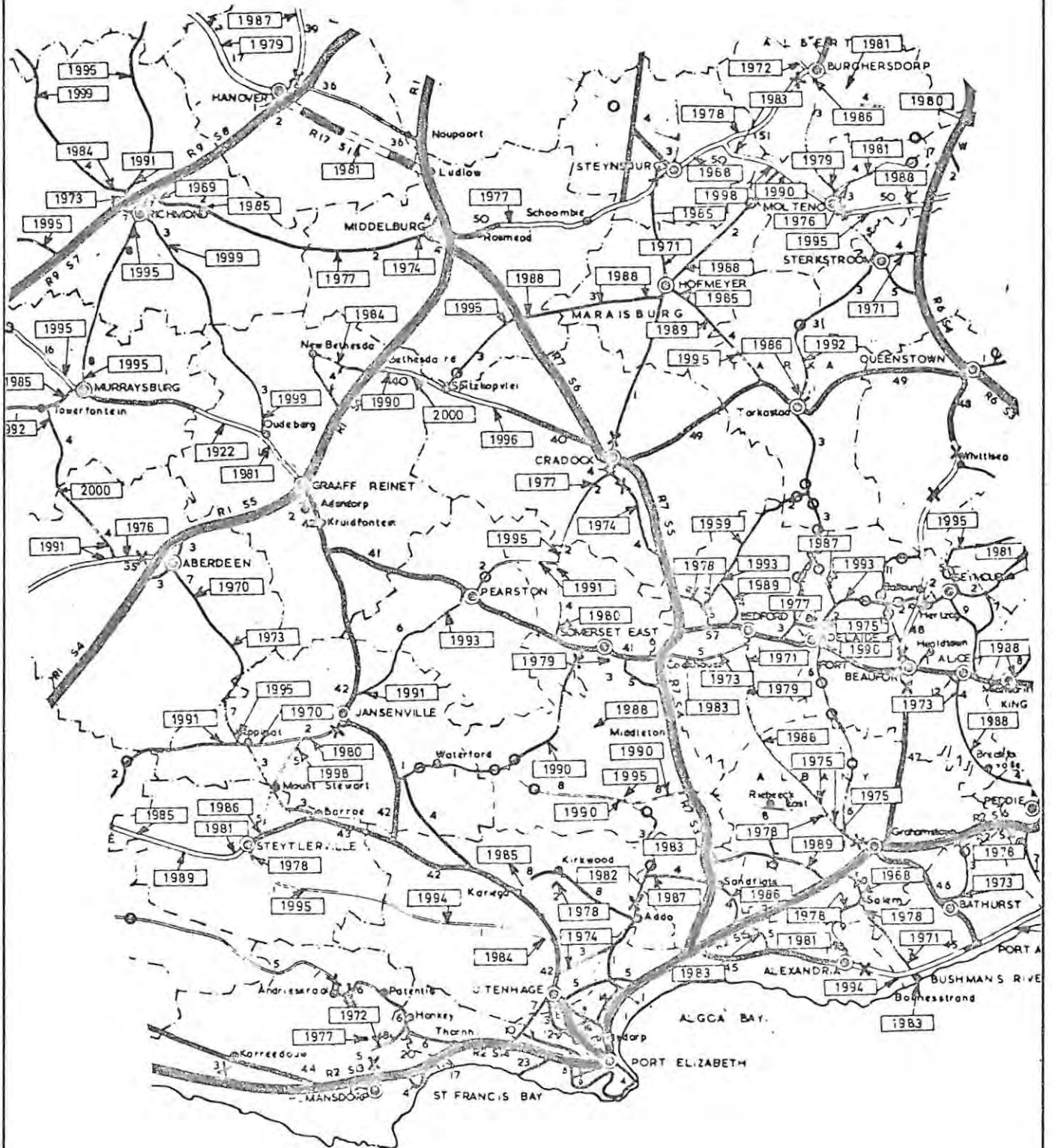
provinces in that it has a system of Divisional Councils. Although these Councils receive an annual subsidy from the Cape Provincial Administration, they also have their own source of income by way of a tax levied on properties in the rural and urban areas comprising Divisional Council zones. In the Cape Province, the more important roads were taken over by the Provincial Administration only as from 1963. Up until then, all trunk roads were built by Divisional Councils with financial assistance from the province. Since 1963, all trunk road construction and financing falls under the Cape Provincial Administration as was, and still is, the case with the other provinces. With the exception of the Cape Province, where they are the onus of the Divisional Councils, other types of rural roads in South Africa are the responsibility of the various Provincial Administrations. Because it has almost as many kilometres of proclaimed roads as all the other provinces put together, the Cape Province—under whose aegis the research area falls—carries a particularly heavy burden in so far as the financing and construction of roads is concerned. Urban roads and streets are constructed and maintained by the local municipal authorities concerned.




Having examined under whose jurisdiction the various types of roads comprising the Republic's public road system fall, the research area's road network must now be considered.

### 3: Description of the road network of the research area

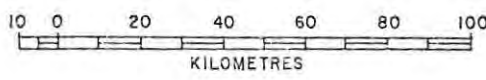
The research area has a wide and far reaching network of both surfaced and non-surfaced roads, which is illustrated on Map 9. The following is a description of the major categories of roads running through the area:

ROAD NETWORK



MAJOR TRUNK ROADS   
 MINOR TRUNK ROADS   
 MAIN ROADS 

APPROX. DATES BY WHICH TRAFFIC WILL HAVE REACHED 200 E.V.U. PER DAY ASSUMING 5% INCREASE PER YEAR.  
 X - TRAFFIC ALREADY EXCEEDS 200 E.V.U. PER DAY.  
 O - TRAFFIC WILL NOT HAVE REACHED 200 E.V.U. PER DAY BY THE YEAR 2000.



From Provincial Roads Plan TC 67/4.

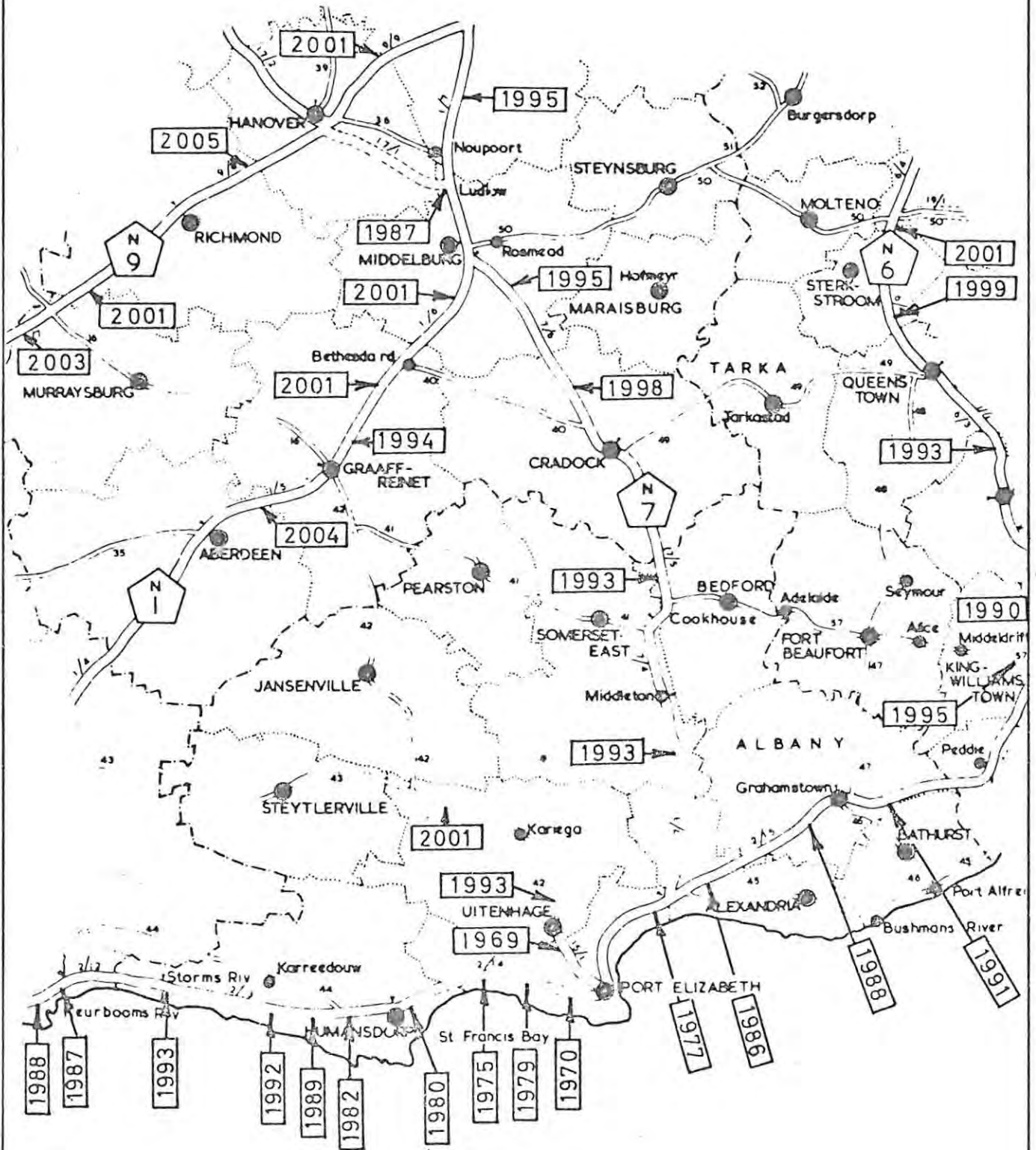
(a) Freeways. As mentioned before, these are wholly the responsibility of the National Transport Commission.

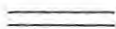

Although work has started from the Port Elizabeth side, on the new national freeway between Port Elizabeth and Grahamstown, the research area at present does not embody any freeway systems. Depending on its quality and on the nature of the terrain it traverses, when a major trunk road registers an equivalent vehicular unit count of 4 000, it is generally indicative that it is carrying more traffic than that for which it was originally intended and accordingly designed.<sup>7</sup> As a generalisation, a major trunk road would then qualify to be elevated to the status of a freeway which is specifically designed to expedite the movement of traffic. Map 10 shows the approximate dates when traffic on the major roads of the research area will have reached 4 000 equivalent vehicular units per day, assuming a 5% annual increase in traffic from the base year of 1967. Thus it appears that only by the late 1980s will any of the major trunk roads traversing the area, qualify to be classified as freeways.

(b) Trunk roads. These roads are financed by the Provincial Administration. Since the transfer of the bulk of the old national road network to the Provincial Administrations, trunk roads may be divided into two categories as follows:

- 
7. The equivalent vehicular unit is the unit which is used in South Africa when assessing the average density of traffic on a particular section of road. Within this system of equivalent vehicular units, a light vehicle counts one unit and a heavy vehicle—anything above 2,721 tonnes—counts three units.

# TRUNK ROAD NETWORK



MAJOR TRUNK ROADS        
 MINOR TRUNK ROADS    

APPROX. DATES BY WHICH TRAFFIC  
 WILL HAVE REACHED 4,000 E.V.U.  
 PER DAY ASSUMING 7% INCREASE  
 PER YEAR.



- (i) major trunk roads: these comprise the old national roads which, under the new arrangement, will essentially represent links between the present and proposed freeways.
- (ii) minor trunk roads: these primarily represent links between major trunk roads.

In addition to these two main functions, trunk roads also serve as links between metropolitan and important rural areas. Thus it can be appreciated that these roads are important, not only for the local inhabitants of any particular area, but more so for through-traffic. The research area has the following major trunk roads located within its boundaries, as portrayed on Map 10:

- (i) a part of of the N2 route which starts at Cape Town and follows a course, mainly along the coast, to Kokstad in Natal. Within the research area, this road passes through Grahamstown, the core of the Coastal sub-region;

- (ii) the major part of the N7 route which stretches from Nanaga, near Port Elizabeth, to Middelburg, and passes through Cookhouse and Cradock;

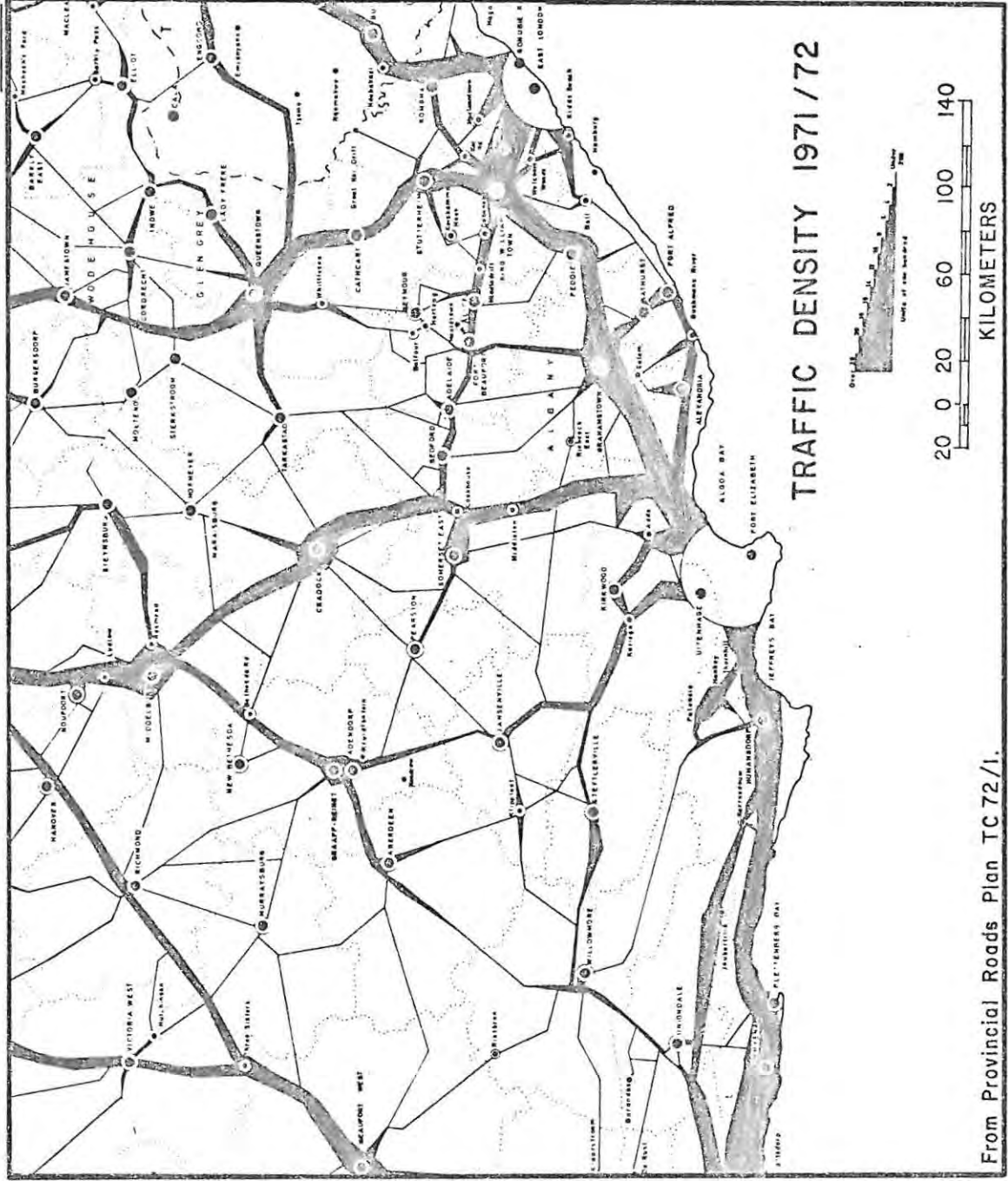
- (iii) a part of the N1 route which starts near George and leads to Johannesburg. Within the research area, this road passes through Graaff-Reinet, Middelburg and Noupoot; and

- (iv) nineteen kilometres of the N9 route from Cape Town to Colesberg which cuts across the north-western corner of the Murraysburg magisterial district. These 19 kilometres are insignificant, however, in so far as the road network of the research area is concerned.

In addition to these major trunk roads, the research area is well supplied with minor trunk roads as shown on Map 10.

Map 11 clearly illustrates that the roads in the research area with the greatest traffic densities, are the major and minor

MAP II.



TRAFFIC DENSITY 1971/72



From Provincial Roads Plan TC 72/1.

trunk roads. The most important road from this point of view, is the N2 major trunk road between Port Elizabeth and Grahamstown. As mentioned before, this road is part of the proposed national freeway system, and work has already been started on rebuilding it.

The N7 major trunk road between Nanaga and Middelburg also has a high traffic density. The reason for this of course, is that it is part of the direct route from Port Elizabeth to Johannesburg. The major trunk road with the third highest traffic density, is the N1, but only on the section between Graaff-Reinet and Noupoort. From the point of view of both the Republic and the research area, the N1 is less significant than the N7 in the national road network, in so far as volume of traffic carried is concerned. The density of traffic on the minor trunk road between Alice and Cookhouse, reflects the very important role that this minor trunk road plays in linking the N6 major trunk road—from East London to the north—with the N7. Thus it can be said that the trunk roads within the research area's boundaries play a significant part in the overall national road network.

On Map 11, it is interesting to note the relatively high traffic densities of the roads in the Coastal sub-region which lead to the various coastal resorts. This clearly represents holiday and tourist traffic, and it must have contributed to the acceptance of the plan to build a trunk road from Port Elizabeth, along the coast, to East London.

(c) Main roads. The Divisional Councils are responsible for building, maintaining and paying for these roads which are used primarily by the local inhabitants of a particular area, and which serve as ordinary links between towns. The Provincial

Administration subsidises the maintenance and construction of these roads up to a maximum of 95%.

(d) Divisional roads. These are similar to main roads but are considered less important in that they are used by fewer vehicles and serve approximately only ten farms. The financing of these roads is subsidised by the Provincial Administration up to a maximum of 80%, with the Divisional Councils being responsible for the remaining 20%.

(e) Minor roads. These roads constitute a system of farm roads which gives relatively isolated farmers access to divisional roads in the first stage of conveying their produce to the nearest market. Because the Divisional Councils are solely responsible for the financing of these roads, the funds available for their construction and maintenance are distinctly limited.

(f) Private roads. These are constructed and paid for by private individuals.

(g) Proclaimed streets. These are sections of trunk roads and main roads which pass through a town. The Provincial Administration undertakes to subsidise the construction of these roads to the extent of 90%, and the maintenance of these roads to the extent of 80%.

With the exception of private roads and proclaimed streets, Table 51 shows the distances of the various types of road in each of the sub-regions of the research area

TABLE 51

DISTANCES OF VARIOUS TYPES OF ROAD IN EACH SUB-REGION

(In Kilometres)

Sub-Region	Type of Road				
	Major Trunk	Minor Trunk	Main	Divisional	Minor
Sundays	S: 158 U: -	S: 238 U: 118	S: 1,6 U: 465	S: - U: 1807	S: - U: 2136
Escarpment <sup>a</sup>	S: 82 U: -	S: 36 U: 31	S: 4 U: 300	S: - U: 855	S: 0,5 U: 1436
Fish	S: 133 U: -	S: 98 U: 29	S: 1 U: 400	S: - U: 765	S: - U: 1301
Border <sup>b</sup>	S: - U: -	S: - U: -	S: 1 U: 383	S: - U: 507	S: - U: 448
Coastal	S: 109 U: -	S: 85 U: 45	S: 32,75 U: 221,25	S: 2,4 U: 805,6	S: - U: 762

S= surfaced      U= unsurfaced

The significant point emerging from Table 51 is the great distances of untarred main, divisional and minor roads in the various sub-regions. As stated before, these are the roads which are used mainly by the local inhabitants, of whom the majority are farmers, in this predominantly agricultural area. The farmers regularly use these roads to transport produce to the nearby towns, and as these unsurfaced roads often tend to lapse into a state of disrepair, they frequently encounter

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- a. Because the magisterial district of Noupoot falls under the Hanover Divisional Council which was excluded from this analysis, the figures for the Escarpment sub-region are understated.
- b. The figures for the Border sub-region are inflated due to the fact that, in addition to the Fort Beaufort, Stockenström, Adelaide and Victoria East magisterial districts, the Fort Beaufort Divisional Council also exercises jurisdiction over the magisterial districts of Keiskammahoek and Middledrift. The latter two do not fall within the research area.

difficulties in this regard. One only has to consider the damage done to these unsurfaced roads by the rains which ravaged the research area in August 1971, to appreciate some of the road transport problems with which the farmers have to cope. It is the duty of the local Divisional Councils to assign priorities and to take steps to get the more important sections of these roads surfaced. Miss Cook also referred to this problem but the writer feels that the 5% of her respondents who regarded the poor road links in wet weather as a serious handicap, underplays the severity of the situation.<sup>8</sup>

At present, for a road to qualify to be surfaced, it must show a daily traffic count of 200 equivalent vehicular units. Where the road is to be used largely for military or other strategic purposes however, the equivalent vehicular unit count may be disregarded when the decision is taken to surface it. In fact, because of their national and strategic importance, all trunk roads are surfaced, regardless of the count registered.

Map 9 shows the approximate dates by which roads in the research area will be registering 200 equivalent vehicular units per day, assuming a 5% annual increase in traffic from the base year of 1967. In accordance with the principle that all trunk roads should be tarred, the surfacing of the road between Cradock and Bethesda Road was completed in June 1972, notwithstanding the fact that Map 9 indicates that it will only register 200 equivalent vehicular units sometime between 1990 and 2000. The same can be said for the road between Aberdeen and Beaufort West; although it should only qualify for tarring after 1988, work is currently in progress on the surfacing thereof. It must be remembered that Map 9 only gives an

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8. Miss Cook, p.58.

indication of when roads in the research area can expect to qualify for surfacing on the present traffic density criterion. Obviously, if the annual increase in traffic on certain roads were to exceed 5%, or if more funds were made available for roadworks, or if priorities were to change, then certain roads would be tarred before the dates indicated.

4: Current and recently completed road improvement programmes in the research area

Both the Provincial Administration and the various Divisional Councils are aware of the inferior quality of many of the rural roads in the Cape Province in general, and in the research area in particular. They are also very conscious of their "public interest" obligation with regard to the contribution of a good road system to the economic development of a particular rural area and to the national communications network. This is borne out by the fact that a number of road surfacing and road improvement programmes are in progress, while others are in the planning stage. In 1972, six Divisional Councils in the research area planned to spend over R1 million—including subsidies from the Provincial Administration—on roads in their respective divisions as follows:<sup>9</sup>

Graaf-Reinet	-	R116 115
Cradock	-	R268 000
Somerset East	-	R146 161
Aberdeen	-	R183 470
Jansenville	-	R162 308
Murraysburg	-	R134 201

Early in 1972, the surfacing of the trunk road from Alexandria through Bushmans and Kenton-on-Sea villages to Port Alfred

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9. Eastern Province Herald, November 22, 1971.

was completed. The motoring public is expected to take advantage of the improved travelling conditions provided by this road and it should boost interest in the holiday resorts in this area.

The surfacing of the road from Salem to the main Port Elizabeth-Grahamstown road was completed early in 1972. The Alexandria Divisional Council is currently tarring the road from Alexandria to Salem, while the Port Alfred Divisional Council is rebuilding the road from Kenton-on-Sea to Salem. The Alexandria Divisional Council is also busy surfacing the road from Alexandria to Bokness. Bokness is a seaside holiday resort and the completion of this surfaced road will facilitate and encourage holiday traffic. The Alexandria Divisional Council is currently negotiating to have the road from Paterson to Addo surfaced. This project is not expected to become reality in the near future, however, because this Divisional Council will be engaged in work on the Alexandria-Salem road for the next four years.

In 1971, the Albany Divisional Council started surfacing the road from just outside Grahamstown to Bedford, while the Bedford Divisional Council started work on the same road from the Bedford side. It is anticipated that the road between Grahamstown and Bedford will be completely surfaced by approximately 1975. The Albany Divisional Council is also building a road and three bridges between Alicedale and Paterson; Paterson being located on the N7 major trunk road leading to Middelburg. A section of this road falls under the control of the Alexandria Divisional Council which will be responsible for the surfacing thereof.

In 1971, the Albany Divisional Council applied to the Cape Provincial Administration to have the gravel road from

Grahamstown to Port Alfred via Southwell, upgraded from a divisional road to a main road. This application was prompted by local farmers' complaints about the bad condition of the road in general, and of the Woest Hill section in particular. Woest Hill, which is a steep winding incline just before the road joins the Grahamstown—Port Alfred minor trunk road near Grahamstown, is almost impassable by heavy vehicles in bad weather. It was considered that tarring was the only long term solution to the bad condition of the surface. It was also suggested that the road users would be willing to pay a toll, if by so doing, the Provincial Administration would agree to tarring the road. The Provincial Administration rejected the application, however, and pointed out that there were already three parallel main roads in the area—the Coombs, Port Alfred and Kenton-on-Sea roads—and that it was not practical to upgrade a fourth road running parallel to these. To improve the situation, it was then decided to apply for a bus-route grant of R20 000 for the Woest Hill section which carries heavy traffic, and which is used by pineapple and chicory farmers, as well as those bringing market produce into Grahamstown.<sup>10</sup>

In May 1972, the Cape Provincial Administration announced that tenders would be invited in November 1972, for the tarring of the road between Port Alfred and the Great Fish River mouth, and that work was expected to begin by about March 1973. Originally, farmers feared that they would not get their road when it was announced at the beginning of 1972 that tenders would be delayed because of the shortage of provincial capital.

More than 150 buses a day, of various types, travel on this road in peak periods, and there is an average of 30 buses

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10. Eastern Province Herald, November 23, 1971.

a day throughout the year.<sup>11</sup> Each year, thousands of tonnes of export quality pineapples are transported on this road to the canning factory in East London, and because of the bad state of the road, they have been arriving at the factory in a damaged state. The farmers even had to try and redesign packing methods which contributed to an escalation of their costs. When the canning factory in Port Elizabeth closed down in 1968, East London became the only practical outlet for canning pineapples from the Coastal sub-region.

In addition, there is also a milk market in East London for many farmers in the Coastal sub-region. At the present time, milk is railed to Port Elizabeth where it is processed, and the processed milk is then transported by rail to East London. This procedure is adopted because the fresh milk does not travel well on the present low quality trunk road from Port Alfred. Thus it is clear that the tarring of this trunk road will be a great boon to the Coastal sub-region. Not only will it bring more tourists to the area, but it will also be important from a security and defence point of view, as well as shortening the distance between Bathurst and East London.

The Somerset East Divisional Council is currently campaigning to have the road between Somerset East and Long Hope surfaced. The main motivating factor here is to shorten the route between Somerset East and Port Elizabeth. It was hoped that this programme would become a reality sometime in 1972, but unfortunately, the Cape Provincial Administration rejected it. The Somerset East Divisional Council is persevering, however, and intend to include it in their estimates for 1973.

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11. Grocott's Mail (Grahamstown), June 2, 1972.

At present, the road between Aberdeen and Aberdeen Road is being surfaced in order to give part of the Aberdeen magisterial district a better quality road link with the nearest railway station. In addition, the road between Aberdeen and Beaufort West is currently being surfaced, while the tarred road between Murraysburg and Hutchinson was opened to traffic in April, 1972. The improvements to the latter two roads not only facilitate the movement of local passenger and goods traffic, but by linking the western section of the research area to the N9 major trunk road from Cape Town to Johannesburg, they also improve the communications network of the Republic as a whole.

The tarring of the road between Cradock and Nieu Bethesda, which now represents an important link between the Fish and Sundays sub-regions, was completed in June 1972. As mentioned in Chapter III, there is no direct rail link between these two sub-regions. In the past, road traffic from Cradock and its surrounding areas to Graaff-Reinet, had to go via Somerset East and Pearston in order to avoid negotiating, particularly in bad weather, the Wapadsberg Pass on the unsurfaced road between Cradock and Nieu Bethesda. In fact, after heavy rains or a snowfall, the Wapadsberg Pass was impassable. With the completion of the tarring of the road from Aberdeen to Beaufort West, travelling via Cradock, Aberdeen and Beaufort West will be the shortest surfaced route from Natal to Cape Town, and it is envisaged that the traffic passing through these towns will increase considerably. The Cradock Divisional Council is also currently tarring the main road to Mortimer, a village south of Cradock, at a total cost of R120 000.

The surfacing of the road between Steynsburg and Burgersdorp, is currently in progress, and this road will greatly

improve the communications link between the eastern section of the Escarpment sub-region and the main road from East London to Johannesburg. The road between Tarkastad and Hofmeyr is in the process of being tarred, and it is anticipated that in 1973, work will start on the road from Steynsburg through Hofmeyr to Cradock. These improved links are going to be of inestimable benefit to those farmers in the Tarkastad, Hofmeyr and Cradock magisterial districts who are located some distance away from a railway station.

Work on the surfacing of the road between Richmond, which does not fall within the research area, and the main road between Graaff-Reinet and Murraysburg, is currently in progress. The completion of this road will greatly assist the transport arrangements of some farmers in the Murraysburg magisterial district which does not have a railway line passing through it at all.

From the above mentioned road surfacing programmes which are currently in progress, or which have recently been completed, it is clear that the Cape Provincial Administration is alert to the need to have the quality of many of the roads in the research area improved. The major limiting factor is finance and a case can be made for additional subsidies, or alternatively, for a change in the basis on which roads qualify for surfacing.

Having outlined the network of roads which exists in the

research area, an analysis must be made of the types of commodities, as well as the volumes thereof, which are conveyed by road transport in the area.

B: ANALYSIS OF TRAFFIC CARRIED BY ROAD TRANSPORT<sup>12</sup>

1: The Road Transport Service division of the South African Railways

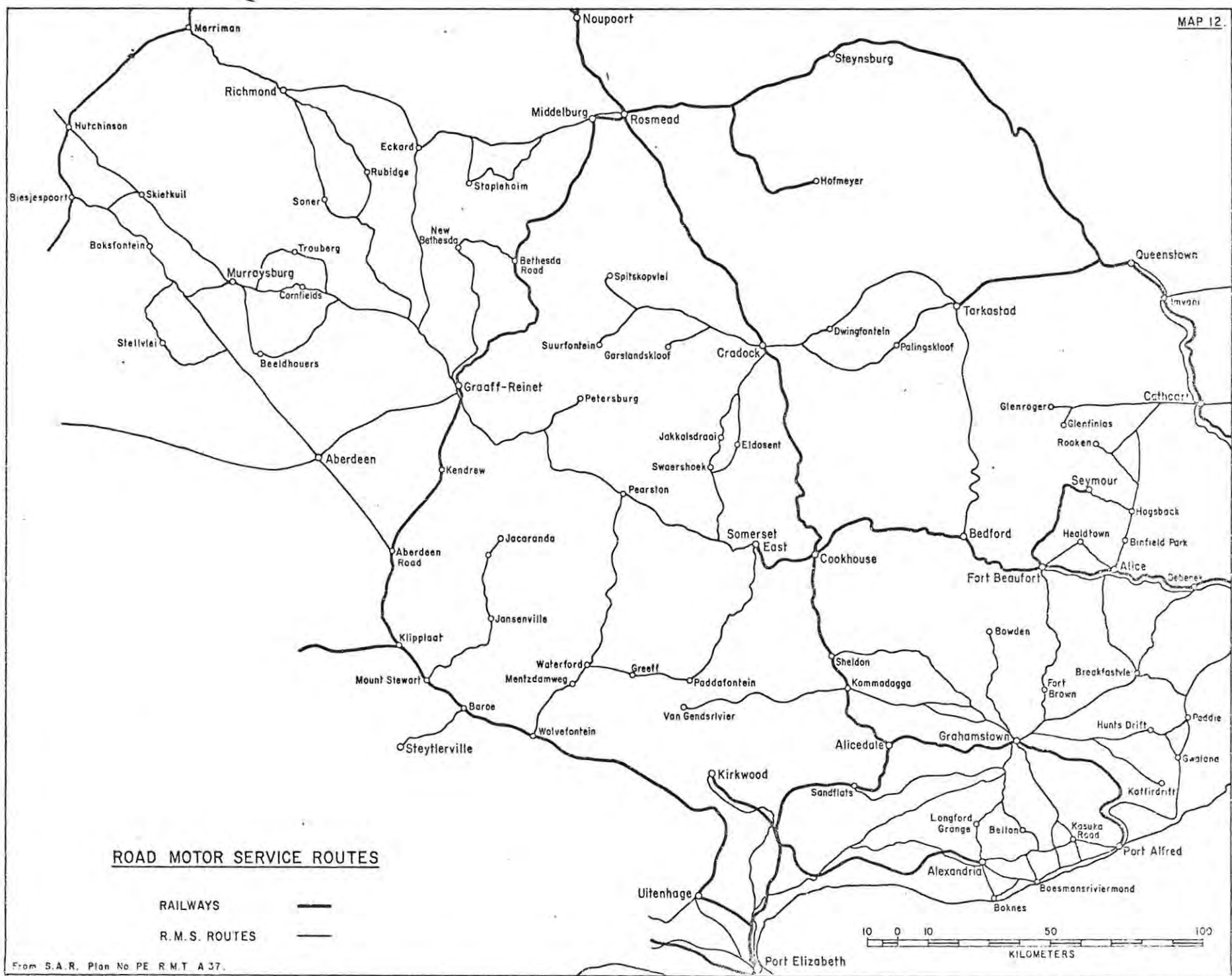
The Road Transport Service division of the South African Railways provides services throughout the research area linking, to a large extent, the core centres of each sub-region with their outlying areas or peripheries. Road transport is far more flexible than rail transport and as a result, the South African Railways can afford to select road transport service routes according to public demand. Thus from time to time the official routes may change and Map 12 illustrates the routes which existed within the research area at December, 1971.

The Motor Carriers Transportation Act No. 39 of 1930 accords some protection from private road haulier competition to both the railway services and road transport services provided by the Railway Administration. In particular, Section 13 (3) of the Act stipulates that:

"Whenever any transportation facilities in existence within any area or over any route are, in the opinion of the Board or a local board concerned, satisfactory and sufficient to meet at a reasonable charge the transportation requirements of the public within that area or along that route, the Board or such

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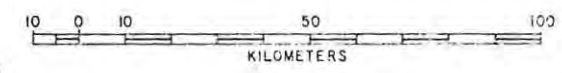
12. Because of the insurmountable problems connected with the collection of data and information relating to the commodities carried by private individuals and by private road haulier enterprises, reference will only be made to the commodities carried by the Road Transport Service division of the South African Railways.



ROAD MOTOR SERVICE ROUTES

RAILWAYS ———

R.M.S. ROUTES ———



From S.A.R. Plan No PE R.M.T A 37.

local board shall not grant any motor carrier certificate in respect of any motor carrier transportation within substantially the same area, or over substantially the same route in competition with the said transportation facilities unless, ... the grant of such certificate will be expedient in the public interest."<sup>13</sup>

Because of the losses shown by bus services, the local Road Transportation Board has recently clamped down on private contractors transporting goods along South African Railways bus routes in the Eastern Cape. They invoked an old regulation which specifies that private contractors are not allowed to transport goods situated within half a mile of a South African Railways bus route.<sup>14</sup> This is a great drawback to the farmer because, although the South African Railways bus service is invaluable for the conveyance of produce and supplies in bulk, it is not geared for transporting smaller consignments, and for the general needs of the farmer.

The ancillary use of motor transport, however, enjoys a greater measure of freedom of movement than is the case with transport by the road haulier. "Such ancillary use may be broadly defined as the conveyance of goods by their seller or owner by means of a motor vehicle belonging to the owner of the goods, or by their purchaser ..."<sup>15</sup> Act No. 39 of 1930 prescribes the areas in which ancillary motor transport is exempt from the obligation to take out a motor carrier certificate. In addition, mandatory exemption is granted for the conveyance of goods by their owner to or from the nearest or

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13. In terms of this Act, "Board" refers to the National Transport Commission, and "local board" refers to a local road transportation board.

14. Eastern Province Herald, December 6, 1971.

15. "Report of the Commission of Enquiry into the Co-ordination of Transport in South Africa." R.P. 32/1969, p.40.

most suitable railway station, railway siding, or railway halt. Thus, if the Act and the regulations are strictly adhered to, farmers' costs may be increased considerably if, as a result, they feel compelled to purchase heavy vehicles to transport their own goods. This situation, however, would also not be to the advantage of the South African Railways. Representations are continually being made to the authorities in an effort to reach some compromise in the implementation of these regulations which will be to the mutual benefit and advantage of the South African Railways on the one hand, and the farmers and private road hauliers on the other.

Although road transport is more flexible than rail transport, on economic grounds it is impossible for the Railway Administration to provide road transport services on routes which pass every individual farm. As a result, some farms are as many as 50 kilometres away from the nearest official road transport service route. In instances like this, the onus is on the farmers to present their case to the South African Railways Road Transport Service authorities, and to justify the introduction of additional services if they feel that their transport needs are not adequately met by private contractors. When such an application or request is made by a farmer or group of farmers, the economic viability of plying a particular route is thoroughly investigated by the Road Transport Service authorities. They consider such factors as the type of traffic which will be carried, the volume of traffic which will be collected or off-loaded on a particular route (this is the most important criterion), the frequency of the service requested, whether the traffic is seasonal or constant, as well as the economic development which may occur as a result of the

introduction of a particular road transport service. A similar investigation is made by the authorities when an application is made to have a point along a particular route classified as an official stopping place for road transport service vehicles, i.e., the volume of traffic likely to be collected from that point is scrutinized, as well as the practicability of stopping the vehicles there, and whether they would be acting within the regulations of the Road Traffic Ordinance No. 21 1966.

When the need or the demand arises, the Road Transport Service does operate along routes other than the official ones. In these cases, however, the authorities stipulate that a full load of produce must be collected. Even then, whether the service will be provided on the special route, depends on the availability of vehicles in the vicinity, as well as on the condition of the roads in question. This latter factor is always an important criterion to take into account when judging the viability of any form of road transport. The Road Transport Service also has an implied public service obligation, and in periods of crisis, such as acute drought conditions, it delivers fodder and stock-feed to points along remote routes.

Apart from operating on special routes, the Road Transport Service division of the South African Railways also undertakes to collect commodities directly from individual farms. Once again, however, before exclusive services of this nature are provided, certain requirements must be satisfied; the quality and condition of the road in question must be of a certain minimum standard, the farmer must be able to offer a full load, and it is desirable that a vehicle be available in close proximity to his farm. Even if a vehicle of the required capacity is not located in the vicinity, the South African Railways authorities are still willing to provide this type of service,

provided the farmer is prepared to pay the light mileage charge, which is levied at twice the rate of the loaded mileage charge. For example, if a farmer wishes to have his traffic collected directly from his "door" and transported to a destination 100 kilometres from his farm, and the nearest suitable Road Transport Service vehicle is located 60 kilometres away from his farm, then the 60 kilometres is regarded as the light mileage per type of vehicle. In other words, the farmer has to pay the equivalent of the loaded mileage charge for the vehicle to travel empty from its distant location to his farm and from his farm back to its base; not from the destination of his produce back to its base.

It is almost axiomatic to state that good quality roads are essential to an efficient road transport service. In some cases, however, the improved road system in the research area, particularly the major trunk roads, has served as a double edged sword, yielding both attendant advantages and disadvantages. A good road, of the trunk road type, is of substantial economic benefit; it means that the vehicles can travel at their maximum speeds for a longer period of time resulting in shorter average times per journey. In addition, wear and tear on the vehicles is reduced with the result that depreciation and repair costs are minimised. The main disadvantage is that heavy vehicles are not allowed to stop on a major trunk road, which precludes people located on a major trunk road from taking advantage of the services offered. In many cases, this factor has forced the Road Transport Service to follow the old provincial roads, which are tending to lapse into a state of disrepair, and to use the major trunk road system only for through trips of "block loads".<sup>16</sup> To improve the situation, the Railway authorities are

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16. A block load is a complete truck load of goods or commodities destined for a particular centre.

negotiating with the roads engineers of the Provincial Administration to provide stopping bays at strategic points along major trunk roads. Another disadvantage, although of far less significance, is the fact that a good road tends to become boring with the result that the drivers of the vehicles tend to exceed the speed limit, thus incurring heavy fines.

Because roads of good quality are essential to an efficient road transport service, the South African Railways constantly liaises with the Provincial Administration to have roads resurfaced where necessary. To compensate for the deterioration of roads caused by their heavy vehicles, the Railways contribute approximately R170 000 per annum to the Cape Provincial Administration.<sup>17</sup> The South African Railways only contributes money on main roads and divisional roads. While in absolute terms this may appear quite a substantial amount, as a proportion of the Provincial Administration's annual total budget for roads, it is insignificant.

2: Analysis of the traffic carried by the Road Transport Service division of the South African Railways: 1959-60 to 1968-69

In order to get an overall indication of the total volume of road traffic forwarded from each major centre within the research area, as well as of the total volume of road traffic received by each centre, the commodities carried on the various routes radiating out from each centre were combined, as were the commodities carried on the routes converging on each main centre. The major centres consist of the following:

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17. Interview with the Provincial Roads Engineer at Middelburg, December, 1971.

Grahamstown, Somerset East, Aberdeen, Murraysburg, Cradock Alice, Adelaide, Graaff-Reinet, Jansenville, Tarkastad, Aberdeen Road, Nieu-Bethesda, Port Alfred, Middelburg and Richmond. Richmond falls outside the research area, but two of its road transport service routes link up with towns in the research area, namely, Middelburg and Graaff-Reinet.

It is important to note that the in-traffic of a major centre represents the out-traffic of some other centre. This factor is particularly important where a service is operated between two of the above major centres. While the out-traffic of one centre may appear insignificant, the bulk of the traffic forwarded from that point may in fact be classified as the in-traffic of the other centre.

The following section represents an analysis of the South African Railway's Road Transport Service traffic which was dispatched from, and received by, each major centre between 1959-60 and 1968-69.

(i) Grahamstown (See Table 53)

Grahamstown, the core of the Coastal sub-region, occupies the top position in the hierarchial order of the urban places in the research area, and this is supported by the fact that more goods, cream, and passengers were moved both into and out of Grahamstown by road during the period 1959-60 to 1968-69, than was the case with any other centre.

Table 53 includes traffic which was carried between two centres which lie outside the research area, namely, Peddie and East London.

The annual goods and cream out-traffic remained relatively constant during the ten-year period, while the third class passenger out-traffic registered a steady increase.

The goods and cream in-traffic however, decreased steadily from 1959-60 to 1968-69, but once again, the third class passenger traffic increased quite substantially.

Although the routes between Grahamstown, and Kommadagga, Fort Beaufort, Bowden and Sheldon supported substantial volumes of traffic, by far the largest volumes of traffic were carried on the routes between Grahamstown and Port Alfred, and between Grahamstown and Alexandria.

The Alexandria area accounted for the bulk of the cream in-traffic, while most of the third class passengers were carried between Grahamstown, and Peddie, Alice, Debe Nek and Fort Beaufort. The main reason for this, of course, is that there is no rail link between Grahamstown and Peddie, while the rail link between Grahamstown, and Alice, Fort Beaufort and Debe Nek involves an inconvenient and lengthy journey. In order to travel by train from Grahamstown to any of the cluster of towns in the Border sub-region, one has to go via Alicedale to the Cookhouse junction, and from there along the System 4 trunk line. Thus clearly, the main objective of the Road Transport Service is to supplement the services provided by the railways.

(ii) Somerset East (See Table 54)

As with Grahamstown, the annual goods and cream out-traffic, apart from minor fluctuations, remained constant for the ten year period under consideration. The third class passenger out-traffic, however, showed a slight increase, as did the third class passenger in-traffic.

With the exception of the year 1963-64, during which abnormally large consignments of manure were transported, the goods in-traffic also remained fairly constant. The annual cream in-traffic, however, registered a substantial decline

during the period 1959-60 to 1968-69.

The passenger traffic was carried mainly between Somerset East and Cradock, Somerset East and Pearston and Somerset East and Wolwerfontein. Cream was received mainly from Wolwerfontein via Paddafontein, Wolwerfontein via Pearston, Cradock via Eldosent and Pearston via Blyderivier, while the goods traffic was also carried mainly to and fro along these routes.

(iii) Murraysburg (See Table 55)

The Murraysburg magisterial district does not have a railway line passing through it at all. A compensating factor, however, is that it is conveniently located between two main railway lines, namely, from Cape Town to the north which passes through Beaufort West, and from Port Elizabeth to the north which passes through Graaff-Reinet. As is evident from Map 12, this magisterial district is well served by Road Transport Service routes which give to the greater portion of it easy access to the above mentioned main railway lines.

During the ten years that the analysis covers, the annual volumes of the various categories of traffic carried were relatively stable. The third class passenger traffic increased slightly, however, while the small livestock out-traffic increased quite substantially. This latter trend is a result of the Murraysburg magisterial district being an important sheep-farming area.

The route which accounts for the largest volumes of goods out-traffic is the one between Murraysburg and Aberdeen Road. The major goods in-traffic, passenger, and cream traffic routes, are Murraysburg to Aberdeen Road, Murraysburg to Graaff-Reinet direct; Murraysburg to Graaff-Reinet via Beeldhouers,

Murraysburg to Biesiespoort via Skietkuil and Murraysburg to Biesiespoort via Boksfontein.

(iv) Cradock (See Table 56)

The volume of goods, livestock and cream traffic carried by the South African Railways Road Transport Service in the Cradock and neighbouring areas, is relatively low. This is because most of this area has easy access to railway stations located on the main line from Port Elizabeth to the north, via Cradock.

The annual volumes of the various categories of road traffic remained relatively constant. During the year 1966-67, however, the goods out-traffic increased substantially as a result of the commodities collected on special routes requested by certain farmers.

The main third class passenger routes, and cream out-traffic routes, are between Cradock and Tarkastad via Dwingfontein, and between Cradock and Tarkastad via Pallingskloof. The most important goods in-traffic routes, apart from special seasonal routes and requested deviations from the official routes, are those between Cradock and Spitzkopvlei, and between Cradock and Tarkastad via Pallingskloof.

The major cream routes, in terms of cream delivered to Cradock, are between Cradock and Spitzkopvlei, Cradock and Tarkastad via Pallingskloof and via Dwingfontein, and to a lesser extent between Cradock and Garlandskloof. Thus, once again it is evident that the Road Transport Services are essentially supplementary to the rail services provided by the South African Railways. In the Cradock magisterial district, the main road-traffic flows emanate from the areas between Cradock and Tarkastad to the east of the main railway line to the north, and between Cradock and the western extremities of

the Cradock magisterial district which lie to the west of this line. Both these areas do not have ready access to any rail facilities (See Map 6 and Map 12).

(v) Alice (See Table 57)

Table 57 reveals that the annual volumes of the various categories of traffic carried on the service routes radiating out from Alice, remained fairly constant during the ten year period under consideration. Very few livestock were carried; the obvious reason being that the magisterial districts of Victoria East and Stockenström are primarily cattle farming regions, and cattle are not easily transportable by road.

By far the greater portion of the goods out-traffic was carried on the route between Alice and Arminel—a stopping place for Road Transport Service vehicles in the Hogsback mountains and serving the hotels and residents located there. The bulk of the cream in-traffic was collected on the routes between Alice and Lushington, Alice and Arminel, and Alice and Seymour.

(vi) Graaff-Reinet (See Table 58)

The only two Road Transport Service routes which originate at this major centre, are those to Pearston via Petersburg, and to Aberdeen Road. The former helps to break the isolation of the Pearston magisterial district in terms of its inaccessibility to a railway station. Consequently, most of the traffic recorded in Table 58 is carried on this route. In addition, of course, when the demand arises, services are provided along routes other than the two official ones.

(vii) Adelaide (See Table 59)

Although both Adelaide and Alice are situated within the Border sub-region, more livestock was carried on Road

Transport Service routes radiating out from the former centre, than from the latter. The reason for this is that sheep farming is carried out fairly extensively in the Adelaide magisterial district, which represents the eastern boundary of the research area's main sheep farming region. As mentioned before, the Victoria East magisterial district is more suited to cattle farming. Table 59 also reveals that substantial volumes of cream were delivered to Adelaide from its immediate hinterland, while the annual volumes of goods in-traffic during the ten year period, was minimal. The most important routes from the volume of traffic point of view, were those between Adelaide and Glenthorn, Adelaide and Prieshoek via Velindre, and Adelaide and Endwell.

(viii) Jansenville (See Table 60)

The only routes on which Road Transport Services are provided from Jansenville, are between Jansenville and Mount Stewart direct, and between Jansenville and Mount Stewart via Angora. The main objective of these two services is to give some portion of the magisterial district of Jansenville a direct link with a railway station. The main type of commodity delivered from Mount Stewart to Jansenville is petrol.

(ix) Tarkastad (See Table 61)

The only Road Transport Service operated from Tarkastad is that to Bedford. Table 61 indicates that, although it was well supported by third class passengers and to some extent, cream traffic, insignificant quantities of traffic were carried on this route.

(x) Aberdeen Road (See Table 62)

Only one Road Transport Service route originates at Aberdeen Road, and that is the one to Beaufort West via

Aberdeen Town. Bearing this in mind, and also that the railway line from Port Elizabeth to the north via Graaff-Reinet only cuts across the south eastern corner of the Aberdeen magisterial district, it would appear that Aberdeen is poorly served by public transport facilities. One must remember however, that Aberdeen Town and Aberdeen Road are also served by road transport services originating at Murraysburg and Graaff-Reinet. Notwithstanding however, there are certain localities in this magisterial district which are some distance from either a railway station or road transport service route, but the onus is on these farmers to demonstrate to the Road Transport Service authorities that they can provide sufficient traffic to warrant the introduction of additional routes.

The route between Aberdeen Road and Beaufort West gives the Aberdeen magisterial district a link with an additional railway line, namely, the one from Cape Town to the north via Beaufort West. This illustrates once again that the main objective of the Road Transport Service division of the South African Railways is to supplement the rail services provided in any particular region. Not only does the use of the motor vehicle add flexibility to the rail services, but it is also more economical than extending railway lines into rural areas in which they will not contribute to economic development, or be operated profitably all the time.

(xi) Nieu-Bethesda (See Table 63)

The two routes on which services are provided from this centre, are from Nieu-Bethesda to Bethesda Road, and from Nieu-Bethesda to Graaff-Reinet. These are once again essentially service routes, and they link the north western areas of the Graaff-Reinet magisterial district with the main railway line to

the north. As with most of the other road transport routes in the research area, the annual volumes of the various categories of commodities carried between 1959-60 and 1968-69, were relatively constant.

(xii) Port Alfred (See Table 64)

Most of the goods traffic reflected in Table 64 was carried on the route between Port Alfred and Port Elizabeth. Port Alfred and its surrounding areas is the most important section of Grahamstown's hinterland, and consequently, most of the goods dispatched by road from this region are destined for Grahamstown. Most of this traffic however, is carried on the services which are operated from Grahamstown, and this accounts for the relatively low volumes of goods traffic recorded in Table 64.

The third class passenger traffic carried on the services originating at Port Alfred increased quite substantially from 1959-60 and 1968-69, while the first class passenger traffic registered a steady decline over the same period. These trends reflect the increasing mobility of the non-White population in the research area, motivated by their rising incomes, and the tendency of the White population to make use of their own forms of transport, rather than to rely on public transport facilities. The main third class passenger route is from Port Alfred to Grahamstown via Alexandria.

(xiii) Middelburg (See Tables 65 and 66)

The Road Transport Services operated from Middelburg to Walthof were discontinued in 1965, and those operated from Middelburg to Stapelholm and from Middelburg to Richmond, were discontinued in 1966. The reason for this was the steadily declining traffic carried on these routes as revealed in Table 65. After 1966, Middelburg and Rosmead were included on a

route on which services were provided from Richmond (See Table 66). This serves to underline, once again, that a particular route is only maintained as long as it provides sufficient traffic to support the service.

Thus the only Road Transport Service route which exists in the northern section of the Escarpment sub-region (i.e. the magisterial districts of Middelburg, Noupoort, Steynsburg and Maraisburg), is the one from Richmond via Middelburg to Rosmead, and this is principally for petrol services. This apparent lack of road transport services is due to this area being particularly well served by rail facilities (See Map 6). As a result, the supplementary and facilitating services of the Road Transport Service division are not required. Road Transport Services are, however, provided between Tarkastad and Cradock, and between Tarkastad and Bedford, and for which there is a very real need.

(xiv) Richmond (See Table 67)

Table 67 reflects the traffic which is carried on the following three routes: from Richmond to Graaff-Reinet via Rubidge, from Richmond to Graaff-Reinet via Soner, and from Richmond to Graaff-Reinet via Eckard. Once again the supportive nature of the role of Road Transport Services becomes evident; the main purpose of these three services being to provide the north-western region of the Graaff-Reinet magisterial district with a link with the railway and market facilities at Graaff-Reinet.

(xv) Aberdeen (See Table 68)

The only Road Transport Service route which originates at Aberdeen is that to the railway station at Aberdeen Road.

The types of goods traffic which are carried by the various Road Transport Services provided within the research area, depends very much on the agricultural activities which are pursued in particular areas, and the needs and requirements of these areas. In the Grahamstown area, substantial quantities of pineapples, citrus, fresh vegetables, wheat, maize, fertilizer, timber, fuel, fowl food, lucerne, cement and clay are transported by the public road transport facilities. The main commodities carried on the routes serving the Somerset East area are wool, mohair and lucerne; while wheat, fuel, lucerne, wool, mohair and maize are the mainstay of the road transport facilities serving the Graaff-Reinet area.

#### C. Summary

It can be said that the research area is well served by a wide interlocking network of routes along which services are provided by the Road Transport Service division of the South African Railways. These services are operated mainly between outlying rural areas and urban centres, and serve to facilitate the transport of farmers' produce to local markets, and to railway stations for eventual dispatch to more distant markets. Thus these road transport services are an invaluable element of the communications infrastructure of the research area which, as a predominantly agricultural area, demands transport facilities which can carry produce, commodities and supplies in bulk.

Naturally, a road transport service can only be as efficient and as extensive as the following two factors allow:

- (1) the condition of roads,

(2) volume of traffic offered.

With regard to the first determinant, being a predominantly rural and agricultural region, the research area embraces many kilometres of unsurfaced divisional and minor roads which, by their very nature, deteriorate easily, cause damage to vehicles, and tend to become impassable in the rainy season. As mentioned before, the only solution to this problem appears to be to increase the subsidy payable to Divisional Councils who, in the Cape Province, are largely responsible for the upkeep of this type of road, or to amend the requirements which have to be satisfied before a road qualifies for surfacing. With reference to the second determinant, the Road Transport Service authorities have made it quite clear that a service will be introduced along a particular route provided it is passable, and provided a farmer or group of farmers can show that the volume of traffic which will be collected along that route will make that service economically feasible.

Because of the almost total lack of statistics in relation to road transport supplied by private enterprise and of the impossibility of obtaining data on traffic carried by vehicles in ancillary use, it is not possible to compare private vehicle traffic with that carried by the South African Railways, including the latter's road transport services. The Commission of Enquiry into the Co-ordination of Transport in South Africa drew attention to this lack of statistics and stated that it "is a serious gap in the existing array of factual information intended to represent the economic activities of the country in all its facets".<sup>18</sup>

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18. R.P. 32/1969, p.10.

TABLE 52  
BUSES, COMMERCIAL VEHICLES AND MOTOR CARS REGISTERED IN  
EACH SUB-REGION: 30TH JUNE 1962 AND 30TH JUNE 1966

Sub-region	30th June, 1962			30th June, 1966		
	Buses	Commercial Vehicles <sup>a</sup>	Motor Cars <sup>b</sup>	Buses	Commercial Vehicles <sup>a</sup>	Motor Cars <sup>b</sup>
Sundays	8	1 721	4 862	14	2 031	3 353
Escarpment	1	1 000	3 175	5	1 247	2 714
Fish	5	1 410	4 389	5	1 630	3 182
Border	1	639	2 157	3	791	1 699
Coastal	6	1 498	5 610	10	1 716	4 726

Source: Motor Vehicle Statistics as at 30th June, 1966  
All vehicles. (Bureau of Statistics, Report  
 No. 12.03.01.) and Motor Vehicle Statistics  
as at 30th June, 1962. (Bureau of Statistics,  
 Report No. 300, Part II).

Table 52 compares the number of buses, commercial vehicles and motor cars registered in each sub-region as at 30th June 1966, with those registered as at 30th June, 1962. It can be said, without any certainty however, that the decline in registered motor cars between 1962 and 1966 was due to the declining White urban and rural population in the research area. The increase in registered commercial vehicles may be attributed to the increasing mechanisation on farms and the increasing willingness of commercial firms to make deliveries; but the lack of more detailed information precludes the writer from drawing any definite conclusions from the figures in Table 52.

a. Commercial vehicles include: delivery vehicles, light delivery vehicles, lorries, hearses, ambulances, mechanical horses, semi-trailers.

b. Motor cars include: mini-buses and kombi's.

The salient point to emerge from Tables 53 to 68 is that during the ten year period under consideration, the annual volume of traffic moved by road remained fairly constant, with the exception of third class passenger traffic whose increasing trend can be attributed partially to the Government policy of gradually moving the Bantu to their homelands. Generally speaking, however, this static tendency once again reflects the relatively depressed conditions of the research area which is intermittently plagued by drought or semi-drought conditions. In the last decade it certainly did not show any signs of growth in terms of goods and commodities transported either within its own boundaries, or to destinations beyond its boundaries.

TABLE 53

TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES

OPERATED FROM GRAHAMSTOWN : 1959-60 to 1968-69

Year	Traffic Out						Traffic In					
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3	L/S. L	L/S. S	Litres	Tonnes	1	3	L/S. L	L/S. S	Litres
59/60	11 617	276	16 760	19	13	16 139	19 657	213	17 199	100	498	329 147
60/61	11 971	247	15 104	-	507	15 152	16 071	200	16 354	6	465	322 559
61/62	17 267	192	15 519	-	-	13 764	15 140	194	14 324	7	1 251	333 019
62/63	15 177	188	15 611	2	806	24 106	14 667	179	16 173	99	392	386 213
63/64	13 924	189	16 766	5	634	30 066	18 420	234	16 479	11	671	399 285
64/65	15 902	172	19 391	8	2 092	34 653	18 498	178	20 022	1	1 651	279 729
65/66	16 623	129	20 510	10	2 360	31 381	12 582	230	22 241	532	1 407	257 889
66/67	19 242	69	20 620	87	5 112	39 194	11 836	136	22 473	23	2 945	251 761
67/68	16 250	159	22 442	35	1 847	27 259	12 058	306	23 724	159	2 986	210 019
68/69	13 442	152	22 445	32	1 705	22 486	8 987	254	23 231	146	4 245	154 873

TABLE 54

TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES

OPERATED FROM SOMERSET-EAST : 1959-60 to 1968-69

Year	Traffic Out						Traffic In					
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3			Litres	Tonnes	1	3			Litres
59/60	3 613	68	3 554	9	88	3 049	1 987	54	3 113	25	5 912	59 118
60/61	3 198	44	2 964	10	6 527	2 980	1 657	64	3 085	6	2 643	41 250
61/62	2 659	73	3 473	-	13	5 692	1 641	59	3 568	10	4 570	59 141
62/63	4 003	92	3 144	2	503	5 956	2 009	67	5 525	94	4 296	50 510
63/64	2 750	86	2 367	4	588	8 522	7 873	74	2 947	9	2 514	56 056
64/65	3 037	37	2 906	10	812	7 371	3 170	40	3 022	5	1 245	48 148
65/66	2 707	37	3 413	5	677	6 411	3 519	46	3 472	381	2 506	37 487
66/67	4 240	26	4 186	12	1 504	4 359	3 137	85	4 488	3	4 077	26 454
67/68	3 085	21	4 120	12	1 083	5 615	2 699	22	4 266	-	2 750	29 580
68/69	4 112	14	4 733	12	911	6 397	2 697	31	4 631	-	3 586	30 954

TABLE 55

TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES

OPERATED FROM MURRAYSBURG : 1959-60 to 1968-69

Year	Traffic Out						Traffic In					
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3	L/S.L	L/S.S	Litres	Tonnes	1	3	L/S.L	L/S.S	Litres
59/60	2 033	120	2 646	5	386	41 573	5 008	129	2 529	12	458	273
60/61	1 994	129	2 318	80	481	28 692	4 965	135	2 233	2	277	100
61/62	1 571	105	2 506	1	-	43 111	5 752	107	2 542	109	822	4 113
62/63	1 520	81	2 774	15	320	43 453	6 735	101	2 877	20	819	209
63/64	1 692	91	3 023	20	940	55 778	4 647	90	2 858	4	17	1 229
64/65	1 642	32	2 853	12	2 048	42 811	4 517	54	2 978	-	115	291
65/66	1 609	79	3 412	895	1 230	43 248	3 343	70	3 390	61	1 087	419
66/67	2 448	51	3 768	100	1 533	28 874	6 131	57	3 404	34	422	86
67/68	1 358	57	3 497	80	2 815	33 688	3 710	58	3 710	28	1 751	228
68/69	1 709	66	3 527	224	5 147	37 078	3 946	71	3 756	8	152	159

TABLE 56

## TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES

OPERATED FROM CRADOCK : 1959-60 to 1968-69

Year	Traffic Out						Traffic In					
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3	L/S.L	L/S.S	Litres	Tonnes	1	3	L/S.L	L/S.S	Litres
59/60	1 119	90	3 886	-	415	9 009	1 264	83	4 178	21	1 353	17 085
60/61	893	96	3 004	-	1 130	6 534	995	72	4 028	2	100	17 663
61/62	845	94	3 702	-	-	9 150	1 310	89	4 006	29	2 273	19 456
62/63	1687	134	3 599	4	330	8 968	1 470	85	3 567	76	1 876	14 255
63/64	655	73	3 503	-	413	7 972	1 241	68	3 677	46	586	13 982
64/65	1 042	53	3 717	1	83	9 783	1 505	30	3 393	-	574	11 757
65/66	1 302	48	3 849	-	1 215	6 488	2 044	29	3 291	195	2 720	9 737
66/67	3 204	40	3 664	72	13 905	5 619	1 139	26	3 209	139	15 320	7 207
67/68	835	42	3 800	59	4 528	10 793	1 395	21	3 194	53	2 018	6 830
68/69	1 163	51	3 891	1	285	10 197	1 449	43	3 808	44	1 384	11 166

TABLE 57

TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES

OPERATED FROM ALICE : 1959-60 to 1968-69

Year	Traffic Out						Traffic in					
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3	L/S. L	L/S. S.	Litres	Tonnes	1	3	L/S. L	L/S. S.	Litres
59/60	1 482	69	3 754		-		1 497	88	4 749			33 515
60/61	1 554	79	3 491		124		2 976	87	4 926			35 217
61/62	1 694	100	3 938		-	1 056	3 917	97	4 998		39	38 543
62/63	1 331	96	4 085		-	774	4 160	113	5 864			33 834
63/64	1 273	88	4 648		1	-	4 223	66	5 762			28 256
64/65	1 962	97	4 895		1	942	4 067	97	5 969			22 768
65/66	1 610	75	4 465		-	937	3 381	86	5 455			18 473
66/67	2 042	59	4 627		-	642	4 083	45	6 061			16 485
67/68	2 102	64	5 294		-	651	3 571	40	6 569			17 495
68/69	2 309	30	4 956		-	228	2 647	22	5 994			21 726

TABLE 58

TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES

OPERATED FROM GRAAFF-REINET : 1959-60 to 1968-69

Year	Traffic Out						Traffic In					
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3	L/S. L	L/S. S.	Litres	Tonnes	1	3	L/S. L	L/S. S.	Litres
59/60	2 060	29	807	-	4	18	646	21	870	-	688	5 810
60/61	2 488	12	858	1	744	91	1 318	19	828	6	112	3 312
61/62	1 587	43	1 053		-	341	2 184	27	1 059	3	28	4 577
62/63	1 771	20	1 000		449	341	2 498	23	1 280		335	4 377
63/64	1 768	31	1 146		148	141	3 013	28	1 430		305	8 008
64/65	1 877	44	1 187	2	20	196	3 425	17	1 327		468	6 011
65/66	1 617	21	1 182	20	8	-	4 606	15	1 494		768	6 411
66/67	2 256	16	1 035		799	-	533	13	1 546	1	803	4 072
67/68	1 421	30	1 218		935	23	553	8	1 618	1	1 895	5 032
68/69	2 165	19	1 270		491	8 890	898	18	1 620	11	194	4 737

TABLE 59

TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES

OPERATED FROM ADELAIDE : 1959-60 to 1968-69

Year	Traffic Out						Traffic Out					
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3	L/S.L	L/S.S	Litres	Tonnes	1	3	L/S.L	L/S.S	Litres
59/60	1 520	15	1 885	-	20		714	8	1 972			48 558
60/61	1 513	13	1 869	-	15		407	12	1 923			49 249
61/62	1 511	6	1 754	1	-		633	10	1 824		8	53 244
62/63	1 793	5	1 791	41	114		697	3	1 875		2	44 217
63/64	1 648	5	2 061	-	26	173	349	2	2 296		-	48 357
64/65	1 839	2	2 537	-	43	596	412	227	2 679		8	38 761
65/66	2 019	2	2 296	-		59	371	1	2 522	3	18	29 170
66/67	1 854	1	2 490	1		-	335	1	2 740	4	8	26 640
67/68	1 734	14	2 255	-		396	262	10	2 551		4	31 745
68/69	2 282	3	2 380	1			135	5	2 769		22	32 123

TABLE 60

TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES  
OPERATED FROM JANSENVILLE : 1959-60 to 1968-69

Year	Traffic Out						Traffic In					
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3	L/S.L	L/S.S	Litres	Tonnes	1	3	L/S.L	L/S.S	Litres
59/60	568			1	4	5 264	2 127				314	273
60/61	522				14	5 624	1 896				42	723
61/62	533				-	7 835	1 598			2	213	237
62/63	590				36	7 275	1 832			-	106	2 193
63/64	712			1	195	6 447	2 228			12	4	3 535
64/65	1 136			23	200	4 709	3 538			-	10	4 141
65/66	2 004			3	110	5 774	3 527			1	1	3 945
66/67	1 168			-	90	7 485	3 763				125	300
67/68	749		1	23	420	8 372	3 382				1 384	2 357
68/69	1 058			2	8	7 007	3 891				153	3 827

TABLE 61

TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES

OPERATED FROM TARKASTAD : 1959-60 to 1968-69

Year	Traffic Out						Traffic In					
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3	L/S.L	L/S.S	Litres	Tonnes	1	3	L/S.L	L/S.S	Litres
59/60	687	21	2 421	4	34	7 831	551	19	2 343	—	-	2 398
60/61	643	7	2 366	10	34	5 578	649	11	2 388			337
61/62	593	11	2 567	1	318	5 637	580	9	2 633	35	19	546
62/63	547	14	2 690	1	4	4 454	650	12	2 815	4	75	168
63/64	584	9	2 954	2	23	5 528	534	3	2 730	2	32	505
64/65	608	6	3 065	1	35	6 529	748	4	2 971	11	25	460
65/66	808	5	3 551	-	36	4 063	776	6	3 577	3		10 784
66/67	1 149	6	3 664	5	19	2 894	782	5	3 768	1	12	8 190
67/68	783	6	3 567		30	4 555	692	46	3 546		8	9 651
68/69	970	-	3 907		20	4 013	641	2	3 268		1	10 078

TABLE 62

TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES  
OPERATED FROM ABERDEEN ROAD : 1959-60 to 1968-69

Year	Traffic Out						Traffic In					
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3	L/S.L	L/S.S.	Litres	Tonnes	1	3	L/S.L	L/S.S.	Litres
59/60	584	21	273			1 879	798	24	173	7	64	11 766
60/61	500	29	220		16	1 806	947	25	282	-	63	6 388
61/62	434	52	339		-	1 092	931	42	465	2	119	10 711
62/63	403	49	384		15	937	1 203	49	515		5	7 981
63/64	481	59	657		22	1 110	839	47	664		7	13 418
64/65	566	44	531		11	1 033	802	41	453		2	9 878
65/66	857	51	679		9	774	735	26	580	1	-	8 941
66/67	1 459	48	716		21	810	1 456	33	686		2	6 820
67/68	1 026	37	678		33	673	975	33	752		-	8 736
68/69	1 231	17	541	6	12	241	1 419	15	592	63	1	7 012

TABLE 63

## TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES

OPERATED FROM NIEU-BETHESDA : 1959-60 to 1968-69

Year	Traffic Out						Traffic In					
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3	L/S.L	L/S.S.	Litres	Tonnes	1	3	L/S.L	L/S.S.	Litres
59/60	308	89	1 393			5 810	1 041	82	1 418	3	113	
60/61	338	70	1 445		315	4 891	774	62	1 377	-	223	
61/62	466	62	1 153		-	5 137	925	68	1 158	4	659	18
62/63	609	56	1 173	5	77	4 209	881	43	1 089	10	353	146
63/64	566	33	1 169	-	292	3 494	730	26	1 044	-	99	82
64/65	493	27	1 287	-	647	3 390	795	37	1 253	-	586	68
65/66	1 171	76	1 394	56	549	4 932	1 154	69	1 269	152	120	55
66/67	420	44	1 472	1	140	6 325	1 057	42	1 338			
67/68	344	42	1 902	5	472	5 355	806	38	1 607			
68/69	629	42	1 654	7	119	4 673	979	33	1 620			36

TABLE 64

TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES  
OPERATED FROM PORT ALFRED : 1959-60 to 1968-69

Year	Traffic Out						Traffic In					
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3	L/S.L	L/S.S	Litres	Tonnes	1	3	L/S.L	L/S.S	Litres
59/60	21	255	7 392			-	64	235	7 221			-
60/61	26	222	4 442			23	201	211	6 947			9
61/62	78	236	7 048			77	297	222	7 490		2	-
62/63	200	219	7 152		1	1 115	452	249	7 372			5
63/64	184	143	7 684			8 677	333	182	7 728			187
64/65	143	127	9 336			7 981	376	195	9 236		1	23
65/66	299	108	9 637			9 291	590	193	9 608			36
66/67	211	133	11 120			8 590	802	167	11 413			14
67/68	317	78	11 326			10 961	610	120	11 540			-
68/69	1 088	159	12 689		1	5 633	1 478	111	13 136			105

TABLE 65

TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES  
OPERATED FROM MIDDELBURG : 1959-60 to 1968-69

Year	Traffic Out						Traffic In					
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3	L/S. L	L/S. S.	Litres	Tonnes	1	3	L/S. L	L/S. S.	Litres
59/60	2 609	15	862		37	1 097	2 263	20	854	2	29	42 388
60/61	1 584	8	777		233	2 625	1 814	13	881		65	40 627
61/62	905	4	826			378	1 177	17	867		160	50 491
62/63	791	4	831	7		-	907	5	931		115	48 417
63/64	1 113	5	785	5	1	64	1 190	8	590		3	39 544
64/65	610	6	676	1	67	21 294	551	8	576		65	8 768
65/66	216	7	637		22	28 665	513	11	668		1	-
66/67												
67/68												
68/69												

TABLE 66

TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES  
OPERATED FROM RICHMOND-MIDDELBURG-ROSMEAD : 1959-60 to 1968-69

Year	Traffic Out					Traffic In						
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3	L/S. L	L/S. S	Litres	Tonnes	1	3	L/S. L	L/S. S	Litres
59/60												
60/61												
61/62												
62/63												
63/64												
64/65												
65/66												
66/67	319	4	848		262	22 354	880	1	523		2	68
67/68	326	2	591		8	26 340	550	10	553		13	196
68/69	385	4	750	1	376	24 584	706	1	459		1	23

TABLE 67

TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES

OPERATED FROM RICHMOND : 1959-60 to 1968-69

Year	Traffic Out						Traffic In					
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3	L/S. L	L/S. S	Litres	Tonnes	1	3	L/S. L	L/S. S	Litres
59/60	881	94	854	2	132	11 225	1 398	87	808	22	417	3 449
60/61	829	86	956	2	204	7 644	1 327	66	599	1	100	10 133
61/62	781	71	690	-	-	8 873	1 367	94	695	30	213	3 986
62/63	711	61	824	-	126	7 617	1 341	63	710	6	194	2 721
63/64	555	69	950	5	233	11 352	1 034	84	808	13	90	2 325
64/65	580	53	1 069	37	974	9 500	1 070	66	1 088	-	58	2 034
65/66	751	56	1 184	222	130	9 036	1 029	46	1 110	28	32	2 698
66/67	778	42	1 163	21	237	7 548	1 401	56	1 114	3	81	2 129
67/68	664	71	1 314	8	96	9 532	867	118	1 206	42	3	3 085
68/69	872	67	1 600	10	516	10 037	1 024	50	1 012	20	123	3 271

TABLE 68

TRAFFIC CARRIED ON ROAD TRANSPORT SERVICES

OPERATED FROM ABERDEEN : 1959-60 to 1968-69

Year	Traffic Out						Traffic In					
	Goods	Passengers		L/Stock		Cream	Goods	Passengers		L/Stock		Cream
	Tonnes	1	3	L/S.L	L/S.S	Litres	Tonnes	1	3	L/S.L	L/S.S	Litres
59/60	1 387		22		5 833	1 465	4 699		16	20	1 510	1 033
60/61	1 085		11	112	4 107	619	5 057	1	9		1 226	532
61/62	766		6		652	2 553	5 055	-	7	13	5 315	-
62/63	1 061		2		134	2 630	6 133	2	4		1 490	118
63/64	2 233	3	93	90	171	3 463	4 620	2	65		96	746
64/65	2 794	1	9	-	35	4 309	4 545	1	19		781	2 375
65/66	2 595	5	15	10	-	1 925	5 390	1	20		67	1 192
66/67	2 367		5		603	1 897	6 113		7			1 092
67/68	3 039		-			942	4 931		13	40		1 065
68/69	2 864		3			2 284	4 863		2		4	960

CHAPTER VPROSPECTS FOR THE FUTURE1. INTRODUCTION

Numerous references have been made to the relatively static and depressed state of the economy of the research area: Miss G.P. Cook, when referring to the research area, states that "the region as a whole presents a picture of a static, and in certain circumstances retrogressive, economy when compared with the rest of the Republic".<sup>1</sup>

Professor D. Hobart Houghton writes that "ever since the discovery of diamonds at Kimberley and gold on the Witwatersrand in the latter part of the last century, there has been a lack of economic advance in the Cape Midlands and Karroo, and at times a positive decline has occurred accompanied by considerable emigration of people of all races (particularly the Whites) from the rural areas to the expanding urban industrial centres..."<sup>2</sup>

J.P. Blumenfeld concludes that "the Cape Midlands and Karroo region has declined from being an area of historical and economic importance in the context of Southern Africa to a position of relative insignificance in contemporary affairs".<sup>3</sup> He goes on to say "... due partly to its lack of natural resources; partly to its heavy dependence on the slow growing and unstable agricultural sector; and partly to the high proportion of low income-earning groups in the population, the

- 
1. Miss Cook, p.1.
  2. Professor D. Hobart Houghton in the prefaces to the three studies done by Cook, Badenhorst and Truu respectively.
  3. Blumenfeld, p.6.

region finds itself at a disadvantage relative to other similarly undeveloped regions of South Africa".<sup>4</sup>

Bearing in mind that the growth rate of gross geographic product is an accepted indicator of the state of health of the economy of any region, Table 69 appears to confirm the above conclusions as to the economic climate of the research area. Although the G.G.P. in 1959/60 was higher than that in 1954/1955, (R68 222 as opposed to R62 087) an examination of the G.G.P.'s in the intervening years reveals a tendency for the annual G.G.P. to fluctuate about the same level, rather than a tendency for it to increase steadily.<sup>5</sup> A similar tendency was discovered when the total revenue earning traffic by weight, forwarded by rail from the research area, was analysed in Chapter III. The annual volume of traffic forwarded from a geographical unit is also a reflection of the buoyancy of its economic activity, and this was found to fluctuate around a particular level.

Table 69 also reveals that, between 1954/55 and 1959/60, the agriculture, forestry and fishing sector was by far the largest component of the annual gross geographic product of the research area, never falling below 37%.<sup>6</sup> This emphasises the fact, as mentioned in previous chapters, that production in the research area is principally connected with agriculture.<sup>7</sup> As Blumenfeld points out, "... it is clear that it was agriculture which determined whether the Cape Midlands and Karroo regional product as a whole would increase from year to year.

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4. Ibid., p.18

5. Blumenfeld indicates that regional income data for most areas is only available for the period from 1954/55 to 1959/60.

6. Forestry and fishing is carried out in the research area to an insignificant extent.

7. Here, the term agriculture refers to both stock farming and arable farming.

TABLE 69

G.G.P. BY PRODUCTION SECTOR WITHIN THE RESEARCH AREA 1954/55 to 1959/60 (R'000)

Year	Production Sector							
	Primary	%	Secondary	%	Tertiary	%	Total	%
1954/55	30 296	48,8	2 482	4,0	29 309	47,2	62 087	100
1955/56	25 138	43,2	2 673	4,6	30 391	52,2	58 202	100
1956/57	32 571	47,7	2 986	4,4	32 646	47,9	68 203	100
1957/58	23 533	37,9	3 332	5,3	35 268	56,8	62 133	100
1958/59	25 341	39,6	3 576	5,6	35 062	54,8	63 979	100
1959/60	26 637	39,1	3 840	5,6	37 745	55,3	68 222	100

Source: Blumenfeld, p.8.

Hence any pointers to the performance of agriculture in subsequent years can be regarded as pointers to the performance of the G.G.P. as a whole".<sup>8</sup> In this regard, the prolonged drought conditions in many regions of the research area, and the decline in the wool market in recent years, have had unfavourable influences on the economic performance of the research area.

Another salient point to emerge from Table 69, is that between 1954/55 and 1959/60, the secondary sector (manufacturing, construction and power) never contributed more than 5,62% to the total annual G.G.P. During this period, however, the secondary sector did register a steady increase, albeit a very small one. This, once again, underlines the extent of under-development of the research area. In addition, the industrial census of 1967/68 recorded the existence of 103 private manufacturing and repair businesses in the research area. This represents quite a substantial decline from the 1956/57 count, when some 120 firms were numbered. Blumenfeld recognises that this decline does "demonstrate a lack of growth in the area".<sup>9</sup>

With regard to the tertiary sector of production. Table 69 reveals that between 1954/55 and 1959/60, its share of the research area's annual G.G.P. increased steadily from 48% to about 55%. Thus quite clearly, it is the most important sector of the Cape Midlands and Karroo economy, but unfortunately, however, the tertiary sector is not normally growth inducing. This phenomenon is not unusual for essentially rural regions. P.A. Nel writes that "it is further very noticeable that in magisterial districts where agriculture is by far the most important single economic activity, the contribution of government and other services constitute a comparatively high

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8. Blumenfeld, p.13.

9. Ibid., p.33.

percentage of the G.G.P. (gross geographical product) of the district concerned ...

The relatively extensive contribution by the government to the economic activities of certain districts is due to road construction programmes, educational, hospital, irrigation, police, judicial and other services such as boring machine services as well as the activities of local governments. The fixed costs for the maintenance of these services constitute a high percentage of total costs, with the result that they constitute a higher percentage of the G.G.P. of districts with relatively low economic activities than of districts with relatively high economic activities".<sup>10</sup>

Thus it is quite clear that the economic performance and prosperity of the research area at the present time is inextricably linked with the performance of agriculture in general, and sheep farming in particular. Mention has already been made of the adverse influences which periodic drought conditions, and the fluctuating prices of wool on the world markets have on the stability of this economic base. There is thus an urgent need for the development of secondary industry in the research area to act as a stabilizing force. Before such secondary industry can be developed and encouraged, however, it is essential that an adequate infrastructure be provided. In this connection, reference must be made to the Orange River Development Project and to the present Government's attitude towards the decentralisation of industry.

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10. "The Use and Application of Regional National Income Figures with special Reference to the Orange Free State". Volkscas Limited, Finance and Trade Review, Vol. VI, Nos. 7 and 8 (September-December, 1965), p.303.

## 2. ORANGE RIVER DEVELOPMENT PROJECT

The means by which the waters of the Orange River could be diverted have occupied the attention of the relevant government authorities for a number of decades, but it was only in 1962 that the official report on the Orange River Development Project appeared.<sup>11</sup> This report outlined the following plans for the research area (See Map 13):

### (a) The Orange-Fish Tunnel

The Orange-Fish Tunnel is the key structure which will link the research area with the Orange River Development Project. It will stretch 82 kilometres from the H.F. Verwoerd Dam to the Teebus Spruit, near Steynsburg, into which 25 percent of the waters of the Orange River will be discharged.<sup>12</sup> From there, the water will flow into the present Grassridge Dam which will act as a regulating dam for the Fish River and Lower Sundays River.<sup>13</sup>

It is expected that this tunnel will be completed in 1974.

### (b) The Klipfontein-Lake Mentz Canal

This part of the scheme is currently under construction and it is anticipated that the 13 kilometre Cookhouse tunnel, which is an integral part of this section, will be completed in 1973. It is the tunnel which will carry the waters, originally from the Orange River, further south to the Sundays River valley between Korhaans Weir and Barkly <sup>Bridge</sup> Bridge.<sup>14</sup> For farmers in the Sunday River Valley, Lake Mentz will play the important irrigation role, as will the Grassridge Dam in the Great Fish

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11. Report on the proposed Orange River Development Project, W.P.X. -'62.

12. The H.F. Verwoerd Dame was officially opened on 4th March, 1972.

13. Financial Mail. Special Survey. April 25, 1969.

14. Eastern Province Herald, March 13, 1972.

River Valley.

(c) Conway Canal and Wapadsberg Tunnel

(d) Hofmeyr Canal

On Map 13 it can be seen that the originally intended extensions of the Orange River Project as outlined above, would have conveyed life-giving water to a large portion of the research area, particularly to the more arid regions in the west, and would have greatly facilitated the growing of crops under irrigation. The potential productivity of arable farming in the Karroo was mentioned in Chapter 1. J.J. Badenhorst writes that "from a total of at least 308 340 hectares of irrigable land which can be taken into consideration for irrigation under the O.R.P., nearly 30% i.e. 96 780 hectares are situated outside the Orange River watershed and exclusively within the research area, except for the existing and future developments in the Lower Sundays River".<sup>15</sup>

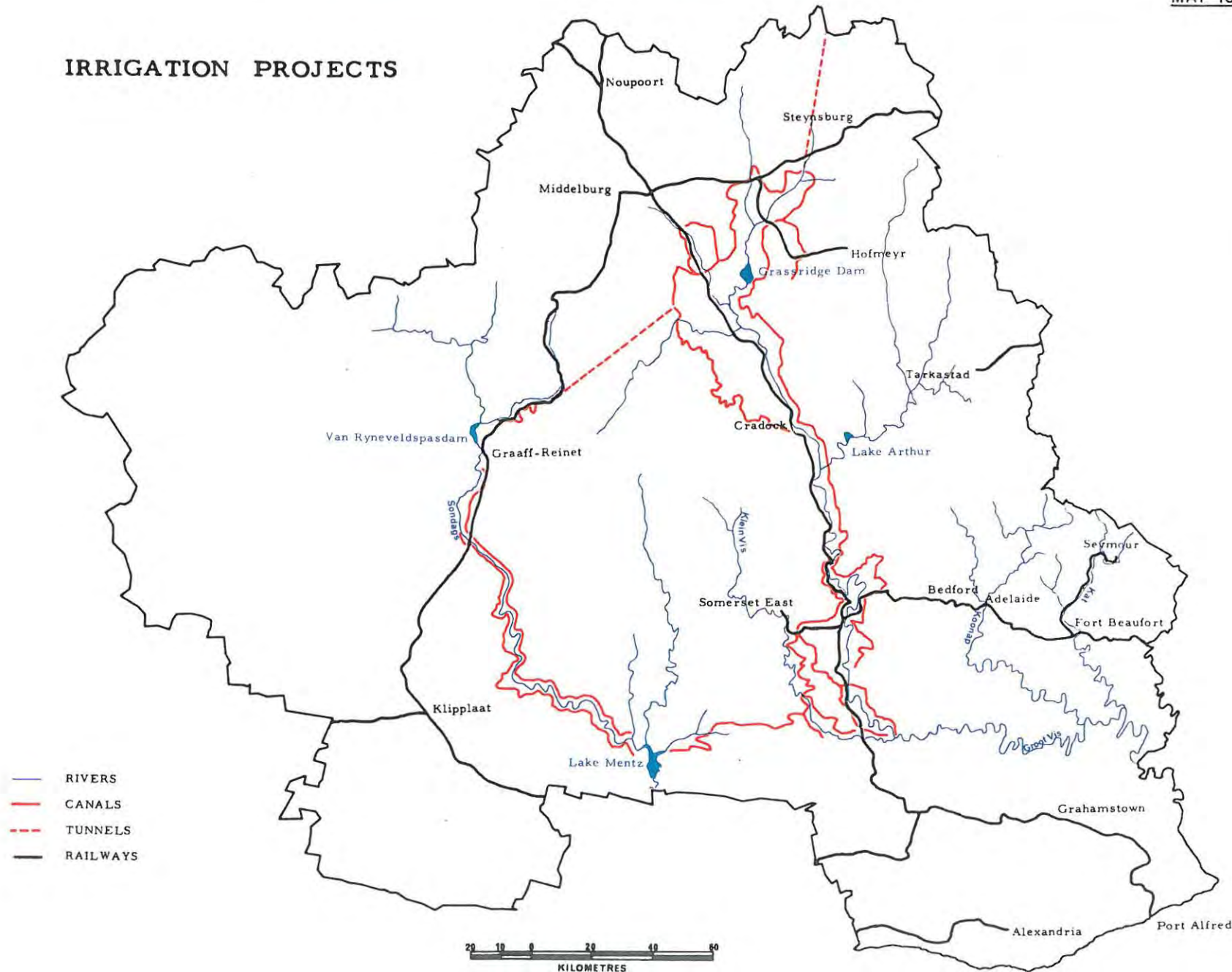
Farmers in the Great Fish River Irrigation Board area are already keenly awaiting the arrival of the Orange River waters. An experimental farm near Halesowen is cultivating test crops of produce, at present foreign to the research area, such as soya and guar beans and sunflower seeds, to try to determine whether, with dependable sources of water, these crops could be economically grown. In addition, it is foreseen that fruit farming will once again emerge in the Fish River Valley where it once flourished. Apricots could once again be grown in the Golden Valley area, while cotton farming is likely to attract more attention with sufficient water available.

The third White Paper on the Orange River Development Project, however, announced certain changes in principle with

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15. Badenhorst, p.107.

# IRRIGATION PROJECTS



From Badenhorst, J.J.

regard to the project.<sup>16</sup> The main one was that "in selecting new areas for irrigation development under this project, only soils with a high production potential are considered, and a positive or at least an equal benefit-cost ratio must be demonstrated".<sup>17</sup> This represents a change from the principles outlined in the first White Paper in which <sup>emphasis</sup> emphasis was placed on subsidised irrigation. This new development has serious implications for the research area. Estimates have shown that the Conway canal and Wapadsberg tunnel reflects a negative benefit-cost ratio, and it now appears unlikely that this portion of the project can be regarded as an economic proposition and is therefore unlikely to become reality. The White Paper reports that, in any event, it will not be possible to give attention to this project for the next fifteen years. To say that the farming and commercial interests of Graaff-Reinet are bitterly disappointed about this outcome, would not be an exaggeration. Notwithstanding, however, the Orange River Project is expected to boost the productivity of agriculture considerably, and consequently, the economy of the research area. In addition, the hydro-electric station which is to be erected at the Teebus outlet of the Orange-Fish tunnel, will supplement the existing electricity supplies in the Eastern Cape and will play an important role in any ultimate electrification of the main railway line between De Aar and Port Elizabeth.

Thus it is clear that the Orange River Project will play a large part in providing two vital factors of an adequate infrastructure required to support secondary industry viz., water and power. Thereafter, secondary industry, particularly those connected with the processing of animal and agricultural

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16. W.P.N. -'71.

17. Ibid., p.5.

products, can be developed.

3. GOVERNMENT POLICY WITH REGARD TO THE DECENTRALIZATION  
OF INDUSTRY

The main aim of the present industrial decentralisation policies of the South African Government is to stimulate the development of those areas adjacent to the African Homelands, as well as to stem the tide of African workers to the White metropolitan areas of the Western Cape, Eastern Cape (Port Elizabeth-Uitenhage complex in particular), Bloemfontein and the Pretoria-Vereeniging-Witwatersrand complex. The principal instrument in the implementation of this policy is the Physical Planning and Utilization of Resources Act No. 88 of 1967 which attempts to make it virtually impossible for industry in the White metropolitan areas to expand, unless it either moves to the border areas or uses the Coloured labour prescribed by the Government. The Act also makes provision for concessions to be provided to industrialists in an effort to entice them to move to the border areas. Because of difficulties encountered in the application of this Act, and dissatisfaction expressed by private industry, the Committee on the Decentralisation of Industries was appointed to investigate steps "to achieve a more effective implementation of the policy of decentralising industries and establishing industries in decentralised areas".<sup>18</sup>

The White Paper reconfirmed the idea that "since the decentralisation of industry should take cognisance of the plurality of nations in South Africa, it is necessary that the centres selected for development with state assistance as decentralised industrial areas, should be in accordance with the geographical distribution of the several nations and, more

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18. Department of Industries. White Paper (1971) p.1.

particularly, of the Bantu in their Homelands. In general, the government will encourage industrial development in those centres with a relative surplus of labour, but for the successful implementation of the decentralisation programme, it is essential that attention, at any given time, be concentrated on a comparatively small number of specially selected growth points"<sup>19</sup> Clearly, on these grounds, none of the towns located within the research area qualify for designation as "growth points" and the attendant State assistance. The research area is located between the Ciskei and Transkei Homelands in the east, and the areas of high Coloured population density and underemployment of the Cape Peninsula and Western Cape, in the west. East London/Berlin, King William's Town and Queenstown have been nominated as the Border Area in relation to the Ciskei and Transkei Homelands.

The White Paper did, however, indicate that concessions, similar to those accorded to industrialists moving to approved decentralised growth points, would be granted to industrialists moving to other rural centres near homelands, or to centres where there are high levels of unemployment of "other national groups". In this regard, the important proviso is that the Decentralisation Board must be satisfied that their development will complement the overall decentralisation programme. It was pointed out, however, the Government will not devote the same amount of attention in stimulating development in these relatively small and scattered centres.

It was the announcement of this second type of decentralized area which gave hope to the research area in so far as receiving

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19. Ibid., pp.14-15.

State assistance for the establishment of industries is concerned. Four centres in the research area viz., Middelburg, Adelaide, Graaff-Reinet and Grahamstown, have been classified in the second category of decentralised area, and have been assured that industrialists settling in these centres will be granted decentralization privileges in accordance with the recommendations of the Rieckert Commission, on which the White Paper was based.

The decentralisation concessions include the following:

- (i) A cash grant to re-imburse the industrialist for the immediate and direct costs involved in moving his factory to a decentralised area.
- (ii) Loans, at interest rates varying from nil to 9 per cent, to purchase land, buildings and equipment.
- (iii) Loans up to a maximum of R15 000 and at interest rates at  $2\frac{1}{2}\%$  below ruling building society rates, to house key White personnel.
- (iv) Reductions on income tax up to a maximum period of seven years.
- (v) Railage rebates of up to 15% on the outward transport of goods manufactured in decentralised areas.
- (vi) A price preference of up to 5% allowed on tenders submitted to the State Tender Board, Department of Defence and Provincial Administrations.
- (vii) The maximum investment allowance for which industrialists may qualify is 50% for equipment and 35% on buildings.

These concessions do not apply automatically to every industrialist—in fact, all, or any of these incentives will not be necessarily granted. Application has to be made to the Decentralisation Board which will consider each case on merit, based on the balance of cost advantages and disadvantages applicable to a particular decentralised area. Although the Government has provided the incentive to industrialists to move to the research area, there is no indication that there will be a rush to take up industrial sites which the four decentralised area centres have been so busy preparing. Not only will further

substantial State assistance be required before this becomes reality, but it is essential that these aforementioned centres in the research area aggressively and vigorously promote the industrial facilities that they possess, in an effort to entice industrialists to establish there. Cognisance has already been taken of this need to advertise, and all four centres have, on their own account, taken positive steps to attract industries. Middelburg, for example, has opened information offices in the Vaal Triangle and Cape Peninsula to tell inquirers of the services it offers, while Grahamstown has made high level representations to be designated as an official "growth point" for industry.<sup>20</sup> Notwithstanding all these developments, however, "until the outcome of this [Grahamstown's] application is known, and the attitude of the government to industrialisation in an area such as the Cape Midlands and Karroo is classified, it is difficult to prognosticate on the region's ability to attract industry".<sup>21</sup>

#### 4. TOURIST INDUSTRY

It is also being increasingly recognised in the research area that the tourist industry can be an extremely profitable "export" base; and programmes have been put into operation to improve, extend and publicise the various tourist attractions and facilities within the area. Not only are there numerous localities of historical interest, but there are also appealing natural phenomena such as the Warm Baths and Valley of Desolation at Graaff-Reinet, as well as parks such as the Mountain Zebra Park near Cradock and the Thomas Baines Nature

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20. Daily Dispatch, October 27, 1971.

21. Blumenfeld, p.85.

Reserve near Grahamstown. The efforts of the research area to increase the flow of tourists to within its borders have been boosted by an amendment in 1971 to the Financial Relations Act No. 38 of 1945 which enables the Provincial Administration to promote public resorts such as holiday centres and camps, and caravan parks and picnic sites.<sup>22</sup>

## 5. SUMMARY

It is very important to consider the adequacy of the research areas transport infrastructure in the light of the current economic climate of the research area, as well as in the light of the anticipated developments which have been spelled out in the previous sections of this chapter. In the relatively depressed conditions of the present time, it can be concluded that the existing transport facilities are essentially adequate. The bulk of the area is either served by a railway line or has relatively easy access to railway facilities. Those sections of the area which are not as fortunately located, however, are well served by the Road Transport Services division of the South African Railways which helps to bridge the gap between isolated regions and railway facilities. It must be borne in mind at all times that the particular location of the research area's railway network was largely an historical accident. Recognising this, it is far more expedient to make use of the motor vehicle to serve areas which today find themselves relatively isolated, than to build railway extensions which for long periods of time may operate uneconomically. In fact, it is the official policy of the Railways Administration not to build any

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22. Graaff-Reinet Advertiser, August 9, 1971.

new railway lines except under the following conditions:

(i) for military or strategic purposes; (ii) where they will undoubtedly contribute to the economic development of a particular area; (iii) where the parties concerned undertake to indemnify the Railway Administration against operating losses. Thus if industrial development does take place in the research area on an unprecedented scale—which appears unlikely—then it is up to the commercial interests and the local authorities of the areas affected to motivate and to justify to the authorities the construction of additional lines and the provision of additional services, if required.

Similarly, it can be concluded that within the prevailing circumstances, the research area is satisfactorily served by a widespread and well integrated network of major trunk, minor trunk, main and lower class roads, as outlined in Chapter IV. The only disturbing feature about the research area's road network is the large distances of main and divisional roads which remain unsurfaced, and valid complaints have been lodged concerning the inferior quality of some of these roads, particularly in bad weather. Although the Provincial Administration is taking systematic steps to improve the quality of as many roads in these two categories as possible, the major limiting factor here, once again, is finance. Should the efforts to increase tourism and to attract industry bear fruit, and should the Orange River Project substantially increase the productivity of agriculture within the research area, then the resultant increase in both passenger and goods traffic on the research area's road network, will render more of these road eligible for surfacing on the basis of their equivalent vehicular unit counts.

Thus it is quite clear that the onus rests on the research area as a whole to give concrete evidence, largely in the form of increased levels of output and new developments, before the transport authorities will entertain any request for major extensions to, or alterations of, the present transport infrastructure. Notwithstanding, however, the various transport authorities do undertake to at least maintain, and where necessary improve the services and facilities provided on the existing transport infrastructure.



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