THE TRANSPORT SYSTEM OF THE BORDER

A Study of Transport and Communications in the Border Region of the Cape Province with Special Reference to the Effect of Transport on the Economic and Commercial Development of the Region

By

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THESIS

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C O N T E N T S

Contents ii

List of Tables iii

List of Diagrams x

Preface xiii

Explanation of References xiv

INTRODUCTION 1

PART ONE: THE BUFFALO HARBOUR.

Chapter 1. The Technical Development of the Buffalo Harbour 5

Chapter 2. The Commercial Development of the Buffalo Harbour 42

PART TWO: THE CAPE EASTERN RAILWAY SYSTEM.

Chapter 3. The Evolution of the Cape Eastern System 75

Chapter 4. The Traffic of the Cape Eastern System 124

PART THREE: RAILWAY RATING POLICY.

Chapter 5. The Principles, Practice and Economic Consequences of Railway Rating Policy 190

PART FOUR: EAST LONDON'S HINTERLAND.

Chapter 6. East London's Hinterland 249

PART FIVE: ROADS AND ROAD TRANSPORT.

Chapter 7. Roads and Road Transport 296

CONCLUSION 341

APPENDICES:

Appendix A: Statistical Tables xv
Appendix B: Some Statistical Difficulties lxix
Appendix C: Cape Provincial Regions lxxi
Appendix D: Select List of Commodities Arranged According to the South African Railways Commodity Classification lxxii
Appendix E: The Control of Motor Transport in South Africa lxxvii
Appendix F: The Divisional Councils of the Cape of Good Hope lxxxvii
Appendix G: The Expansion and Management of the Cape Eastern System lxxxix
Appendix H: Bibliography xcii

LIST OF TABLES

a. In the text

		Page
Table 1:	Imports and Exports Expressed as a Percentage of the Total Quantity of Goods Handled at East London Harbour in Certain Selected Years Between 1885 and 1955	45
Table 2:	Principal Commodities Imported Through East London Harbour in Certain Selected Years Between 1885 and 1955.	51
Table 3:	Share of the Sea-borne Commercial Traffic to the Competitive Area of the Transvaal Accruing to each of the Union Ports and to Lourenço Marques in each year between 1904 and 1955.	57
Table 4:	General Cargo shipped from East London to the other South African Ports in the Three Years ended 31st August, 1956.	70
Table 5:	Goods, Passenger and Other Revenue expressed as Percentages of the Total Revenue of the Cape Eastern System in certain selected years between 1st January, 1877 and 31st March, 1956.	136
Table 6:	Increase in the Revenue of the Cape Eastern System, Compared with the Increase in the Revenue of the South African Railways as a whole, between the year ended 31st December, 1910, and the year ended 31st March, 1956.	138
Table 7:	Revenue of the Cape Eastern System as a Percentage of the Revenue of the South African Railways in the years ended 31st December, 1910, and 31st March, 1956.	138
Table 8:	Forwarded Goods Traffic of East London, King William's Town, Queenstown, and the remaining Cape Eastern System Stations, expressed as a Percentage of the Total Forwarded Goods Traffic of the System in selected Years.	139
Table 9:	Summary of the Commercial Traffic Forwarded from East London to the Border Region in the Period 1st April, 1953 to 31st March, 1956.	141
Table 10:	Summary of the Commercial Traffic Forwarded from East London to the Transvaal and the Orange Free State in the Period from 1st April, 1953 to 31st March, 1956.	143

LIST OF TABLES (CONT'D)

		Page
Table 11:	Rate of Increase or Decrease in the Goods Traffic forwarded from East London, King William's Town and Queenstown.	146
Table 12:	Analysis, by Commodities, of the Goods Traffic Forwarded from King William's Town in the Year ended 31st December, 1905.	149
Table 13:	Analysis, by Commodities, of the Goods Traffic Forwarded from King William's Town in the Year ended 31st March, 1956.	150
Table 14:	Analysis, by Commodities, of the Goods Traffic Forwarded from Queenstown in the Year Ended 31st December, 1905.	156
Table 15:	Analysis, by Commodities, of the Goods Traffic forwarded from Queenstown in the Year ended 31st March, 1956.	157
Table 16:	Principal Commodities Forwarded from the Stations of the Cape Eastern System in the Year ended 31st March, 1956.	176
Table 17:	Comparison of the Increase in the Forwarded Goods, Coal and Mineral Traffic of the Cape Eastern System and of the South African Railways in the Period from 1st April, 1927 to 31st March, 1956.	177
Table 18:	Forwarded Goods Traffic of the Cape Eastern System as a Percentage of that of the South African Railways in the Years ended 31st March, 1928 and 31st March, 1956.	177
Table 19:	First, Second and Third Class Tickets as a Percentage of the Total Tickets Issued in Certain Selected Years between 1.1.1885 and 31. 3. 1956.	179
Table 20:	Distribution of Passengers among the Three Classes in the Year ended 31st March, 1926 Compared with the Year Ended 31st March, 1956.	180
Table 21:	Origin of the Passenger Traffic of the Cape Eastern System in the Period from 1st April, 1951 to 31st March, 1956.	181
Table 22:	Cape Eastern System Journeys as a Percentage of the Journeys made over the South African Railways as a whole in the Years Ended 31st March, 1928 and 31st March, 1956.	182

LIST OF TABLES (CONT'D)

		Page
Table 23:	Comparison of the Increase or Decrease in the Passenger Traffic of the Cape Eastern System with that of the South African Railways as a whole in the Period between 1st April, 1927 and 31st March, 1956.	183
Table 24:	Goods, Mixed and Passenger Train Mileage as a Percentage of Total Train Mileage in Certain Years.	186
Table 25:	Increase in the Train Mileage of the Cape Eastern System compared with that of the South African Railways as a whole, between 1st January, 1910 and 31st March, 1956.	186
Table 26:	Cape Eastern System Train Mileage as a Percentage of the Train Mileage of the South African Railways as a whole in the Years ended 31st January, 1910 and 31st March, 1956.	187
Table 27:	Quantity of Coastwise Traffic Forwarded from the Union Ports in each year between 1st September, 1953 and 31st August, 1956.	231
Table 28:	Coastwise Traffic Through East London Harbour in the period from 1st September, 1953 to 31st August, 1956.	232
Table 29:	Quantities of certain selected commodities received by rail at East London in the years ended 31st March, 1954 and 31st March, 1956.	234
Table 30:	Quantities of certain selected commodities forwarded by rail from East London in the years ended 31st March, 1954 and 31st March, 1956.	234
Table 31:	Principal Commodities Forwarded from East London in the Period from 1st April, 1953 to 31st March, 1956.	278
Table 32:	Principal Commodities Received at East London in the Period from 1st April, 1953 to 31st March, 1956	293
Table 33:	Revenue derived from Passenger Traffic, Goods Traffic and Other Sources as a Percentage of the Total Revenue of the Cape Eastern System's Road Transport Services in selected Years between 1st April, 1932 and 31st March, 1956.	317

LIST OF TABLES (CONT'D)

Page

Table 34: Increase in the Revenue, Expenditure and Traffic of the Cape Eastern System Road Transport Service between 1st April, 1932 and 31st March, 1956, Compared with that of the Service as a whole. 320

b. In Appendix A.

Table A.1: Value of Goods Imported and Exported through East London in Each Calendar Year from 1860 to 1955. xv

Table A.2: Quantity of Goods Imported and Exported through East London in each Calendar Year from 1885 to 1955. xvii

Table A.3: Value of Goods Imported through Cape Town, Port Elizabeth, East London and Durban in Certain Selected Calendar Years from 1865 to 1955. xix

Table A.4: Analysis of Merchandise Imported through East London in certain Calendar Years from 1885 to 1955, showing the value of each Commodity Group as a Percentage of the Total Value of Merchandise Imported through the Port in each Selected Year. xx

Table A.5: Value of Goods, excluding Gold and Diamonds, exported through Cape Town, Port Elizabeth, East London and Durban in certain selected Calendar Years from 1865 to 1955. xxi

Table A.6: Principal Commodities exported through East London in each Calendar Year from 1860 to 1955. xxii

Table A.7: Comparison of the Quantities of Wool Exported through each of the Four Major South African Ports in each Calendar Year from 1865 to 1955. xxiv

Table A.8: Comparison of the Quantities of Hides and Skins Exported through each of the Four Major South African Ports in each Calendar Year from 1865 to 1955. xxvi

Table A.9: Comparison of the Quantities of Maize and Maize Products Exported through each of the Four Major South African Ports in each Calendar Year from 1912 to 1955. xxviii

Table A.10: Comparison of the Quantities of Citrus Fruit Exported through each of the Four Major South African Ports in each Calendar Year from 1912 to 1955. xxix

LIST OF TABLES (CONT'D)

		Page
Table A.11:	Comparison of the Quantities of Angora Hair Exported through each of the Four Major South African Ports in each Calendar Year from 1870 to 1955.	xxx
Table A.12:	Area and Population of the Magisterial Districts in the Border Region of the Cape Province as at 8th May, 1951.	xxxii
Table A.13:	Number of Cattle and Sheep in the Border Region in the Year ended 31st August, 1954.	xxxiii
Table A.14:	Grain Production in the Border Region in the Year Ended 31st August, 1954.	xxxiv
Table A.15:	Fruit Trees and Pineapples in the Border Region in the Year ended 31st August, 1950.	xxxv
Table A.16:	Area of Timber Plantations, and Natural Forest, in the Border Region in the Year ended 31st August, 1950.	xxxvi
Table A.17:	Cape Government Railways: Eastern System: Revenue Earned in Each Calendar Year from 1877 to 1909.	xxxvii
Table A.18:	South African Railways: Cape Eastern System: Revenue Earned in Each Calendar Year from 1910 to 1915 and in each Financial Year 1922-23 to 1955-56.	xxxviii
Table A.19:	Cape Government Railways: Eastern System: Traffic Forwarded from East London and Buffalo Harbour, King William's Town, Queenstown and all Other Eastern System Stations, together with the Forwarded Traffic for the Whole System and the Total Goods Traffic Carried over the System, in each Calendar Year from 1877 to 1908.	xxxix
Table A.20:	South African Railways: Cape Eastern System: Traffic Forwarded from East London and Buffalo Harbour, King William's Town, Queenstown and all Other Cape Eastern System Stations, together with the Total Forwarded Traffic for the whole System, in each Financial Year from 1927-28 to 1955-56.	xl
Table A.21:	Cape Government Railways: Eastern System: Passenger Ticket Statistics in Each Calendar Year from 1877 to 1909. (Excluding Season Tickets.)	xli

LIST OF TABLES (CONT'D)

		Page
Table A.22:	South African Railways: Cape Eastern System: Passenger Tickets issued in each Calendar Year from 1910 to 1913 and in each Financial Year from 1923-24 to 1955-56. (Excluding Season Tickets.)	xlii
Table A.23:	Cape Government Railways: Eastern System: Train Mileage Run in Each Calendar Year from 1877 to 1909.	xliii
Table A.24:	South African Railways: Cape Eastern System: Mileage Run by Passenger, Mixed and Goods Trains in Various Calendar or Financial Years from 1910 to 1955-56.	xliv
Table A.25:	Railage Rates per 100lb. per mile at Various Distances.	xlv
Table A.26:	Railage Rates per 100lb. at Various Mileages.	xlvi
Table A.27:	Rates from the Ports to Johannesburg prior to 1st September, 1954.	xlvii
Table A.28:	Rates from the Ports to Johannesburg after 1st September, 1954.	xlvii
Table A.29:	Comparison of the Port Rates between East London or Port Elizabeth and Johannesburg with the schedule mileage rate for the same distance.	xlvii
Table A.30:	Commercial Traffic forwarded from East London, Buffalo Harbour and Cambridge in the Period from 1st April, 1953 to 31st March, 1956: Summary by destinations.	xlviii
Table A.31:	Commercial Traffic forwarded from East London, Buffalo Harbour and Cambridge in the Year ended 31st March, 1956.	xlix
Table A.32:	Commercial Traffic forwarded from East London, Buffalo Harbour and Cambridge in the Year ended 31st March, 1955.	l
Table A.33:	Commercial Traffic forwarded from East London, Buffalo Harbour and Cambridge in the Year ended 31st March, 1954.	li
Table A.34:	Analysis, by Commodities, of the Traffic conveyed from East London by the Railway Administration's Road Transport Service in the Period from 1st April, 1946 to 31st March, 1956.	lii
Table A.35:	Tonnage of Goods Forwarded to the Orange Free State Goldfields from Cape Town, Port Elizabeth, East London and Durban in each Financial Year from 1953-54 to 1955-56.	liii

LIST OF TABLES (CONT'D)

		Page
Table A.36:	Tonnage of Goods Forwarded to Rhodesia from Cape Town, Port Elizabeth, East London and Durban in each Financial Year from 1950-51 to 1955-56.	liii
Table A.37:	Summary, by Origin, of the Commercial Goods Traffic Received at East London, Buffalo Harbour and Cambridge in the Financial Years 1953-54, 1954-55 and 1955-56.	liv
Table A.38:	Commercial Traffic received at East London, Buffalo Harbour and Cambridge in the year ended 31st March, 1956.	lv
Table A.39:	Commercial Traffic received at East London, Buffalo Harbour and Cambridge in the year ended 31st March, 1955.	lvii
Table A.40:	Commercial Traffic received at East London, Buffalo Harbour and Cambridge in the year ended 31st March, 1954.	lix
Table A.41:	Analysis, by Commodities, of the Traffic conveyed into East London by the Railway Administration's Road Transport Service in the Period from 1st April, 1946 to 31st March, 1956.	lxi
Table A.42:	Goods Traffic Forwarded from, and Received into, East London and Buffalo Harbour in each Financial Year from 1921-22 to 1955-56.	lxii
Table A.43:	South African Railways: Cape Eastern System - Road Transport Services: Route Mileage in Operation at 31st March in each Financial Year from 1932-33 to 1955-56.	lxiii
Table A.44:	South African Railways: Cape Eastern System - Road Transport Services: Revenue under various Heads, Expenditure and Profit or Loss, in each Financial Year from 1932-33 to 1955-56.	lxiv
Table A.45:	South African Railways: Cape Eastern System - Road Transport Services: Passengers and Goods Traffic Carried, and Vehicle Miles and Trailer Miles run, in each Financial Year from 1932-33 to 1955-56.	lxv
Table A.46:	Principal Commodities Conveyed over the Cape Eastern System Routes of the South African Railways Administration's Road Transport Service between 1st April, 1953 and 31st March, 1956.	lxvi

LIST OF TABLES (CONT'D)

		Page
Table A.47:	Comparison of the Number of Motor Vehicles Licensed in each Magisterial District of the Border Region in 1935 and 1956.	lxvii
Table A.48:	Motor Carrier Certificates Issued in each Financial Year from 1st April, 1948 to 31st March, 1956, by the East London and Umtata Local Road Transportation Boards.	lxviii
Table A.49:	Exemptions from the Obligation to Obtain a Motor Carrier Certificate Granted in each Financial Year from 1st April, 1948 to 31st March, 1956 by the East London and Umtata Local Road Transportation Boards.	lxviii

LIST OF DIAGRAMS

Figure Number		After Page
-	The Border Region, showing Railways and Principal Roads	Frontispiece
1	The Eastern Frontier of the Cape Colony about 1858	9
2	The Buffalo Harbour in 1877	17
	2a. The river mouth in 1858	
	2b. The Kaffrarian Harbour Works	
3	The Buffalo Harbour in 1925	35
4	The Buffalo Harbour in 1958	40
	4a. The proposed re-entrant oil-tanker berth (1955)	
5	Principal Commodities imported through East London Harbour in certain selected Calendar years	49
6	Percentage of the sea-borne commercial traffic to the Competitive Area of the Transvaal forwarded from Port Elizabeth and East London between 1904 and 1955	on page 58
7	Imports and Exports through East London Harbour between 1860 and 1955	59
8	Percentage of Imports and Exports passing through each of the major South African Ports in certain selected calendar years	59

LIST OF DIAGRAMS (CONT'D)

Figure Number		After Page
9	Principal Commodities exported through East London Harbour between 1860 and 1955	61
10	Quantity of wool exported through each of the four major South African ports between 1865 and 1955	62
11	Quantity of hides and skins exported through the four major South African ports between 1865 and 1955	63
12a - 12d:	Quantity of maize and maize products exported through each of the four major South African ports between 1912 and 1955	64
13	Quantity of citrus fruit exported through each of the four major South African ports between 1912 and 1955	66
14	Map to illustrate railway surveys for a junction line between the Eastern and the Midland lines	94
15	Map to illustrate authorized and proposed railways in the north-eastern Cape between 1889 and 1892	97
16	Map to illustrate railway surveys in 1879 and 1880	100
17	Map to illustrate Mr. Fletcher's proposed line to Natal (1895)	on page 115
18	Map to illustrate railway surveys in the Transkeian Territories	116
19	Map to illustrate railway surveys in the Peddie-Grahamstown Districts	121
20	The Magisterial Districts of the Border Region	125
21	Part of the Agro-Economic map of the Union of South Africa	127
22	Revenue of the Cape Eastern System from 1st January, 1877 to 31st March, 1956	134
23	Forwarded Goods Traffic of the Cape Eastern System from 1st January, 1893 to 31st March, 1956	138
24	Passenger Traffic of the Cape Eastern System from 1st January, 1877 to 31st March, 1956	178

LIST OF DIAGRAMS (CONT'D)

Figure Number		After Page
25	Train Mileage run over the lines of the Cape Eastern System from 1st January, 1877 to 31st March, 1956.	183
26	Goods Traffic forwarded from East London in the period from 1st April, 1953 to 31st March, 1956	256
27	Goods Traffic received at East London in the period from 1st April, 1953 to 31st March, 1956.	281
28	The Road Transport Service routes of the Cape Eastern System as at 31st March, 1956	313
29	Revenue, Expenditure and Vehicle and Trailer Miles of the Road Transport Service of the Cape Eastern System in the period from 1st April, 1932 to 31st March, 1956.	314
30	Goods and Passenger Traffic of the Road Transport Service of the Cape Eastern System in the period from 1st April, 1932 to 31st March, 1956.	314

PREFACE.

I should like to acknowledge with sincere gratitude the assistance afforded me by the General Manager of Railways and Harbours, Johannesburg, the Chief Accountant of the South African Railways, Johannesburg, and the System Manager of the Cape Eastern System of the South African Railways, East London, and their respective staffs. I was permitted to examine various statistics and records in the offices under the control of these Senior Officers, and to extract such data as I required. Without this permission it would not have been possible to complete this thesis; without the unstinted help and courteous assistance of all those persons connected with the South African Railways Administration with whom I came into contact during this research project, much that appears in this thesis would have had to be omitted. The Secretary, and Staff, of the East London Local Road Transportation Board were also most helpful.

I must also express my thanks to the Board of Management of the Rhodes University Institute of Social and Economic Research for allowing me to make use in this thesis of data I collected to enable me to write Chapter VI of the volume "Economic Development in a Plural Society (Economic Studies in the Border Region of the Cape Province)". I am also indebted to the Board for the generous financial assistance afforded me, in regard to both the collection of the data and the wider publication than would otherwise have been possible of the result of the investigation. To Professor D. Hobart Houghton I must express my thanks for his kindly interest in this thesis and for his stimulating and helpful criticism of the work as it progressed and valuable suggestions.

Finally, I would like to thank those who helped me in the preparation of this thesis, and especially Miss Jean S.M. Roberts, who spent many hours checking and correcting this thesis with me, and assisted in numerous other ways. Mr. L.H. Knight very kindly allowed me the use of mechanical calculating equipment, and Miss M.A. Bayly also helped to proof-read. My wife not only assisted with the colouring of the diagrams and their preparation, but also accepted the not inconsiderable inconvenience which the writing of this thesis caused, and I am grateful to her for her help and understanding.

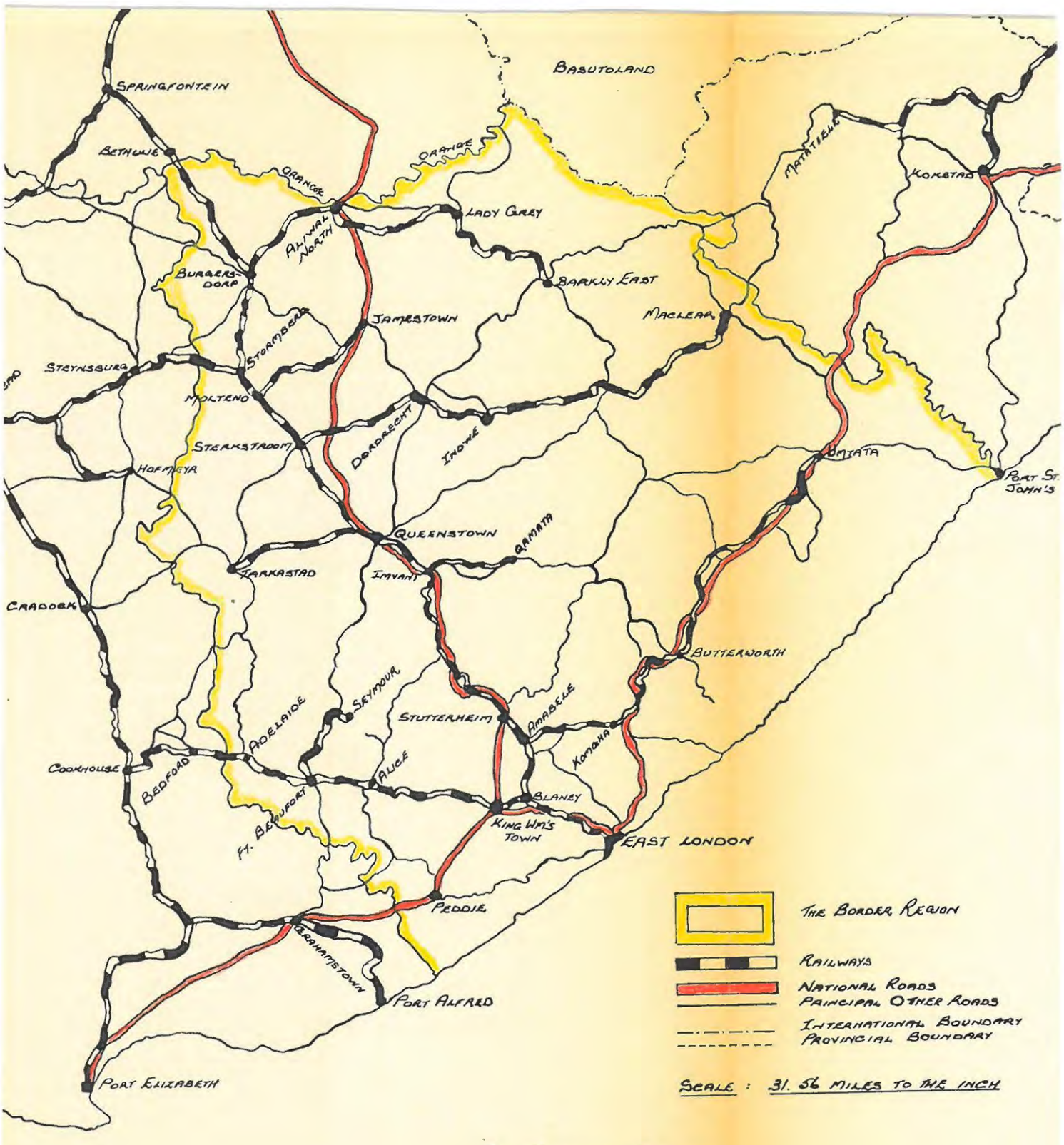
I offer this thesis in the hope that it will be of interest, and perhaps assistance, to the South African Railways Administration and to those who have the economic and commercial development of East London, and the Border, at heart.

REFERENCES TO GOVERNMENT REPORTS.

Cape Government Blue Books are quoted according to the number of the book and its year of publication. The number is prefixed by either the letter "A" or the letter "G". The prefix A. indicates that the book was printed by order of the Speaker of the House of Assembly; the prefix G. indicates that the book was printed by order of the Governor of the Cape of Good Hope.

Union Government Blue Books are quoted according to a number prefixed by the letters U.G. and followed by the year of publication.

The Debates in the Cape of Good Hope House of Assembly are printed in columnar form. The letter "a" or "b" after the page number in the footnote references indicates the particular column in which the material referred to is to be found.



THE BORDER REGION.

INTRODUCTION

INTRODUCTION.

1. The Functions of Transport.

Transport undoubtedly occupies a most important place in the economic and commercial life of all countries. In this respect South Africa is no exception, and very briefly, the principal economic functions of transport are enumerated below.

1. Transport establishes communication between consumers and the producers of goods or services.(1)

2. Transport facilitates the movement of persons between the place where they live and the place where they work - usually this is a daily procedure, but in South Africa it also entails the movement of large numbers of Natives from the Native Reserves to work for some months at a time either in the gold mines or in the several urban areas of the Union.

3. Transport makes geographical specialization possible, for agricultural or mineral resources will only be exploited, or specialized industries established, in a particular area, if the commodities produced can be transported to other parts of a country, or the world; and other capital and consumer goods brought to the producers living in the area of specialized production.

4. Transport facilitates industrial production because, usually, even the smallest factory needs a variety of raw materials which come from many sources. Furthermore, transport enables the finished products of industry to be distributed to the markets in which they are sold.(2)

In all these cases, the efficiency of transport has to be measured not only in terms of its cost, but also in terms of its efficiency, which includes, inter alia, the time taken, the frequency of services, the safety of goods and passengers while in transit and the provision of various special services, such as the provision by railway undertakings of private siding facilities.

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(1) This communication may be established by the consumer travelling to the producer, but more commonly the commodities are conveyed to the consumer. This point is dealt with in detail by A.M.Milne in "The Economics of Inland Transport", published in 1955 in London by Sir Isaac Pitman and Sons, Ltd.

(2) For further discussion of these points see, for example, "Economics of Transportation" by M.L. Fair and E.W. Williams, Chapter 2. This book was published in 1950 by Harper and Brothers, New York.

2. The Plan of this Thesis.

This thesis will be divided into five parts, the first dealing with the technical and commercial development of the Buffalo Harbour. It has been decided to deal with the Harbour first because, not only has it been the focal point of the transport system of the Border Region since the latter part of the nineteenth century, but it has dominated the economic and commercial development of East London, as well as that of the Border Region as a whole. The second part deals with the evolution of the railway system from the 166 mile long East London and Queenstown Railway, to the present 1,170 miles of the Cape Eastern System. This historical chapter is followed by an analysis of the traffic of the Cape Eastern System. Part Three deals with the theory, practice, and economic consequences, of railway rating policy. Part Four is a detailed analysis of the goods traffic forwarded from, and received at, East London in the period from 1st April, 1953 to 31st March, 1956. Part Five deals with roads and road transport. Finally, certain conclusions are offered, based on the significant points revealed by the investigation on which this thesis is based.

In this thesis the theory of transport will not be dealt with in detail for it is essentially a factual account of the development of the transport system of the Border Region and an analysis of the present situation. It has unfortunately not been possible to make in this thesis a study of railway finance or railway economics with regard to the Cape Eastern System, for the data upon which to base such an investigation are not available for the Cape Eastern System in isolation. No attempt will be made to assess either

the technical or the operating efficiency of the railway system for not only would this require more data than are available, but also a technical knowledge not possessed by the writer.(3)

3. Some Definitions.

The Border Region has been defined on the basis of its economic relationship to East London, the port and principal urban centre in the Region. This Region consists of forty-two Magisterial Districts, covering an area of 27,699 square miles and having a population of 1,424,586 at the time of the 1951 census.(4) This region is approximately the same as that served by the railway and road transport services of the Cape Eastern System of the South African Railways, but excludes the stations of Steynsburg, Schoombee, Hofmeyr, Teviot, Bedford and Eastpoort, as these fall largely outside East London's commercial influence, while Bethulie is more conveniently included in the Orange Free State.

The Cape Eastern System: Before 1910, the lines in the Border Region were grouped administratively to form the Eastern System of the Cape Government Railways. After Union in 1910, these lines, with some additions, became Division Four of the South African Railways. Since 1st April, 1927, the lines in the Border Region, together with connecting road transport services operated by the South African Railways Administration, have formed the Cape Eastern System, with its headquarters at East London. In this thesis, only the term Cape Eastern System will be used in designating the above lines, to avoid clumsiness in expression.

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(3) The statistical data recorded and published by the Railways Administration relates mainly to the South African Railways as a whole; only certain statistics are available for the Cape Eastern System in isolation.
(4) For details, see Table A.12 in Appendix A.

For the same reason, instead of saying "the territories which in 1910 became the Union of South Africa", the term South Africa will be used to indicate collectively the Cape of Good Hope, Natal, the Orange River Colony (or the Orange Free State Republic) and the Transvaal (or the South African Republic). The term Southern Africa should be understood as indicating, in addition to the area mentioned above, the territories now forming the Federation of Rhodesia and Nyasaland.

There are various other definitions, of more specific application, and these will be dealt with in the text where relevant. It should, perhaps, be mentioned here that the terms Buffalo Harbour and East London Harbour are synonimous, and will be used accordingly.

PART ONE

THE BUFFALO HARBOUR

CHAPTER 1

THE TECHNICAL DEVELOPMENT OF THE BUFFALO HARBOUR.

1. In the Beginning.

In 1835, during the Sixth Kaffir War, all the land between the Keiskamma and the Kei Rivers was proclaimed British Territory,(1) and subsequently this area was named Queen Adelaide Province. Because the Cape Government was anxious to have a place in the Province at which troops and stores could be landed, Captain Baillie, R.N., was instructed to examine the mouth of the Buffalo River to ascertain if it would be suitable for this purpose. Captain Baillie reported that "vessels of ten feet draught of water, and even twelve feet, if properly managed, could enter at spring tides".(2) In November, 1836, the "Knysna", under charter to the Military Commissariat Department, arrived off the mouth of the river with a cargo of military stores. Meanwhile, the General Commanding the Troops in Queen Adelaide Province had ordered Captain Biddulph, one of his Officers, to take 200 men and establish a post at the mouth of the Buffalo River and assist in unloading the "Knysna's" cargo. This latter operation took longer than anticipated because the Master of the vessel decided not to take her into the river as he believed the risk was too great.(3) Consequently, the stores were unloaded into the vessel's lifeboats and landed on the western bank of the river near its mouth. During this time the Lieutenant-Governor of the Eastern Province of the Cape of Good Hope, Captain Stockenström, visited the mouth of the Buffalo River and named it "Port Rex".(4)

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(1) Proclamation of Sir Benjamin D'Urban, Governor of the Cape of Good Hope, dated 10th May, 1835.
(2) "Grahamstown Journal", dated 11th February, 1836.
(3) This vessel was of 180 tons "burthen" and was commanded by Captain Findlay.
(4) Unpublished Thesis by E.C. Gordon: "East London: its foundation and early development as a port"; pages 16-20.

Late in 1836, the British Forces were withdrawn and the Province of Queen Adelaide was abandoned, the Keiskamma River being established as the eastern boundary of the Colony. Queen Adelaide Province was left to "the missionaries and a few venturesome traders",(5) and there is no record of the mouth of the Buffalo River being used again as a port until 1847.

In 1846, the Seventh Kaffir War was being waged in the Eastern part of the Colony, and again it was necessary to transport troops and supplies by land from Algoa Bay, a tedious and costly procedure.(6) The same Captain Biddulph who had been sent to the mouth of the Buffalo River in 1836 to assist in unloading the "Knysna's" stores, wrote to the Governor of the Cape of Good Hope, Sir Peregrine Maitland, suggesting that stores and troops might be landed at the Buffalo River Mouth.(7) As far as can be ascertained, the Governor made no use of Captain Biddulph's suggestion, but on April 2nd, 1847, the General Officer Commanding the Troops on the Frontier, Lieutenant-General Sir George Berkeley, wrote from his headquarters "near the mouth of the Buffalo" to the new Governor, Sir Henry Pottinger, saying:

> "From what I have yet seen of the Buffalo Mouth, it appears to me to be well qualified for a Commissariat Depôt; once within the bar the channel is deep, and with smooth water; and a ledge of rocks forms a natural pier, which, with a little help may be made convenient to land stores at any time

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(5) Gordon: op. cit.: page 21.

(6) Cory, in his "Rise of South Africa", mentions that, in an endeavour to find a port nearer to the scene of hostilities than Algoa Bay, a small bay at the mouth of the Great Fish River was visited by the schooner "Waterloo", which gave her name to the bay. Waterloo Bay did not, however, fulfill the "great things which were expected of it" for "except in very calm weather the rollers and the surf were so dangerous as to forbid all access to ship or shore". This made it all the more important to see if the mouth of the Buffalo River could serve as a port.

(7) Gordon: op. cit.: page 16.

> of tide ... It now remains for the naval officer's opinion as to the nature of the roadstead, and the practicability of getting through the surf - once in, and all is safe." (8)

In reply, the Governor said that Lieutenant C. Forsyth, R.N., had already left to examine the mouth of the Buffalo River to ascertain if it would be suitable "for the disembarkation of stores, troops, etc.". (9) On 5th May, 1847, Lieutenant Forsyth reported:

> "Having been at this place a month, and watched the entrance to the river daily at all times of tides and with the winds ... which generally cause the heaviest seas on this coast ... I consider the Buffalo practicable for surf or whale boats almost always in moderate weather at slack water or with the flood tide; the ebb at springs generally flows out at the rate of from 4-5 knots an hour, rendering it nearly impossible for boats to pull against it. ... The means I should advise being adopted for discharging vessels would be by surf boats. I feel convinced, with a good establishment of that sort ... that all necessary supplies may be landed without much difficulty. After once crossing [the bar] every impediment is over come, the landing being excellent alongside a temporary wharf now in progress by men of the 73rd Regiment,(10) 400 yards from the Western point and on the Western Bank. The anchorage off the entrance is good, and I should say infinitely superior to Waterloo Bay, the bottom being clear of rocks and the water of moderate depth ... I have nearly completed a survey of the anchorage and entrance to the river, but have not yet been able to obtain the necessary soundings, until which I do not feel myself competent to give a detailed opinion whether it will be possible for small steamers or coasters to enter the river." (11)

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(8) Imperial Blue Book: Cape of Good Hope: Correspondence of the Governor of the Cape of Good Hope relative to the State of the Kaffir Tribes on the Eastern Frontier of the Colony. (Presented to both Houses of the British Parliament in February, 1848.) Page 74.

(9) ibid.: page 75.

(10) It would appear that, without waiting for the report of Lieutenant Forsyth, the Governor had decided (to quote the special edition of the "East London Daily Dispatch" issued to commemorate the centenary of East London's proclamation as a port) "to try what had been done in 1836, namely to land stores at the Buffalo Mouth ... Captain Baker [of the 73rd Regiment] selecting some of his strongest men, set them to work building a rough stone jetty, standing in the water all day to do it".

(11) Gordon: op. cit.: page 27.

Gordon says that, following the above report, the Governor ordered surf boats and other equipment to be sent to the mouth of the Buffalo River.(12)

In a despatch, dated 14th October, 1847, to Earl Grey, the Secretary of State for Colonies, the Governor of the Cape, Sir Henry Pottinger, wrote:

> "Our posts at the mouth of the Buffalo River and at King William's Town ... have been permanently established, and a very considerable amount of trade by sea has already sprung up to the former place. I have besides had numerous applications from merchants and others, for building ground at ... specially the Buffalo Mouth and King William's Town; but until the country as far as the Kie [sic] shall be perfectly tranquilized and brought under our Government ... I have not thought it advisable to finally grant any allotments, and have, in the interim, left it to the Officers Commanding the different posts to permit, under Sir George Berkeley's instructions, such persons as they think fit to settle under the protection of the posts in temporary dwellings." (13)

In the same month - October - a "freshet" cleared away the sand banks in the mouth of the Buffalo River, entirely altering the formation of the channel.(14) The new channel was sufficiently deep to enable a vessel of from 80 to 100 tons to enter the river without difficulty; and on December 9th, 1847, the "African Maid" entered the river, being the first vessel of moderate size to do so.(15)

2. British Kaffraria and the First Harbour Works.

Meanwhile, the Seventh Kaffir War continued to run its course, and on 2nd December, 1847, Sir Harry Smith arrived

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(12) Gordon: op. cit.: page 28
(13) Imperial Blue Book: Cape of Good Hope: Correspondence of the Governor of the Cape of Good Hope relative to the State of the Kaffir Tribes on the Eastern Frontier of the Colony. (Presented to both Houses of the British Parliament in February, 1848.) Page 139.
(14) The term "freshet" is used to describe the flooding of the Buffalo River following rain inland in the catchment area.
(15) Gordon: op. cit.: page 32.

in Cape Town and proclaimed his appointment as "High Commissioner for the settling and adjusting of the affairs of the territories in Southern Africa adjacent to the eastern and north-eastern frontier of the Colony".(16) The first step taken by the new High Commissioner was the proclamation that all treaties and conventions formerly subsisting between the Queen and the "Chiefs of the Gaika, Congo, T'Slambie and Tambookie tribes of Kaffirs and all others" were wholly abrogated and annulled.(17) This proclamation also defined the northern and the eastern boundaries of the Cape of Good Hope. Less than a week later, on December 23rd, 1847, Sir Harry Smith proclaimed:

> "that ... the territories lying between the line of the Colonial boundary as defined and established, [by his Proclamation of December 17th] from its commencement at the mouth of the Keiskamma River, up to the Kaka range, to the source of the Klip Plaats River, down its right bank to its junction with the Swart Kei, and down the right bank of this river to the Kei River, thence down the right bank of that river to the sea"

should be annexed to the British Crown, but should not be part of the Colony of the Cape of Good Hope.(18) To this newly annexed territory the name British Kaffraria was given. In a General Order, dated 24th December, 1847, it was ordered that King William's Town was to be laid out in squares and streets on both sides of the Buffalo River, occupying the site of Forts Hill and Harding. The same order directed that Fort Glamorgan, at the mouth of the Buffalo River, and Forts Grey, Cox and Wellington should be constructed.(19)

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(16) Proclamation dated 2nd December, 1847.
(17) Proclamation dated 17th December, 1847.
(18) Imperial Blue Book: Cape of Good Hope: Correspondence of the Governor of the Cape of Good Hope relative to the State of the Kaffir Tribes on the Eastern Frontier of the Colony. (Presented to both Houses of the British Parliament in July, 1848.) Page 26.
(19) ibid., page 28, General Order 124. The location of these forts is shown on Figure 1.

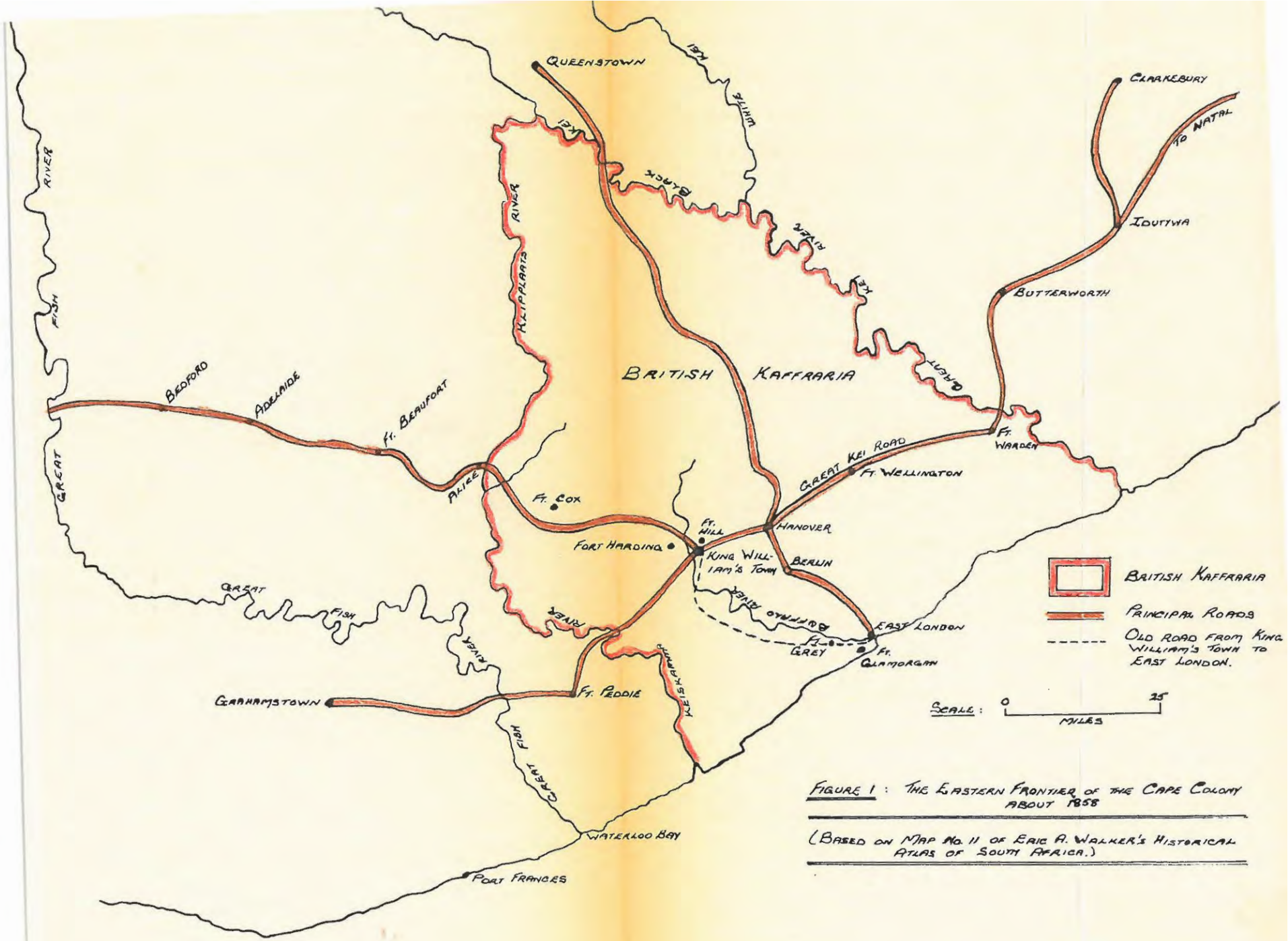

FIGURE 1 : THE EASTERN FRONTIER OF THE CAPE COLONY ABOUT 1858

(BASED ON MAP NO. 11 OF ERIC A. WALKER'S HISTORICAL ATLAS OF SOUTH AFRICA.)

On 1st January, 1848, Lieutenant C. Forsyth, R.N., submitted a second report on the state of the Buffalo River Mouth. He reported that he had examined the coast for twelve miles westward of the Buffalo River Mouth, but had been unable to find any bay which was suitable for a landing place for troops and supplies. Lieutenant Forsyth continued:

> "The anchorage [at the mouth of the Buffalo River] is excellent half-a-mile from the shore in ten and a half fathoms. I have seen vessels ride out the heaviest gales of wind with apparent ease; it is open to southerly winds, but that is not of material consequence, as it seldom blows with much force from that quarter, the prevailing winds being generally along the land; the entrance to the river has a shifting bar of sand across it that is much affected by the freshes [sic] that occasionally come down the river in summer, and also by heavy gales. The present mode adopted for landing cargoes is by surf boats, which is very uncertain and attended with much expense from the large number of men employed to work the boats, and also from the great expenditure of warps, lines anchors &c. I should beg to bring to His Excellency's notice, the great advantage that might be derived from having two or three iron vessels, say of 70 or 80 tons burden, of a light draught of water, schooner-rigged, and fitted with a screw propeller; these vessels might either discharge other vessels' cargoes at the anchorage, or sail direct between the other ports of the colony, the facilities for taking in and discharging cargo are very great; by a very small outlay wharfs might be erected that vessels of the description above mentioned might come alongside of. It is also my opinion, that the entrance to the river might be much improved, and made available for vessels of greater burthen, if means could be adopted for confining the channel." (20)

On 14th January, the Governor of the Cape of Good Hope proclaimed the mouth of the Buffalo River, together with a "rayon" of two miles of land around it, to be a British port.(21) Although within the territorial limits of

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(20) ibid., page 44. In transmitting this report to Earl Grey, Sir Harry Smith referred to the "rising village which he called London" at the mouth of the Buffalo River.

(21) Published in the Government Gazette of the Cape of Good Hope (Supplement) 2200, dated 27th January, 1848.

of British Kaffraria, the port, which was named East London, was annexed to the Cape Colony with the intention of preventing goods being landed duty free at East London and subsequently smuggled into the Colony. In the same Proclamation, Sir Harry appointed a Board of Commissioners to suggest improvements at the port.(22) The Board's report was submitted shortly after heavy rains and gales had destroyed the small wharf which had been erected by the military forces in the middle of 1847. It was not enthusiastic for the opinion was expressed that it would "be useless expense to attempt to improve the navigation of the entrance by confining the channel, for any construction would be washed away". The Board did, however, make certain suggestions, the first being that the warp,(23) which had been fixed to the rocky western shore, should be moved to a floating stage securely anchored in the channel. It was further suggested that a wharf was essential for the efficient landing of cargo, as was a slip (60 feet by 40 feet) for the repair of boats. In conclusion the Board suggested that there should be a fixed rate per ton for handling cargo: eight shillings per ton for landing cargo and four shillings for loading.(24) Although used as a commercial port from 1848 onwards, except for some small and rudimentary jetties near the mouth of the river, on the West Bank, no harbour works of any importance were undertaken until after 1856.

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(22) The President of the Board was Captain Walpole, R.E., while Lieutenant C. Forsyth, R.N., and Messrs de la Bare Blaine and Charles Borradale were the members.
(23) The warp was a device used to provide a certain protection against the surf boats being capsized or driven out to sea.
(24) Gordon: op. cit.: pages 39,40.

In January, 1856, Mr. Woodford Pilkington was appointed the Civil Engineer of British Kaffraria; and although East London was not part of British Kaffraria, its importance as the only port of the territory made its improvement by the Kaffrarian Government an urgent necessity. Figure 2(a) (see after page 17) shows the state of the river mouth in 1858: it was approximately 600 feet wide at the mouth and largely choked with sandbanks. Along the western side of the river there was a shallow channel - so shallow that at one point it was possible to drive an ox-wagon from the one bank to the other. Mr. Pilkington, and his successors, in their harbour works aimed, firstly, at narrowing the mouth of the river and, secondly, at training the current so that the flow of water at ebb tide would be turned in the same direction as the current flowing along the coast. It was hoped that these two measures would strengthen the ebb current sufficiently to enable it to scour away the sandbanks choking the river mouth and prevent a further accumulation of sand. To complete the scheme, a Breakwater was to be built from the West Bank of the river to prevent the ebb tide from being weakened by meeting the waves breaking along the coast. (Figure 2 (b) - see after page 17- shows the Kaffrarian works in the form in which they were finally approved.) It was also hoped that the periodic flooding of the river, following rain inland in the catchment area, would help to remove the accumulated sand from the river and also help to prevent further accumulation.(25) Although later works differed in details from the Kaffrarian plans, this notion of narrowing the entrance and training the current - which may be called the first phase of harbour development

(25) This description of the Kaffrarian Harbour Works has been obtained from various sources, but is mainly a condensation of the material in the letter books of the Civil Engineer of British Kaffraria to be found in the Cape Archives, Cape Town.

at the port - dominated the engineering schemes at the Buffalo Harbour for many years. It is interesting to note that, at the beginning of the construction of the harbour works, the engineers were faced with a dilemma because it was necessary to make the entrance as narrow as possible to increase the scouring power of the ebb current, but this automatically made it difficult for ships to enter the river.(26) A successor to Mr. Pilkington altered the original Kaffrarian plans slightly because, had they been carried out as at first planned, vessels would have experienced great difficulty in entering the port. Much skillful management of vessels would have been required to enable them to enter the channel which it was hoped would be formed in the river and there was the added risk that, as the vessels would at a certain stage be broadside on to the seas, they might be driven on to the eastern shore.(27)

The harbour works were impeded both by lack of finance and by a shortage of skilled labour: at first they proceeded slowly, but gradually they lost even this impetus and the work was eventually suspended before any useful effects could be produced.(28) Between September, 1856, and 31st December, 1864, £19,546 was spent on the harbour works at East London,(29) as a result of which the following works were constructed:

a. a Training Bank, 650 feet long, on the East Bank of the river;

b. a Bank, 1,500 feet long, on the West Bank of the river;

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(26) See pages 24ff for a discussion of the later aspects of this problem.
(27) Letter book of the Civil Engineer of British Kaffraria: letter dated 14th February, 1859. (In the Cape Archives, Cape Town.)
(28) Report of Sir John Coode on the Cape Colony Harbours: August 1877: East London: Page 1. (Printed by Waterlow and Sons, Limited, London, 1877, without reference.)
(29) Records of the Civil Engineer of British Kaffraria. (In the Cape Archives, Cape Town.)

c. a Breakwater, 700 feet long, at the entrance to the river on the East Bank; and

d. a Quay Wall and a small landing wharf near the entrance of the river on the western side.

These works are shown in Figure 2 - see after page 17.

3. Sir John Coode.

In 1866, British Kaffraria was annexed to the Cape of Good Hope, and soon after this the Cape Government appointed Mr. (later Sir) John Coode, a consulting engineer, to report on the harbours of the Colony. Mr. Coode was given details of schemes which had been suggested at various times for the improvement of the mouth of the Buffalo River. Although details differed, all these schemes were based on the same principle: the narrowing of the river entrance and the training of the ebb current. Mr. Coode agreed that it was correct to adopt this principle in the case of the Buffalo River and his scheme agreed in principle with earlier ones for the improvement of the harbour, but differed in the design and direction of the works to be constructed. The scheme put forward by Mr. Coode in 1870 envisaged the construction of:

a. a curved South Breakwater, 1,230 feet long;

b. a Training Wall from the south-western corner of the entrance of the river, to join up with the unfinished (Kaffrarian) Western Bank - this new wall was to run in front of the existing wharves which would disappear when the area behind them was reclaimed;

c. a Revetment Wall along the sea front between the root of the Breakwater and the seaward end of the West Training Wall;

d. a 300 foot long extension to the Eastern Breakwater, but in quite a different direction from that laid down by the Kaffrarian Engineers; and

e. an Eastern Training Wall between the upstream end of the Eastern Breakwater and the unfinished (Kaffrarian) Training Bank.

The pontoon landings were to be removed to a point further up the river.(30) The 1870 Coode scheme also provided for a 400 foot long wharf, in timber, on the West Bank, it being hoped to obtain a depth of 14 feet at L.W.O.S.T. alongside this wharf.(31) The width of the harbour entrance was to be 250 feet.(32) These works are shown in Figure 2 - see after page 17. Mr. Coode's recommendations were accepted by the Colonial Government and Parliamentary approval was given for the raising of £100,000 with which to finance the scheme.(33) Work commenced in May, 1872.

Up to this time, all cargo to or from the ships in the roadstead had to be conveyed in surf boats - wooden at first, but later iron - manned by rowers. It has been mentioned that, for greater safety, these boats were attached to a warp, the shoreward end of which was anchored to a capstan at the western entrance to the river. Such a method of working vessels was obviously uneconomic, and in 1871, the Government decided that a steam tug should be obtained for the Buffalo Harbour.(34) In his report for 1871, the Chief Inspector of Public Works said that the tug saved time in landing and shipping cargo, and also enabled vessels to anchor farther out to sea than was possible when rowers were the only means of propelling the surf boats. The ability of vessels to anchor farther off shore reduced the risk of their being driven ashore in rough weather. The Chief

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(30) According to Gordon, op. cit., page 74, the pontoon was opened for traffic early in 1858.
(31) L.W.O.S.T. :- Low Water at Ordinary Spring Tide.
(32) G.24-1870: Reports by Mr. Coode ... on the Harbours of Port Elizabeth, East London and Port Alfred ... pages 8-9.
(33) Act number 7 of 1871.
(34) G.28-1872: Report of the Chief Inspector of Public Works for 1871; page 10.

Inspector also remarked on the increasing trade of the Buffalo Harbour, saying that the new jetty which had been built was inadequate and that the Government had sanctioned the construction of another, but high wages and a scarcity of skilled labour had prevented its completion. In 1872, a company was formed at East London to carry out the landing and shipping of cargoes, and consequently the Government surf-boat establishment was transferred.

Some account of the technical details of the Coode works might be of interest. The East and the West Training Walls were "simple mounds of rubble stone", which Sir John stated would answer perfectly for "curtailing the width of the channel and training the currents". Owing to the prevailing heavy surf, it was impossible to use divers - as was customary - in the construction of the South Breakwater; and it was therefore necessary to devise a means by which the foundations could be laid on the irregular, rocky sea-bed entirely from the end of the Breakwater as it was built seaward. Sir John decided to form the Breakwater entirely of cement and concrete as a solid structure, the lower portion, up to low water level being constructed of fourteen ton bags of concrete, deposited while still in a plastic condition so that they would conform to the irregularities of the rocky sea-bed. Once the work was above low water level, the top was levelled for the reception of rectangular, twenty-two ton blocks of concrete. These blocks were surmounted by concrete in mass to form the top of the Breakwater. The bags and blocks were placed in position by means of a crane - called a "Hercules" - specially designed by Sir John Coode for the purpose. This crane was capable of placing the twenty-two ton blocks in position at a distance of about forty feet from the end of the Breakwater and over a sweep

of seventy feet measured transversely.

In 1877, Sir John Coode proposed that the South Breakwater should be extended to a length of 1,500 feet. This recommendation was accepted and so also was the proposal that the East Breakwater should be lengthened by about 200 feet. It was further proposed that the West Training Wall should be 200 feet longer. In 1881, a further extension of the East Breakwater was approved. These additional works are shown in Figure 2, which follows this page. Meanwhile, in 1877, following complaints about the lack of wharfage accommodation, a 300 foot long, timber wharf had been constructed on the East Bank and equipped, for the first time in the history of the harbour, with two steam cranes. Two new warehouses were also constructed. At the same time the pontoon was moved further upstream.(35) By 1878, the wharf on the East Bank of the river had been extended to a length of 480 feet; and all landing and shipping of goods was transferred to this side of the river.

In his annual reports before 1880, the Chief Inspector of Public Works had expressed disappointment at the state of the river mouth, but in his report for 1880 he recorded "a very marked and distinct improvement" in the entrance. This was of only slight importance as far as opening the river to larger vessels was concerned, but it greatly facilitated the working of the lighters between ships and wharf.(36) The lighters were towed in and out by the steam tug and they carried between eighty and ninety tons, compared with the

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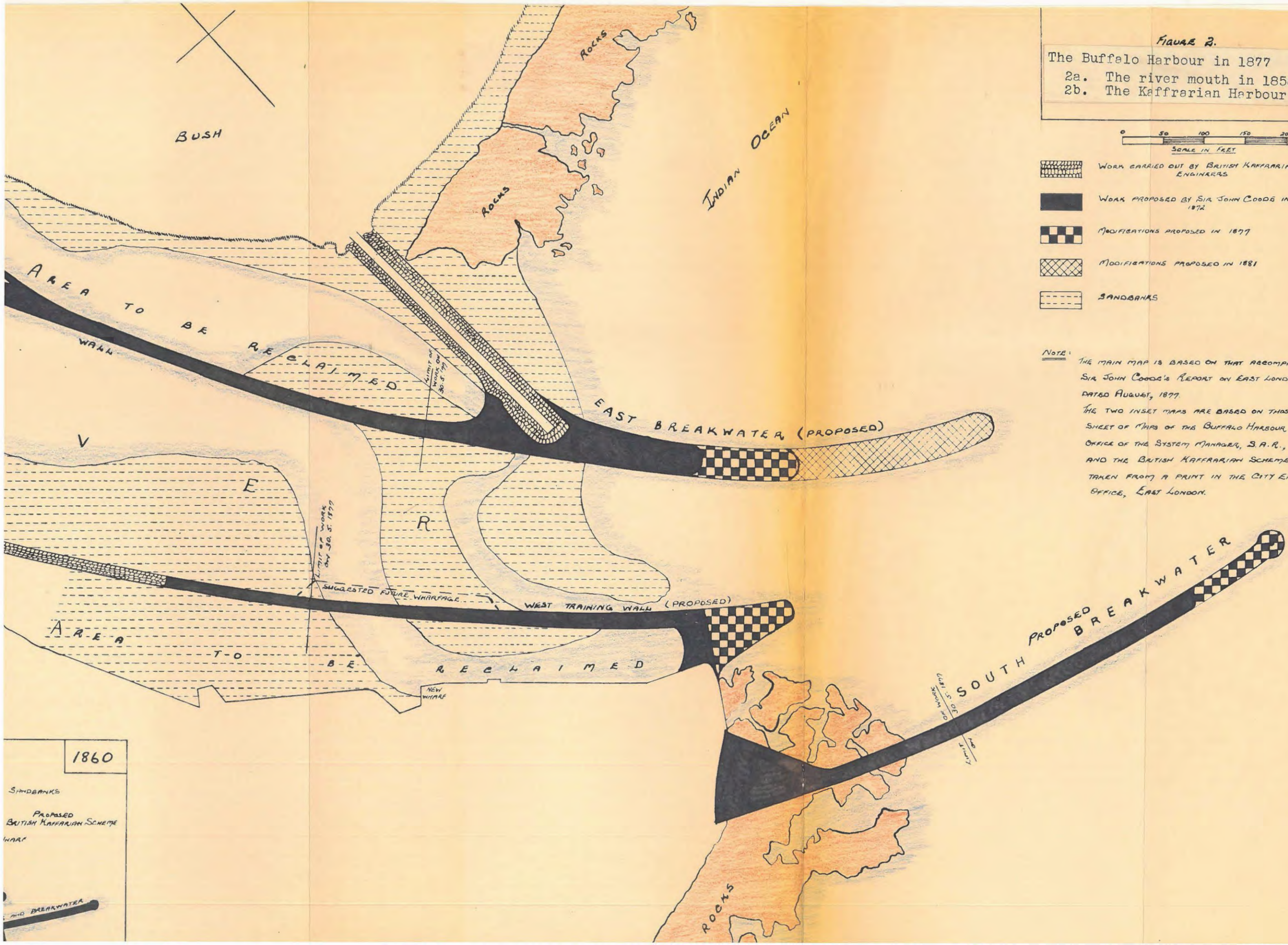
(35) G.42-1877: Report of the Chief Inspector of Public Works for 1876: page 21.
(36) G.28-1881: Report of the Chief Inspector of Public Works for 1880: page 22.

FIGURE 2.

The Buffalo Harbour in 1877

2a. The river mouth in 1858

2b. The Kaffrarian Harbour Works



NOTE: THE MAIN MAP IS BASED ON THAT ACCOMPANYING SIR JOHN COODE'S REPORT ON EAST LONDON HARBOUR, DATED AUGUST, 1877.

THE TWO INSET MAPS ARE BASED ON THOSE ON A SHEET OF MAPS OF THE BUFFALO HARBOUR IN THE OFFICE OF THE SYSTEM MANAGER, S.A.R., EAST LONDON AND THE BRITISH KAFFRARIAN SCHEME (1860) IS TAKEN FROM A PRINT IN THE CITY ENGINEER'S OFFICE, EAST LONDON.

BUSH

ROAD TO K.W.T.

NEW PONTOON LANDING

OLD PONTOON LANDING

PROPOSED LINE OF FUTURE WHARFAGE

AREA TO BE RE

EAST

T A

BUSH

B U F F A L O R

NEW PONTOON LANDING

ROAD LEADING TO EAST LONDON

OLD PONTOON LANDING

WHARF

WHARF

WHARF

1858

WAGON TRACK

ROCKS

22'

24'

27'

16'

1½'

1½'

N

SANDBANKS

W = WHARF

WAGON TRACK.

N

SCALE: APPROX. 1" = 700 FEET

EAST TRAINING WALL

WEST TRAINING W

twenty-five or forty tons of those used previously. The result of these improvements was a marked reduction not only in the handling charges at East London, but also in the freight and insurance rates on cargo to the port.

4. The Dredging Controversy.

In 1881, in his report on the state of the Buffalo Harbour, Sir John Coode said that the harbour works:

> "had not only scoured away a large quantity of sand, which had been lodged in the river, but they had, at the same time, prevented the incursion of a still larger quantity, which under the old state of things, would inevitably have entered the river and been deposited within it." (37)

With regard to the sand remaining in the river, and the possible use of a dredger to remove it, Sir John said:

> "I have no concern with regard to the removal of that portion of the sand spit which still remains in the river, seeing it will assuredly be swept away by the first heavy freshet. Hence I have considered it advisable not to advise the application of dredging, as yet, at this port, except to a limited extent, seeing that much of the work which would be done by a dredger will inevitably be removed, as on former occasions, by the next freshet. Further, the formation of the channel has not yet sufficiently developed to admit of the employment, without seriously interfering with the ordinary traffic, of such a dredger and accompanying plant, as it will, in my view, be requisite to procure at no distant period for occasional use at this and other Colonial ports. Some temporary inconvenience is at present being experienced at the upper end of the existing sand bank, but this will shortly be obviated by the comparatively inexpensive dredging appliance which has now been shipped from England.(38)
>
> Altogether ... bearing in mind that a freshet has not occurred since 1876, it may be said that the results are not only encouraging, but in my opinion conclusive, as to the ultimate attainment of such accommodation as is required to enable shipping to enter the river at all times, and to load and discharge cargoes therein. Upon the occurrence

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(37) A.53-1881: Report of Sir John Coode on the East London Harbour Works, dated 11th April, 1881; page 4.

(38) This was not dredging equipment in the currently accepted sense of the term, but a form of grab and a hopper barge into which the sand was deposited.

> of the next freshet, very considerable benefits cannot fail to be produced, but in the absence of this scour the formation of the new channel will of necessity be slow."(39)

This passage has been quoted in full because it shows, perhaps more clearly than in any other of his writings, the reliance Sir John Coode placed upon freshets to assist in clearing the accumulated sand out of the river. Many years later, Cathcart W. Methven was to say that "too much reliance had been placed on the recurrence of heavy freshets, which at that time had ceased almost entirely in their former volume".(40)

If Sir John Coode was not greatly concerned with the removal of the sand still lodged in the river, other persons and organizations were considerably perturbed. The East London Landing and Shipping Company, for example, complained to the Government about the state of the harbour entrance, pointing out that, for about five hours each day, it was impossible for a steam tug to operate and so rowing boats had to be used, "with all the attendant risks and drawbacks". The Company continued:

> "Although the works are being pushed on fast, we may not have any improvement in the channel near the entrance of the river for an indefinite length of time without dredging. In the meantime the commercial interests of the Port are suffering to a very serious extent, owing to the loss of time occasioned by the shallow state at the entrance to the river, though a very marked improvement is noticeable in the upper part of the channel where dredging on a small scale (41) has been carried

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(39) A.53-1881: Report of Sir John Coode on the East London Harbour Works, dated 11th April, 1881; pages 2-3.
(40) C.W. Methven: "The Harbours of South Africa". (A copy of this pamphlet is in the S.A.R. Reference Library.)
(41) This dredging was being carried on by means of the inexpensive "dredging appliance" referred to by Sir John Coode in his report dated 11th April, 1881.

on during the past few months." (42)

The Company urged the Government to procure a suitable dredger for East London Harbour. This letter was referred to Sir John Coode, who again expressed his conviction that there would be a steady improvement in the state of the harbour entrance as the harbour works progressed.(43)

Sir John Coode pointed out that the execution of the work at East London had been accompanied by difficulties and dangers "of an altogether exceptional character" - such in fact as he had neither met in his own experience nor heard of. He continued:

> "I am not aware that, by arrangements other than those in operation, or by the adoption of any other, or additional measures, it would have been - or would now be - possible to accelerate their rate of progression. The inevitable must be accepted, and the necessary time granted for the proper execution of the works."

Sir John further advised that a dredger should not be ordered until the middle of 1883, so that when it arrived some fifteen months after that, the river mouth would be deep enough for the vessel to enter the river and operate effectively. He continued that it would have been inadvisable to order the dredger before the middle of 1883, because the harbour works would not have progressed sufficiently to enable the ebb tide to scour the accumulated sand out of the river and create a channel deep enough for the dredger to use.(44)

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(42) Cape of Good Hope: Unprinted Annexure No. 243 to Votes and Proceedings in the House of Assembly: 1886: "Papers and Correspondence relating to the dredging of the Harbour at East London"; No. 2

(43) Cape of Good Hope: Unprinted Annexure No. 330 to Votes and Proceedings in the House of Assembly: 1883: "Papers on East London Harbour Works"; Letter from Sir John Coode to the Chief Inspector of Public Works, dated 12th August, 1882.

(44) ibid.

In 1883, Sir John Coode was asked to report upon plans for constructing a bridge across the Buffalo River, the proposed site being, apparently, between the permanent wharves and the entrance to the river. Sir John pointed out that a bridge constructed in such a position would have to be very high above water level if it were not to interfere with the movement of shipping. He suggested that a bridge with an opening span might perhaps solve the problem, but it, like a high level bridge, would be an expensive item. Sir John, however, used the proposal for the construction of a bridge as an opportunity to put forward an alternative scheme to dredging as a means of keeping the harbour clear of sand once the harbour works had been completed. His scheme called for the construction across the river of a bridge, the foundation of which was a weir behind which the incoming tidal water could be impounded. When this water was released it would form, in effect, an artificial freshet; and Sir John believed that such a scheme would if not entirely, at least largely, remove the sand from the river. He conceeded that some dredging might still be necessary, but pointed out that the dredgers need not be so powerful and costly than if dredging alone were to be relied upon to prevent the accumulation of sand in the river. Sir John estimated the weir and bridge together would cost about £125,000.(45) It was the cost which led the Commissioner of Crown Lands and Public Works to reject this scheme, the state of the Colony's finances precluding its adoption. The Commissioner suggested, instead, that a dredger should be procured for the Buffalo Harbour.(46)

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(45) ibid.: Letter from Sir John Coode, dated 19th March, 1883, to the Chief Inspector of Public Works.
(46) Cape of Good Hope: Debates in the House of Assembly: 1885; page 27b.

Funds were not immediately available, unfortunately, for the purchase of a dredger; and so the entrance of the harbour remained encumbered with sand-banks so that, instead of the expected depth of between 15 and 18 feet of water, it was barely 2 or 3 feet deep at low water. Feeling began to mount in East London; and the Municipal Council and the East London Chamber of Commerce, among other organizations, urged the Government either to procure a dredger, or to allow dredging to be carried out by a private contractor. This latter proposal the Commissioner of Crown Lands and Public Works refused to entertain; nor would he agree to a proposal that a local Harbour Board should be formed to take over the management of the East London Harbour.(47) In 1885, however, £17,000 remained out of the money appropriated by Parliament for the East London Harbour works, and it was decided to accept the tender of a Dutch firm to supply a sand pump dredger at a cost of £12,870. In 1886, the "Lucy", of 500 tons, arrived off East London, and having dredged her way into the river, maintained a depth in the channel of from 8 to 10 feet. The arrival of the "Lucy" may be said to have initiated the second phase in the technical development of the Buffalo Harbour: the realization that the harbour works, by themselves, would not be able to maintain an adequate depth in the channel, especially as the freshets had ceased to occur in their former volume. Since 1886, continuous dredging has been a feature of the harbour works, the dredgers having become progressively more powerful.(48)

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(47) Cape of Good Hope: Unprinted Annexure No. 330 to Votes and Proceedings in the House of Assembly: 1883: "Papers on the East London Harbour Works".

(48) For comparison with the 500 ton "Lucy", at present the two most powerful dredgers at East London Harbour are the "Rietbok" - a suction dredger of 4,538 gross tons and having a carrying capacity of 5,000 tons; and the "Sir Thomas Price", a bucket dredger of 1,474 gross tons and 1,500 tons carrying capacity.

In 1887, ocean-going vessels were able to enter the Buffalo Harbour for the first time,(49) and there were then 1,850 feet of wharfage, all built of timber, with shed accommodation and cranes, at various points on the East Bank of the river.

5. The Western Training Wall.

In 1888, Mr. J.C. Coode, son of Sir John Coode, examined the harbour works at East London and recommended that the Western Training Wall should be extended by 350 feet, saying that:

> "as regards the beneficial effect of this extension on the tidal current and consequently on the maintenance of the channel formed by dredging, there can be no doubt whatever. It would certainly tend to narrow the bar and keep the navigable channel in a direct course. There is however a question whether such an extension might not at times be awkward or even dangerous to vessels entering the river. While therefore I strongly advise that the work should be commenced at an early date, it will be desirable that its effect on the navigation at the entrance should be carefully noted during the time of its construction and more particularly after its first half is completed."

Mr. J.C. Coode also recommended:

a. the purchase of a larger and more powerful dredger, capable of working in an exposed position beyond the shelter of the South Breakwater; and

b. the construction of a slipway, capable of accommodating the new dredger, to avoid the delay and the risk of sending these vessels to Durban when needing underwater attention.(50)

These two latter recommendations were accepted by the Cape Government, the dredger "Sir Gordon" arriving at East London

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(49) Before this time all ocean-going vessels had had to lie out in the roadstead, only coastwise vessels being able to enter the harbour at certain times. After this time, until the opening of the C.W. Malan Basin in 1936, some ocean-going vessels were able to enter the river.

(50) G.18-1888: Report on the East London and Port Alfred Harbour Works, by Mr. J.C. Coode, M.I.C.E.; pages 4 and 8-9.

in 1890. The slipway was not completed, however, until 1897.

Far from extending the Western Training Wall, however, the Government, in 1892, appointed a Commission to investigate the expediency of shortening the Western Training Wall, a plan which the had been suggested by the Harbour Master at East London at the end of 1891.(51) In their report, the Commissioners pointed out the dilemma which was at the heart of the technical development of the Buffalo Harbour:

> "... in so far as relates to the preservation of a due depth of water within the harbour, the narrower the mouth be made the better and further that in a harbour like that at East London where such a mouth is exposed to heavy seas and strong currents, in so far as navigation is concerned, the more space immediately within the mouth the better also."

Messrs. Thwaits and Kilgour recommended either the complete or partial removal of the Western Training Wall,(52) being certain that this would much improve the harbour from a navigational point of view, because the effect of the prolongation of the West Training Wall beyond the upstream end of the East Breakwater was "absolutely nil", except during the occasional freshet. The Commissioners recognized that the removal of the West Training Wall would allow the flood and ebb tidal water to spread over a greater area at the mouth of the river, and that this would mean larger deposits of sand to cope with. The Harbour Master, however, had assured them that, with the dredging equipment at his disposal, he could deal with this problem. Messrs Thwaits and Kilgour estimated that the cost of removing the West Training Wall

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(51) The Commissioners were Mr. H. Thwaits, M.I.C.E. (of the Table Bay Harbour Board) and Mr. G. Kilgour, M.I.C.E., F.R.G.S.

(52) It was recommended that the removal should not be undertaken until the coping of the South Breakwater had been completed.

would be about £30 per lineal foot. The Commissioners, in addition, criticized the manner in which the dredgers had been used, it being clear that there had been a certain conflict between the Resident Engineer and the Harbour Master in this matter. It was also recommended that:

> "since the removal of the upper layer of sand [in the channel] had shown that various hard layers of sand existed beneath it, a second grab dredger should be acquired and constantly employed ... until the channel decided upon be completed and a uniform depth of 18 feet dredged out over the additional available area gained by the removal of the West Training Wall." (53)

Commenting on the Thwaits-Kilgour report, the Harbour Engineer pointed out that there was a serious objection to the suggested removal of either part or all of the Western Training Wall and the dredging of the area clear of sand: a reef of rock would be exposed which would preclude the use of the area as a basin. If a vessel failed to make the channel between the East Breakwater and the West Training Wall, as constructed, she grounded upon the sand without coming to harm, said the Harbour Engineer. If, however, the sand were to be dredged away, the ship would run on to the rocks thus exposed.(54) Messrs. Coode, Son and Matthews, commenting on the report of Messrs Thwaits and Kilgour, made the same point as the Resident Engineer, but added the very significant statement that <u>they did not question the difficulties of navigation caused by the Wall in the case of large vessels</u>. They considered, however, that the proposed removal was a serious step to take "until it had been clearly shown that the beneficial effects derived therefrom would counterbalance the disadvantages". These were

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(53) Cape of Good Hope: Unprinted Annexure No.281 to Votes and Proceedings of the House of Assembly: 1892: "Report on the East London Harbour Works".
(54) <u>ibid</u>.

listed as being:

a. the heavy cost of removing the Wall;

b. the destruction of the spending beach between the Wall and the South Breakwater, with the result that at certain times the wave and swell action in the river would be increased to the extent of making the loading, unloading and movement of vessels difficult, or even dangerous; and

c. the reduction of the scouring power of the ebb current, thus leading to an increased cost of maintenance.

Messrs. Coode, Son and Matthews recommended that, if it was considered desirable to remove a part of the West Training Wall, the configuration of the rock mentioned by the Resident Engineer should be fixed exactly, for if this were not done the expenditure incurred in removing the Wall might be wasted owing to the presence of the rock obstruction. In conclusion, Coode, Son and Matthews said that, on the information available to them, they considered that in the case of long, deep-draughted steamers the provision of powerful tugs ahead and astern of the vessel might be found to do more to ensure the safe entrance of ships than any removal of the Western Training Wall.(55)

In a further report, Messrs. Thwaits and Kilgour said that the Resident Engineer's new evidence did not lead them to alter their view that it was expedient to remove a large part of the West Training Wall. The presence of the submerged rock, however, would increase the cost from £10,000 to about £50,000, for the rocky ledge would also have to be removed. The only alternative they saw was the extension of the South Breakwater - and the cost of this would have been far greater than £50,000.(56)

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(55) ibid.
(56) ibid.

The question of whether or not to remove a portion of the West Training Wall is important because it marks the beginning of a new approach to the Buffalo Harbour: the widening of the entrance. By this time it had become clear that the original works, without the aid of dredging equipment, would never be able to maintain the necessary depth in the channel and so there was no merit in having a narrow entrance, especially as the ships visiting the port were continually increasing in size. A further problem was that the harbour works were actually contributing to the formation of a "bar", or shoaling, at the entrance to the river.

6. The Widening of the Harbour Entrance: 1: The Report of Vice-Admiral Sir George Nares.

In 1894, following a number of casualties to steamers entering the Buffalo Harbour, a Board of Commissioners was appointed to report as to whether the entrance, as then designed, afforded the greatest possible measure of safety for navigation purposes.(57) In their report, the Commissioners said that the difficulties encountered by ships when entering and leaving the harbour were due to the reasons enumerated below.(58)

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(57) The Commissioners were Vice-Admiral Sir George Nares, R.N., K.C.B., F.R.S. and Staff-Captain Thomas Tizard, R.N., F.R.S.
It will be remembered that this very problem had faced Mr. Trill, the Civil Engineer of British Kaffraria in 1859. All that was then possible, however, was a slight modification of the plan of the works, for no dredging equipment was available with which to keep a wide channel free of sand. (See page 13.)

(58) It has not been possible to obtain an original of the Nares-Tizard Report: the details given are from a quotation in Mr. C.W. Methven's 1901 report on East London Harbour, at page 15. A copy of this latter report was obtained from the Reference Library of the General Manager of Railways and Harbours, Johannesburg, (Ref. 192.1.1) as no original of this report was obtainable. The Railway Reference Library copy is a typescript , and page references are to that particular copy.

1. The steerage of the vessel was affected by her touching on, or "smelling" the ground when crossing the Bar.

2. The inner part of the Bar was only about 200 yards seaward of the end of the East Breakwater, and about 400 yards seaward of the narrowest part of the river entrance; as a result large vessels which had necessarily to cross it at high speed to ensure good steering, had not sufficient time or space in which to steady their course into the river, much less to alter the necessary number of degrees to starboard when rounding the end of the East Breakwater.

3. There was insufficient time after crossing the Bar to enable the tug boat ahead of the vessel to shorten up the towing hawser to enable it to give the most efficient help in turning the vessel's bows.

4. The flood tidal stream was accelerated at the narrow part of the river by a run out from the bight southward of the West Training Wall.

5. The steerage of the vessel was affected, when entering the river, by the displacement ahead of the vessel meeting the resistance caused by the East Breakwater, the effect being to turn the bow to port at a time when the ordinary course required the vessel to turn several degrees to starboard. On her arriving at the narrowest portion of the river abreast the West Training Wall, the vessel's headway became unduly checked by the displacement wave meeting suddenly with the increased resistance caused by the narrowness of the river.

To these difficulties the Port Captain added yet a further: that in taking a vessel out during an easterly sea, the current, or set, round the head of the East Breakwater sometimes tended to throw the bow round to starboard, with the risk of the vessel running into the breakwater.(59)

To overcome the difficulties they had diagnosed, Sir George Nares and Captain Tizard recommended, firstly, that a new work should be constructed eastward of the Coode East Breakwater, after which the latter could be removed. The Commissioners believed that such a work would not only widen the entrance of the harbour, but also "in all probability

(59) Cathcart W. Methven: 1901 Report on East London Harbour; page 5.

greatly reduce the periodical formation or shoaling of the Bar". Secondly, they recommended the extension of the South Breakwater to afford greater shelter to vessels entering the channel and provide them with a longer distance in which to straighten up their course.

7. The Widening of the Harbour Entrance: 2: The Report of Sir William Matthews.

As a result of the Nares-Tizard Report, Messrs Coode, Son and Matthews were instructed to re-examine, and report further on, the Buffalo Harbour. Sir William Matthews, to whom the task was entrusted in 1895, prepared a lengthy report. After stating:

> "it is satisfactory to note that had the harbour works to be designed with our present full knowledge of the port and of local conditions, we do not see what modifications, change or omission could with advantage have been adopted",

he went on to suggest two remedial works. These were designed with the twin purposes of widening the entrance and of preventing the formation of the Bar, or shoaling, in the entrance to the harbour. The first of these works, it was suggested, could be undertaken immediately, without in any way interfering with the more expensive second scheme, the works called for by which could be put into construction when the trade through the port justified the expenditure involved. The first scheme envisaged:

> the joining of the end of the Coode East Breakwater, by means of a 1,400 foot long embankment, to the beach to the northward of the Breakwater. The space behind this embankment was to be reclaimed and, it was suggested, it would be available for railway yards, sidings, etc. In addition, the East Breakwater was to be extended for a further 150 feet seaward, but in order to prevent interference with navigation the face on the channel side was to be curved to the northward.

The second scheme envisaged:

> the extension of the South Breakwater by 1,000 feet and the construction of a new Eastern Breakwater, 2,000 feet long, from a point on the rocks about 2,700 feet northward of the Coode East Breakwater.(60) This new breakwater was to run south-south-west and there was to be a width of 600 feet between the extremities of the two Breakwaters.(61)

Sir William also recommended the purchase of a more powerful dredger than those in use at the harbour, and this was the only recommendation accepted by the Government.(62) Sir William Matthew's second scheme, however, became the foundation for various future schemes for, and arguments about, the form the entrance to the Buffalo Harbour was to take.

8. The Widening of the Harbour Entrance: 3: The Reports of Mr. Cathcart W. Methven

In 1901, Mr. Cathcart W. Methven, a consulting engineer in Durban, was invited by the East London Harbour Board to report on the East London Harbour.(63) After considering Sir William Matthews' schemes, as well as a scheme put forward by Mr. G.F. Tippet, the then Harbour Engineer, Mr. Methven recommended:

a. that a new Eastern Breakwater be constructed; (64) and

b. that the Coode East Breakwater should be removed, thus widening the narrow entrance to a minimum of 350 feet and also giving an easy curve for a vessel's course when entering the harbour.

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(60) The root of this proposed breakwater was to have been between the present Orient Bath and the Aquarium.

(61) It has not been possible to obtain a plan showing the first of these schemes, but the East Breakwater envisaged by the second scheme is shown in Figure 3, which is inserted after page 35.

(62) Sir William Matthews' Report was printed in the "East London Daily Dispatch" dated April 29th, 1896.

(63) The East London Harbour Board was constituted on 4th December, 1893, in terms of Act number 18 of 1893, to take over the Assets and Works at the Buffalo Harbour and to manage and control the Harbour, as well as the wharves, quays and jetties, and the Port Office.

(64) This Breakwater was to be on approximately the same line as that suggested by Sir William Matthews in 1895.

Mr. Methven also recommended the purchase of a powerful dredger, capable of deepening the river channel, ultimately, to 24 feet below L.W.O.S.T.(65)

Mr. Methven also commented on the internal layout of the harbour, saying:

> "the facilities afforded ... for unloading and dealing with cargoes, ... though great energy and resource is shown in making the most of them, are not such as to enable this port to compete on equal terms with neighbouring ports enjoying more modern appliances. ... The present arrangements ... on the East Bank appear to me to have been laid down piecemeal, and without following the lines of any comprehensive and systematic plan. They involve an unnecessary amount of labour and expenditure of time in dealing with cargoes, and I am of the opinion that they should be remodelled without delay."(66)

Mr. Methven submitted a plan for improving the layout of the East Bank of the river, but other than the purchase of a powerful dredger,(67) and the construction, in concrete, of the 570 foot long Hely-Hutchison Wharf, no effect was given to his recommendations.

In 1910, Mr. Methven was again asked to report on the East London Harbour and he re-iterated his proposals of 1901.(68) These were criticized by Colonel Nicholson, then Resident Engineer at Table Bay Harbour, who submitted a scheme of his own;(69) and by Mr. Tippet, who was then Engineer-in-Chief of the South African Railways and Harbours. The principal objections to Mr. Methven's scheme were, firstly, the expense which it involved; and, secondly, that some

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(65) Cathcart W. Methven: op. cit.: page 11.
(66) ibid.: pages 21-22.
(67) The dredger purchased was the "Agnes", 1,891 gross registered tons and with a carrying capacity of 2,000 tons. This vessel arrived at the Buffalo Harbour in 1903.
(68) It has not been possible to obtain a copy of this report, nor was it published in the "East London Daily Dispatch". This reference to it is taken from a photostat copy, in the System Manager's Office, East London, of an article written in 1914 by the then Harbour Engineer.
(69) See Figure 3, after page 35.

time would elapse before the new East Breakwater were sufficiently advanced to permit the removal of the Coode East Breakwater. Despite these criticisms of Mr. Methven's scheme, the Union Government in 1914 sanctioned the following scheme for the development of the Buffalo Harbour:

a. an extension of the South Breakwater to a length of 2,500 feet; (70)

b. the construction of an Eastern Breakwater, 2,000 feet long, from the rocks about half a mile north of the Coode East Breakwater, and running in the direction of the seaward end of the South Breakwater, leaving a width of 600 feet between the extremities of the two Breakwaters; (71) and

c. the removal of a large part of the Coode East Breakwater, thus widening the river entrance from 250 to 500 feet. (72)

Meanwhile, in 1903, the Government had sanctioned the construction of a wharf on the West Bank of the River, used since the construction of the wharves on the East Bank only by Harbour craft. On 14th January, 1908, a combined road and rail bridge across the river was opened; (73) and four days later the first vessel had berthed at the newly constructed West Quay. This 950 foot long, concrete quay had a depth of water alongside it of 27 feet 9 inches. By 1910, a turning - or swinging - area, 24 feet deep at L.W.O.S.T., had been dredged opposite the West Quay.

9. The Widening of the Harbour Entrance: 4: Sir George Buchanan's Report.

The outbreak of the first world war inevitably interrupted the scheme of harbour works approved in 1914, and

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(70) Part of this extension was already under construction, having been approved in 1911.
(71) This was substantially the breakwater recommended by Sir William Matthews in 1896, and by Mr. Methven in 1901 and 1910.
(72) "East London Daily Dispatch": 9th June, 1914.
(73) This bridge was about a mile upstream from the harbour entrance.

work was suspended when the South Breakwater had been extended by 728 feet. It was not until 1920 that the removal of the Coode East Breakwater began, the material removed being used to form the root of the proposed new East Breakwater. In 1915, however, the West Quay had been extended by 550 feet to provide a 1,500 foot long quay capable of accommodating three vessels. In the same year, submerged rock at the harbour entrance had been removed, thus increasing the depth from 22 feet 10 inches to 26 feet 6 inches below L.W.O.S.T. This allowed vessels drawing 25 feet of water to enter the river, but larger vessels still had to be worked in the roadstead by means of tugs and lighters.

In 1923, Sir George Buchanan, K.C.I.E., who had been commissioned by the Union Government to report on the Harbours of South Africa, recommended the abandonment of the proposed 2,000 foot long East Breakwater, and he suggested, instead, the construction of a less expensive work, nearer the Coode East Breakwater. Sir George Buchanan admitted that the proposed East Breakwater would add to the amenities of the port from an engineering point of view, but he did not consider such a Breakwater would be necessary "for many years to come". He also conceded that such a Breakwater would create a large wave-trap, but gave his opinion that a wave trap of this size was unnecessary. In reply to the argument that, at some future time, new tidal docks might be constructed inside such a Breakwater, Sir George said it was certain that trade conditions, then, did not justify such an expensive work, nor were they likely to do so in the immediate future.(74) As a result of Sir George Buchanan's

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(74) U.G.25-1923: Report by Sir George Buchanan, K.C.I.E., ... on the Principal Harbours of the Union: Part II: Port Elizabeth and East London; page 9

recommendations, the proposed Eastern Breakwater was abandoned and the construction of the Buchanan East Breakwater was commenced in 1923, being completed in 1927. The removal of the old (Coode) East Breakwater was finally completed in 1939.(75)

It has already been mentioned that, after 1910, vessels could be turned in the swinging area opposite the West Quay, provided they drew less than 24 feet of water and were not more than 500 feet long. Shortly before Sir George Buchanan visited East London, it had been proposed that a basin should be excavated for some 300 feet into the West Bank of the river, opposite the Hely-Hutchison Wharf, to enable 800 foot long vessels to be turned in the river. In conjunction with this scheme, it was proposed to deepen the channel, by dredging, to 30 feet below L.W.O.S.T. This scheme was also killed by Sir George Buchanan, who remarked that, until the trade of the port had greatly increased, it was inexpedient to incur the very considerable expenditure involved in constructing a turning basin and dredging the channel, especially as it was uncertain whether vessels calling for a few hours would be willing to enter the harbour and pay the port charges.(76) Sir George did recommend, however, that the South Breakwater should be extended to the full sanctioned length of 2,500 feet,(77) and that dredging should be continued in the channel and the river as funds permitted.

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(75) See Figure 3, after page 35.
(76) U.G.25-1923: Report by Sir George Buchanan, K.C.I.E., ... on the Principal Harbours of the Union: Part II: Port Elizabeth and East London; page 9.
(77) It will be remembered that this work had been sanctioned in 1914, but that work had been suspended when the Breakwater was 2,278 feet long.

Sir George Buchanan was followed, in 1925, by Mr. F.G. Wilson, of Messrs. Coode, Fitzmaurice, Wilson and Mitchell, who said in regard to the Buchanan East Breakwater, then under construction:

> "The object of the new East Breakwater, ... is to provide a wave trap or spending beach between it and the proposed new entrance, and also to prevent sand from being drawn down from the north and deposited near the harbour entrance. The breakwater would, in our opinion, have been more effective in both these respects had it been constructed on the lines laid down by the Harbour Engineer.(78) ... The spending beach would have been more suitable for the purpose of forcing the sand to the northward ... ." (79)

10. The Final Phase: The Provision of a Turning Basin.

The removal of the greater portion of the Coode East Breakwater and the completion of the new Buchanan Breakwater had a beneficial effect upon the entrance to the harbour, greatly facilitating the movement of vessels into and out of the harbour. By 1928, it was apparent, however, that improved facilities were urgently needed for the turning and berthing of vessels in the river, despite Sir George Buchanan's remarks five years earlier. The Government decided to excavate for this purpose a certain area, on both sides of the river, within a reasonable distance from the entrance. On the West Bank the excavation was 1,000 feet long and 200 wide, and in the basin so formed, a wooden jetty, about 450 feet long, was constructed so that

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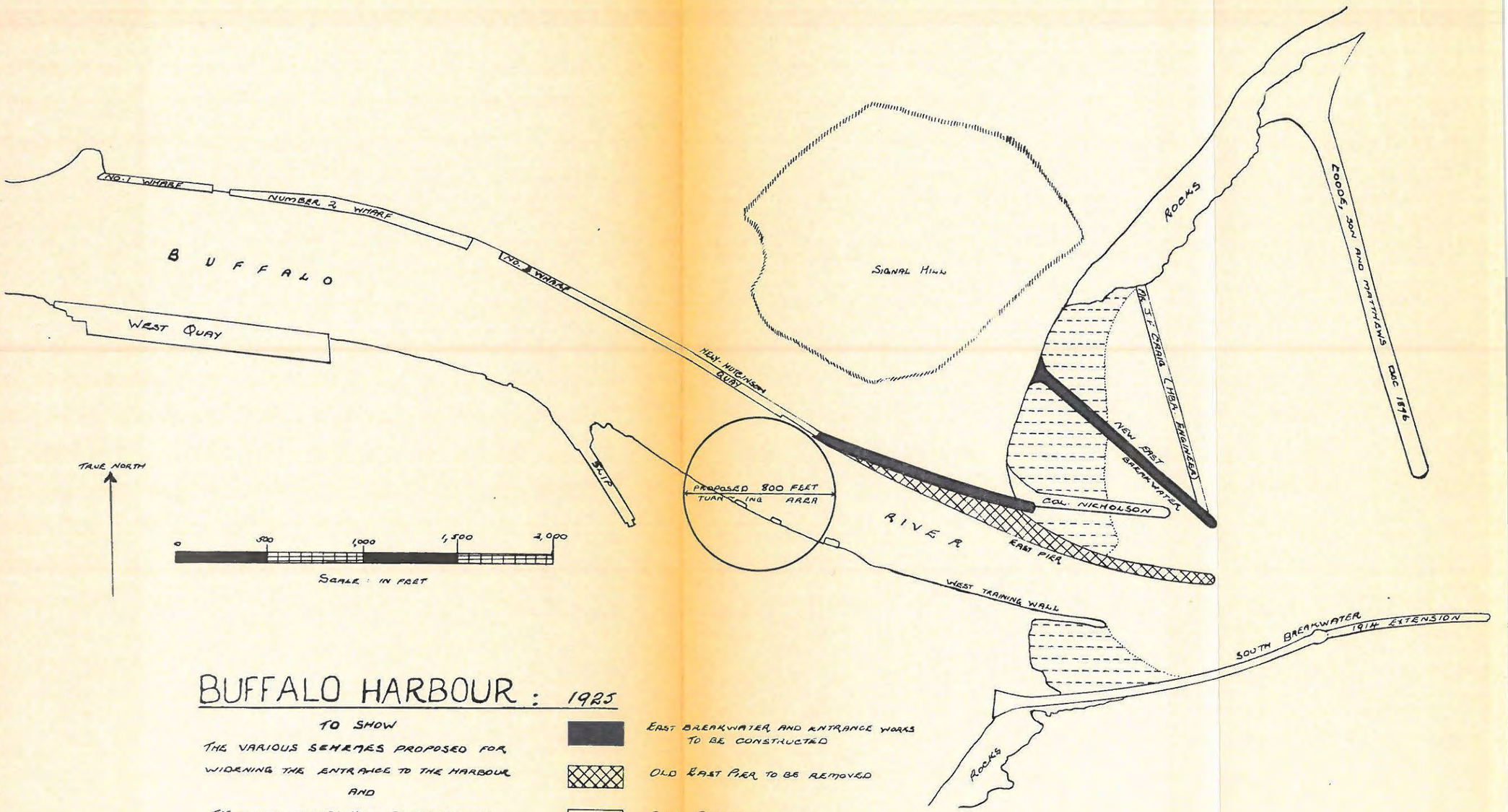
(78) See Figure 3, after this page.

(79) Report on East London Harbour by Messrs. Coode, Fitzmaurice, Wilson and Mitchell, dated 12th January, 1925, and addressed to the General Manager of Railways and Harbours. (The copy consulted is a typescript copy in the Reference Library of the General Manager of Railways and Harbours, Johannesburg. The Reference Library classification is 192.1.1) Para. 10.



BUFFALO HARBOUR : 1925

TO SHOW

THE VARIOUS SCHEMES PROPOSED FOR WIDENING THE ENTRANCE TO THE HARBOUR AND

THE WORK ACTUALLY IN PROGRESS IN 1925.

EAST BREAKWATER AND ENTRANCE WORKS TO BE CONSTRUCTED

OLD EAST PIER TO BE REMOVED

SAND BEACHES

NOTE: THE NAMES ON THE THREE EASTERN BREAKWATERS ARE THE NAMES OF THE PROPOSERS OF THE SCHEMES.

THIS MAP IS BASED ON THAT ACCOMPANYING THE REPORT OF MESSERS. COODE, FITZMAURICE, WILSON AND MITCHELL ON THE BUFFALO HARBOUR, DATED 12. 1. 1925.

Fig. 3 The Buffalo Harbour in 1925

oil fuel could be discharged in bulk from tanker vessels.(80) The first oil-tanker berthed at this jetty in December, 1932, bulk storage tanks, together with railway siding facilities, having meanwhile been constructed on the West Bank on the high ground overlooking the harbour.

On 25th August, 1930, work commenced on the eastern wing of the turning - or swinging - area. This involved the excavation of a basin in the area reclaimed by Sir John Coode in the seventies of last century. In the eastern basin a 1,000 foot long concrete quay was constructed and completely equipped with electric cranes, railway sidings, cargo sheds and pre-cooling facilities. At the upstream end of the basin, a return wall, 295 feet long, was built to connect the new quay with the Hely-Hutchison wharf. The swinging area, now known as the C.W.Malan Basin,(81) measured 970 feet between the face line of the new quay in the eastern wing and the face line of the oil tanker berth.

When the C.W. Malan Basin was nearing completion, the Nautical Authorities at the port questioned whether the approved scheme afforded the maximum possible safety to the larger vessels visiting the port. It was suggested that the new quay wall should be extended by a further 600 feet not only to improve the position from a nautical point of view, but because the Union-Castle Steamship Company had decided to increase the length of its ships. A 1,000 foot long quay would, therefore, have been too long for one vessel, but too short to accommodate two. These matters were

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(80) See Figure 4 after page 40.
Before this date petrol and other liquid fuels were imported in drums or similar containers.

(81) Mr. C.W. Malan was the Minister of Railways who was instrumental in obtaining Government approval for the construction of the turning basin and its quays.

referred to the Harbour Affairs Commission, which had been appointed in 1934. In its report the Commission stated that the entrance to the harbour was difficult to negotiate and a danger to large vessels. It was considered urgently necessary to improve the entrance by lengthening the South Breakwater and deepening the entrance channel. It was also recommended that the C.W. Malan Quay should be extended to a length of 1,500 feet, and that a further portion of the West Bank of the river should be excavated.(82)

On 1st April, 1936, the Harbour Authorities took over the first 1,000 feet of the quay in the C.W. Malan Basin, and this was first used commercially on 25th May, 1936. In 1939, the full length of the quay was brought into commercial use and the breakwater extended to its present length of 3,080 feet. In the same year, the last part of the old (Coode) East Breakwater was removed, the completion of this work having been delayed because it had been necessary to use the dredger acquired to remove the old East Breakwater for the more urgent work connected with the lengthing of the C.W. Malan Quay and the widening and deepening of the channel to 400 feet and 35 feet below L.W.O.S.T. respectively.(83) The extension of the South Breakwater has enabled the harbour to be kept open in conditions which once would have been too dangerous to permit shipping to enter or leave the harbour.

In 1939, the Port Captain requested that two further improvements should be effected to the harbour:

a. the removal of the round head of the East Breakwater to facilitate the pilotage of the longer

(82) U.G.27-1935: Report of the Harbour Affairs Commission; page 47.
(83) See Figure 4 after page 40.

and wider ships visiting the port; and

b. the removal of part of the West Training Wall to open up more fully the wave trap between the Wall and the South Breakwater.

The Port Captain felt that the latter course would improve conditions in the harbour where during certain conditions of the south-east swell and the north-east wind, there was considerable disturbance in the C.W. Malan Basin, and further up the river, making the tug work alongside vessels quite dangerous.(84) Both these works were put in hand during the second world war, and their completion effected the anticipated improvements in the harbour.(85)

It should perhaps be mentioned that, early in 1935, a new bridge across the river had been opened to road traffic, thus replacing the wooden structure built nearly thirty years before. The new bridge, situated on the upstream side of the old one, is a steel structure with two decks, the lower deck carrying the railway line, while the upper carries a two-lane vehicle road, twenty-two feet wide.

For some years prior to the second world war, representations were made to the Railways and Harbours Administration for the construction of a graving dock capable of accommodating the harbour craft employed at the Buffalo Harbour. These representations, however, were not entertained. but the slipway was extended to enable it to be used at any state of the tide. The Administration contended that a graving dock was unnecessary because vessels requiring

(84) Report of the Port Captain, Buffalo Harbour, for the year ended 31st March, 1940; filed in G.17/1939-40, in the Office of the System Manager, Cape Eastern System of the South African Railways, East London.
(85) Annual reports of the System Manager, Cape Eastern System of the South African Railways, East London.

underwater attention, and which could not be accommodated in the slipway, could be sent to Durban, only 253 miles away. Local organizations persisted, however, in their agitation, pointing out that such an installation would be of great assistance to the war effort of the Administration. In 1942, the Administration authorized the construction of a graving dock; and the "Princess Elizabeth Graving Dock" was opened by H.R.H. the Princess Elizabeth on 3rd March, 1947.

In 1958 a further series of major works were being carried out at East London Harbour, being necessitated largely by the intention of the Union-Castle Steamship Company to build considerably longer vessels. This meant that either the port would have to be able to accommodate these vessels, or that it would periodically be by-passed by the larger mail vessels.(86) The first scheme suggested by the Railways and Harbours Administration to meet this situation involved the construction of a re-entrant oil-tanker berth in the West Bank of the river near its mouth,(87) the removal of some 200 feet of the East Breakwater, and an increase in the radius of the swinging area in the C.W. Malan Basin from 970 to 1,070 feet.

This scheme was subsequently changed to provide for:

a. the widening of the swinging area in the C.W. Malan Basin from a radius of 970 to 1,200 feet;

b. the construction of an oil tanker berth, 850 feet in length, along the one side of the new basin being excavated into the West Bank of the River, the berth being separated from the basin by a light-weight boom;

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(86) Any suggestion that vessels might be worked in the roadstead by means of tugs and lighters would be unacceptable under modern conditions.

(87) See Figure 4 (a) after page 40.

c. the construction of two commercial berths, with provision for a third, in the new basin;

d. the conversion of the East Pier to a sheer head,(88) and the deepening of the water alongside it to 35 feet below L.W.O.S.T.; and

e. the widening of the entrance channel to 600 feet and, where necessary over this width, deepening it to 35 feet below L.W.O.S.T.

These proposed works are in Figure 4, after this page.

When these various works were being proposed, many organizations in East London agitated for an "outer basin" scheme on the lines of that approved in 1914, but later rejected on the advice of Sir George Buchanan. The Railways and Harbours Administration, however, has said that it is not prepared to entertain such a scheme as it considers that the Harbour will be able to cope with the trade passing through the port for many years to come.(89) The General Manager of Railways and Harbours has announced that East London is to be developed as a major maize exporting port, but he has not given any indication of what development may be expected in regard to additional facilities.

11. Summary.

No important harbour works were commenced at the Buffalo Harbour until 1872. It is possible to distinguish four

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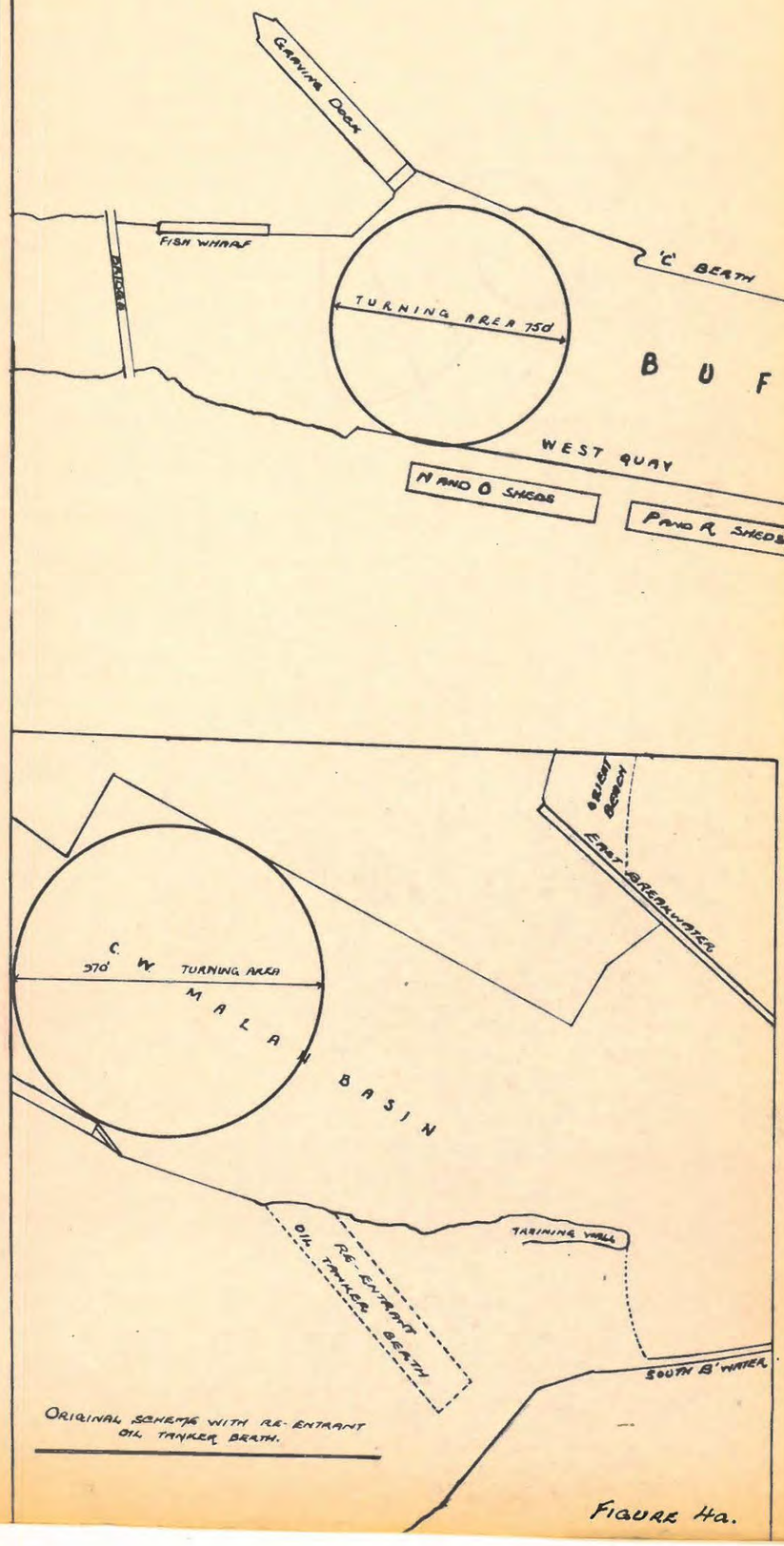
(88) As built, the East Breakwater was supported by a "toe" of concrete blocks projecting out into the channel at the entrance to the river, and tapering down to a point. For nautical reasons it was decided not to shorten this Breakwater, and the only other plan for the widening of the channel was the removal of the supporting blocks. This, however, would have weakened the Breakwater; and so, before the blocks were removed, holes were drilled through the blocks forming the round head of the Breakwater, and the rocky sea-bed. Steel rods were then driven through these holes, thus holding the head in position on the sea-bed and allowing the supporting "toe" to be removed.

(89) "East London Daily Dispatch"; 6th January, 1958.



ORIGINAL SCHEME WITH RE-ENTRANT OIL TANKER BERTH.

FIGURE 4a.

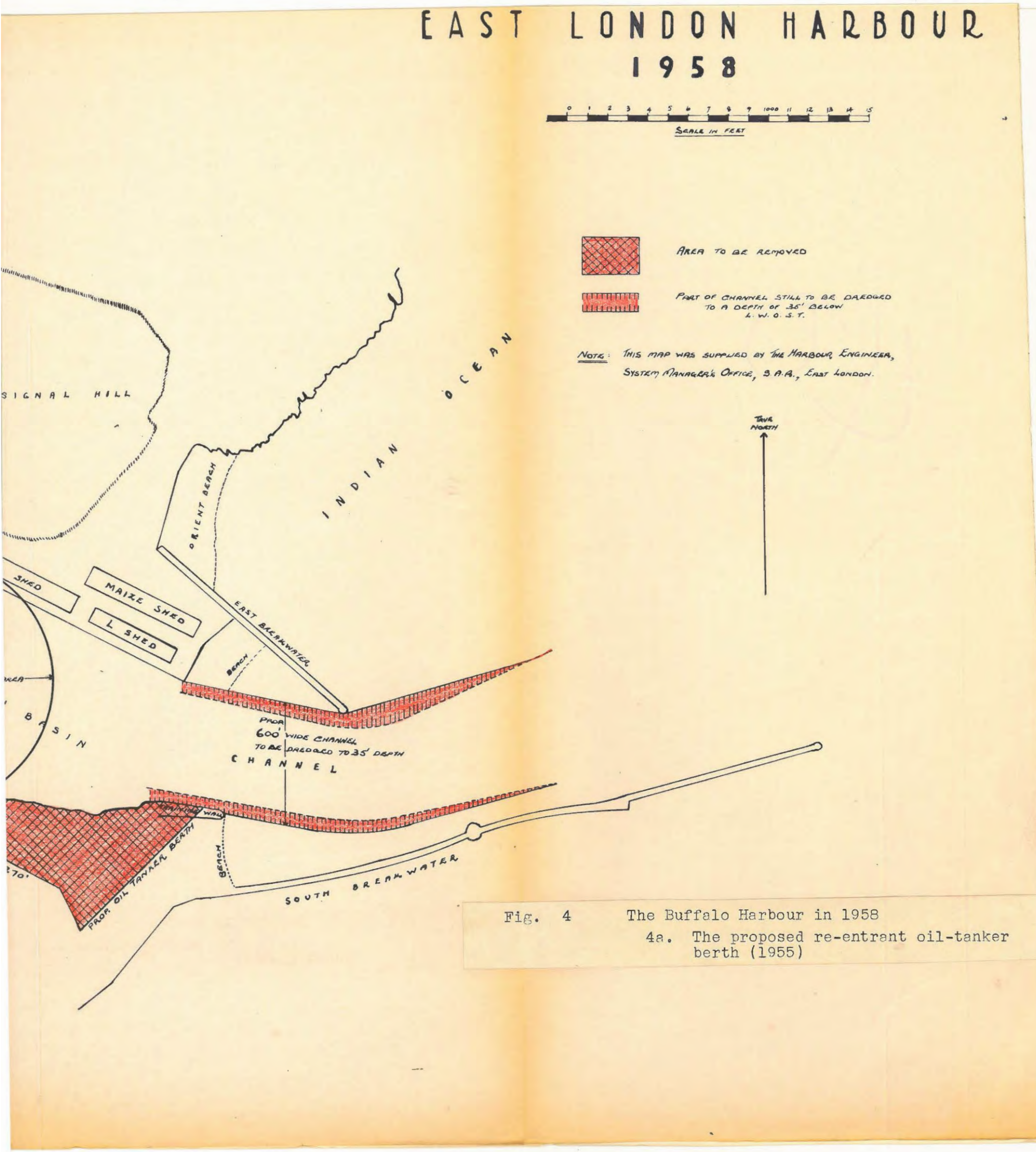


Fig. 4 The Buffalo Harbour in 1958

4a. The proposed re-entrant oil-tanker berth (1955)

stages in the harbour works at the port:

a. an attempt to scour away the sand accumulated in the river, and prevent further accumulation, by means of training walls and a breakwater increasing the power of the ebb current, assisted by the periodic flooding of the river following rains inland in the catchment area;

b. the realization that the scheme outlined in (a) was impracticable, and that dredging would have to be continuously employed to maintain an adequate depth of water in the channel;

c. the realization that the curved and restricted form of the harbour entrance was hampering the movement of vessels - a problem which became progressively more serious as vessels increased in size - and that the Coode East Breakwater would have to be removed, which culminated in the construction of the Buchanan East Breakwater; and

d. the provision of facilities for the turning and berthing in the river of the largest commercial vessels visiting the port.

East London, to-day, has a well appointed port, very different from the few rudimentary jetties on the bank of a shallow, sand-encumbered river, which formed the Buffalo Harbour approximately one hundred years ago. There can be little doubt that, when the present series of works have been completed, the Buffalo Harbour will be capable of meeting the demands which will be made on it for many years to come.

CHAPTER 2

THE COMMERCIAL DEVELOPMENT OF THE BUFFALO HARBOUR.

1. Total Trade of the Port.

In the years immediately following its proclamation as a commercial port in January, 1848, East London occupied a very insignificant position among the ports of South Africa.(1) During the eight years from the beginning of 1848 to the end of 1855, goods to the value of £10,368 were imported through the port: and although this represented an average of £1,296 per annum, the actual annual figure fluctuated widely above and below this figure. During the same period, goods to the value of £2,209 were exported, but of this sum only £1,141 was accounted for by Colonial produce. The average annual value of goods exported was thus only £277; but again the actual annual figure fluctuated widely about the average. No definite commodity pattern is discernable in either the imports or the exports through the port during these years.(2)

In a report, dated August 15th, 1854, the Collector of Customs made the following observations about the trade through the port:

> "1. Vessels inwards:
> Nearly the whole of the import trade of East London has been carried on coastwise from Cape Town

(1) Before 1848, small vessels occasionally visited the mouth of the Buffalo River; for example, the "Knysna" in 1836, and the "Fredrick Huth" in 1847. These isolated visits were inspired by the need to supply equipment and stores to the troops on the Frontier; and although a certain amount of bartering was done with the Natives, the commercial significance of these visits was negligible.

(2) The Cape of Good Hope Blue Books (a statistical record of the Cape Colony) for the years 1848, 1849, 1850, 1851, 1852, 1853, 1854 and 1855.

> which is accounted for by the fact that the mercantile houses at this port are merely offshoots from Cape Town houses. Within the last two years direct importation has commenced and is steadily increasing, and when encouragement is given to the importers by the establishment of Bonding warehouses the trade will increase to a greater extent. Every vessel that has entered inwards has discharged a full cargo.

2. Vessels outwards:

> Articles of export are wool, hides, horns, salted meat, etc. Before the war cattle and horses were shipped for Mauritius ... on the breaking out of the war this trade was destroyed by the increase in the price of this stock, since when the whole of the trade has been coastwise to Cape Town." (3)

The Collector of Customs also noted that much of the trade to British Kaffraria was overland from Port Elizabeth and he gave the following figures, which he had obtained from merchants, in support of his contention:

Value of Overland Traffic from the Cape Colony to British Kaffraria in the Year Ended 31st December, 1853.

British and foreign manufactures and other goods foreign to the Colony	£52,300
Produce and manufactures of the Colony	£15,000
TOTAL	£67,300

It has, unfortunately, not been possible to obtain any statistics relating to the trade through East London between 1856 and 1859. In 1859, East London was handed over to British Kaffraria and it was hoped that the customs duties collected at the port would materially augment the meagre revenue of the British Kaffrarian Government. It was hoped that the customs revenue would be approximately £14,000, but this hope was not realized because:

> "the Port Elizabeth firms ... paid duty at their own port and sent all the goods intended for

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(3) The reference in this passage to "the war" presumably refers to the Eighth Kaffir War which was waged from 1850 to 1852.
The quotation is taken from the Letter Book of the East London Customs Department, No. B.K. 64, in the Cape Archives, Cape Town.

British Kaffraria overland to avoid the payment of dues at East London." (4)

From 1860 onwards, it has been possible to compile a virtually complete series of statistics relating to the commercial development of the port of East London.(5) The fluctuations in imports and exports through East London Harbour are shown in Figure 7,(6) which is after page 59, and is based on Tables A.1 and A.2.(7) This Figure reveals the predominant place occupied by imports in the total trade through East London Harbour. This same position is demonstrated in Table 1, the basis of comparison being the harbour or - before 1910 - measurement tonnage. It must be emphasized that the figures shown in Table 1 are for sample years; there were, however, four years in which the quantity of goods exported exceeded the quantity of imports: 1888, 1918, 1919 and 1921. If value of imports and exports is

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(4) Eric A. Walker: "A History of South Africa"; London, 1928; page 192.

(5) In 1866, British Kaffraria was annexed to the Cape of Good Hope.

(6) Value of imports and exports is not an ideal measurement of the development of a port, for value may fluctuate without there being a corresponding movement in activity. Before 1885, however, there are no figures apart from value, which can be used to assess the commercial development of East London Harbour.

In regard to the quantitative figures it must be noted that the tons are not tons avoirdupois, but either harbour tons or measurement tons, the latter being used before 1910. It has not been possible to ascertain the precise meaning of the term measurement ton. In this thesis, when the word "ton" is used <u>without qualification</u> it is to be taken as meaning 2,000lb. As the following examples show, the harbour ton does not necessarily bear any relationship to the ton avoirdupois, though in some cases the two are equivalent:

a. 600lb. of washed, scoured wool, in pressed bales;
b. 33.33 cubic feet of African teak;
c. 500 loose horns;
d. 200 gallons of petrol; or
e. 2,000lb. of maize, packed in bags.

(A full list of harbour tons and their equivalents will be found in "The Harbour Tariff of Dues and Charges", published by the Railways and Harbours Administration.)

(7) See Appendix A to this thesis.

used as a basis of comparison, the position is less straightforward, particularly in the years between the first and second world wars; but, in general, imports have accounted for a greater part of the total trade through the port per annum than exports.

TABLE 1 (8)

Imports and Exports Expressed as a Percentage of the Total Quantity of Goods Handled at East London Harbour in Certain Selected Years Between 1885 and 1955

Year ended 31st December	Imports	Exports	Total
	%	%	%
1885	80.6	19.4	100.0
1890	63.5	36.5	100.0
1895	82.5	17.5	100.0
1900	94.2	5.8	100.0
1905	87.5	12.5	100.0
1910	74.5	25.5	100.0
1915	55.9	44.1	100.0
1920	74.6	25.4	100.0
1925	58.8	41.2	100.0
1930	72.4	27.6	100.0
1935	77.2	22.8	100.0
1940	82.6	17.4	100.0
1945	81.0	19.0	100.0
1950	84.0	16.0	100.0
1955	76.8	23.2	100.0

(8) This Table is based on Table A.2 in Appendix A.

2. Imports.

In the eleven years from 1860 to 1870, the total value of goods imported through East London Harbour amounted to only £844,534 - an average of £76,776 per annum. In 1865, the value of the goods imported through East London represented only 3.1 per cent of the total value of goods imported through Cape Town, Port Elizabeth, East London and Durban,(9) while by 1870, this figure had fallen to 1.9 per cent. It is, then, fair to say that before 1871 East London, compared with the other three major South African ports, was of little importance. In this period, little had been done to improve the mouth of the Buffalo River; and no railway line had yet been constructed to assist in opening up the hinterland of the port.

After 1885, the quantity of goods imported through East London Harbour rose steadily to reach, in 1903, a record figure of 696,073 measurement tons. Between 1871 and 1903 there had taken place in the interior of South Africa the two mineral discoveries which had such a profound influence on the economic and commercial development of the country, and not least on that of the ports and the railways. While the development of the Kimberley Diamond Fields did not materially benefit East London, the proclamation of the Witwatersrand as a Public Diggings, in September, 1886 had, on the contrary, a profound effect. Durban was nearer to the Witwatersrand than any Cape port, but the

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(9) It has not been possible to obtain a continuous series of data relating to the minor ports of South Africa, and so they have had to be excluded from the computation on which this percentage is based. Although the value of goods passing through these ports was quite significant in the fifties and sixties of last century, it has progressively declined and is now insignificant compared with the value of goods passing through the four major ports.

construction, in 1892, of a railway line from near Burgersdorp to Springfontein, on the line from Port Elizabeth to the Transvaal, meant that East London was placed in a position to challenge Durban for a share of the lucrative trade to the Gold Fields.(10) While part of the increased quantity of imports passing through East London Harbour must be attributed to the existence of direct rail communication with the Witwatersrand Gold Fields, part must also be attributed to the increasing agricultural and commercial development of the Border Region.

By 1955, the quantity of goods imported through East London had reached the record figure of 897,141 harbour tons, but this does not represent a steady increase over the whole period. From time to time, international wars and depressions affected adversely the quantity of goods imported, the lowest points being in 1918, 1932 and 1944.(11) Since 1945, the quantity of imports through East London Harbour has increased steadily, reflecting the increased economic and commercial activity not only of the Border Region, but of the Union as a whole.

In Figure 8, after page 59, an attempt has been made to evaluate the importance of East London as a port of entry for imports into South Africa.(12) It has been already noted that, in 1870, only an insignificant share of imports into South Africa passed through East London Harbour. By 1875, East

(10) A railway line from East London to Aliwal North, via Burgersdorp, had been completed in 1885. Johannesburg was 486 miles from Durban; 666 miles from East London and 713miles from Port Elizabeth.

(11) The highest harbour tonnage of imports was actually in 1949, when 1,061,639 was recorded, but 270,456 harbour tons were in respect of domestic water, imported by tanker from Durban, owing to the failure of East London's water supply during a prolonged drought.

(12) This Figure is based on Table A.3 in Appendix A to this thesis. The criterion used to judge the importance of each port is the proportion of the total value of South Africa's imports passing through it.

London's share of the imports into South Africa had risen to 8.3 per cent, for the years 1880, 1885 and 1890 it averaged 12.5 per cent, and in 1895 it reached a figure - unequalled before or since - of 18.8 per cent. In the sample years between 1900 and 1915, East London's share of South Africa's imports remained fairly stable, varying between 11.0 and 14.5 per cent, the average being 12.9 per cent. Before the outbreak of the second world war, East London's share of South Africa's imports was fairly stable, varying between 9.9 and 7.8 per cent; the average being 8.3 per cent. In 1945, the percentage was as low as 5.1, but this was an exceptional year in which the repercussions of the second world war were still being felt. After the war, the figure increased once more, being 9.4 per cent in 1950 and 9.8 per cent in 1955.

East London is the least important of the four major South African ports; its share of imports into South Africa has decreased by one-third in the last forty-five years. In the same period, Cape Town and Port Elizabeth have each maintained almost the same share of the country's imports, while Durban's share has increased by approximately one-sixth, making it the most important South African port of entry.

Commodities imported:

An analysis, by commodities, of the goods imported through East London Harbour is possible only on a basis of value, for while this is given for all commodities, the quantity is not.(13) The results of this analysis are shown

(13) Particularly in the case of manufactured articles, only value is given.

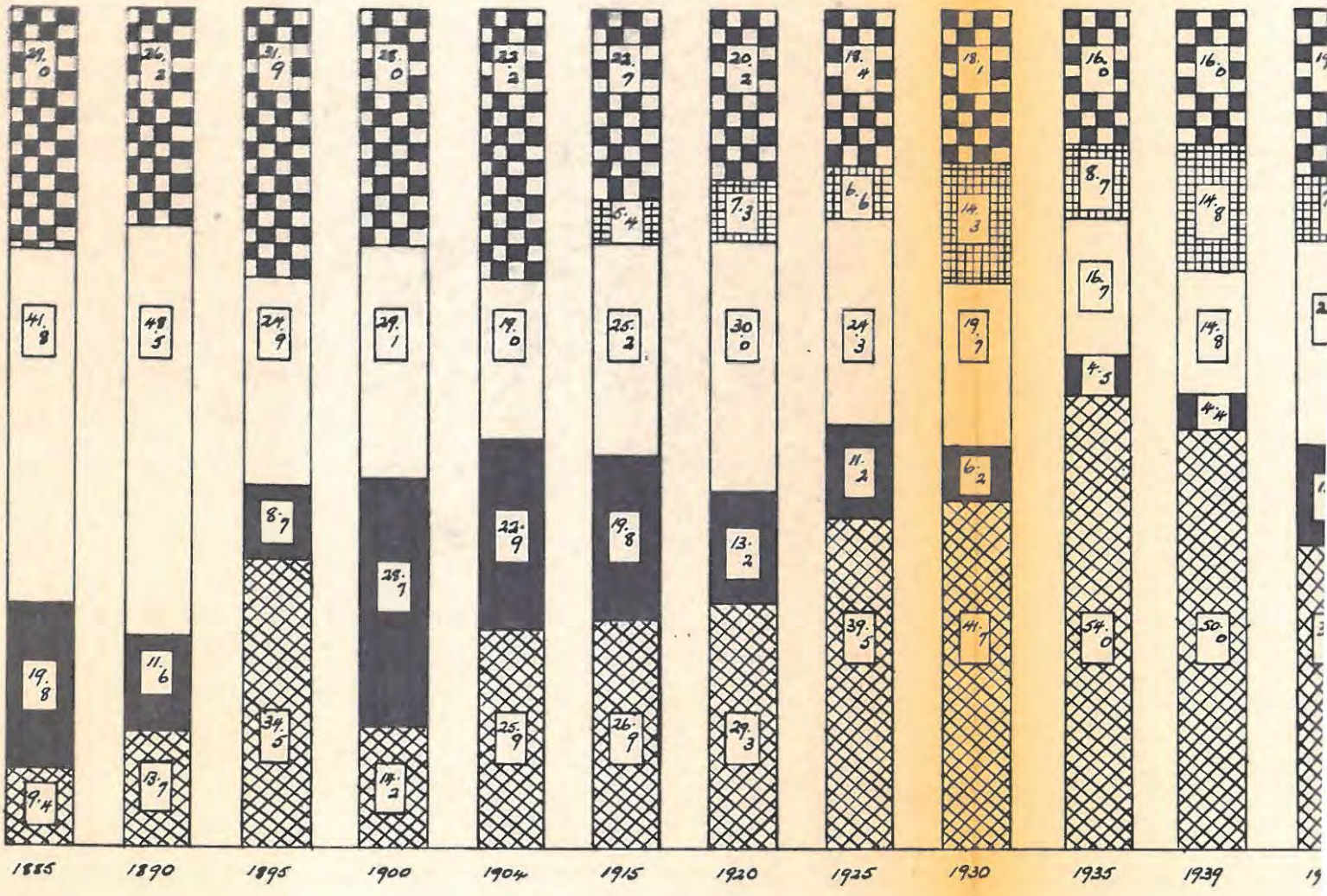

Fig. 5 Principal Commodities imported throu
London Harbour in certain selected
years

in Figure 5.(14) It is clear that in each sample year up to 1904 three commodity groups dominated the imports through East London Harbour:

a. clothing and textiles;

b. foodstuffs and grain; and

c. metals, metal manufactures and machinery.

In the five selected years, these three groups accounted for approximately 70 per cent of the total value of goods imported. In 1885 and 1890, the textiles and clothing group was the most important,(15) but in 1895 a very considerable increase in the value of metals, metal manufactures and machinery imported, reflecting the expansion of the gold mining industry in the Transvaal, brought this group into first place.(16) The outbreak of the Anglo-Boer War resulted in the imports of machinery falling to less than half the figure in 1895; while foodstuffs and grain increased to 28.7 per cent of the total and clothing and textiles to 29.1. By 1904, however, the metals, metal manufactures and machinery group had again risen to first place in order of value of goods imported.(17)

Since 1915, the oils, waxes, paints, varnishes and motor spirit group has accounted for a sufficiently significant proportion of the value of the imports through East London Harbour to warrant it being added to the three

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(14) This Figure is based on Table A.4 in Appendix A. In an attempt to overcome the distortion which changes in the general level of prices between 1885 and 1955 would introduce, were values in the various sample years to be compared directly, imports have been classified into twelve commodity groups, and the value of each group expressed as a percentage of the total value of goods imported through East London in that year.

(15) At this time, this group consisted almost entirely of manufactured articles and piece goods. The percentages were 41.8, in 1885, and 48.5 in 1890.

(16) In 1895 this group accounted for 34.5 per cent of the total value of imports.

(17) No figures are available for 1910.

commodity groups which have been specially mentioned above. It is undoubtedly due to motor spirit and its allied liquid fuels that this group has become significant. These four commodity groups, in the selected years between 1915 and 1955, have accounted for between 77 and 84 per cent of the total value of the imports through East London Harbour.

Although the clothing and textile group has declined in importance in the last forty years, the inclusion in it of raw materials of industry, replacing to a certain extent the manufactured articles of which it was once principally composed, has enabled it to maintain a higher percentage than would otherwise have been the case. There has been a very marked decline in the percentage of the foodstuffs and grain group, and this decline would undoubtedly have been greater but for the considerable quantities of wheat imported annually through East London Harbour. This group has declined in importance because manufactured or processed foodstuffs are no longer imported in such great quantity as formerly, but are produced in South Africa. The most noticeable feature about the imports through East London Harbour since 1915, however, has been the increase in the metals, metal manufactures and machinery group, to a point where it dominates all the other groups. (The metals, metal manufactures and machinery group also includes motor vehicles.) The change in the relative position of the commodity groups is what would be expected in view of the increasing development of secondary industry in South Africa. Table 2 gives a summary of the percentages of the total value of imports through East London accounted for by the principal commodity groups.

TABLE 2 (18)

Principal Commodities Imported Through East London Harbour in Certain Selected Years Between 1885 and 1955.

Year	Clothing and Textiles Group	Food stuffs and Grain Group	Metals, Metal Manfrs. and Machinery Group	Oils, Waxes, etc. and Motor Spirit Group	Other Groups	TOTAL
	Percentage of Total Value					
	%	%	%	%	%	%
1885	41.8	19.8	9.4	-	29.0	100.0
1890	48.5	11.6	13.7	-	26.2	100.0
1895	24.9	8.7	34.5	-	31.9	100.0
1900	29.1	28.7	14.2	-	28.0	100.0
1904	19.0	22.9	25.9	-	32.2	100.0
1910	*	*	*	*	*	*
1915	25.2	19.8	26.9	5.4	22.7	100.0
1920	30.0	13.2	29.3	7.3	20.2	100.0
1925	24.3	11.2	39.5	6.6	18.4	100.0
1930	19.7	6.2	41.7	14.3	18.1	100.0
1935	16.7	4.5	54.1	8.7	16.0	100.0
1939	14.8	4.4	50.0	14.8	16.0	100.0
1946	23.2	13.2	36.1	7.7	19.8	100.0
1947	25.0	3.9	45.5	6.6	19.0	100.0
1948	20.4	6.5	50.0	7.0	16.1	100.0
1949	19.2	6.6	48.7	8.2	17.3	100.0
1950	17.4	9.7	43.6	11.8	17.5	100.0
1951	23.0	3.3	45.8	8.1	19.8	100.0
1952	10.3	6.2	51.6	8.8	23.1	100.0
1953	14.4	9.3	49.0	9.0	18.3	100.0
1954	17.1	5.9	46.9	9.2	20.9	100.0
1955	14.6	7.6	48.1	8.7	21.0	100.0

*: No data available

(18) This Table is a summary of Table A.4 in Appendix A.

Distribution of imported goods:

Since 1910, the Buffalo Harbour and East London have been regarded as one station by the South African Railways Administration; there are, therefore, no figures available from which to determine the distribution of imported goods after that date. Before 1910, such figures as are available are incomplete.

The sea-borne commercial traffic to the Southern Transvaal:

The importance of the Southern Transvaal as a destination for the sea-borne commercial traffic imported through the South African ports, demands that special attention be given to the distribution of this traffic among Cape Town, Port Elizabeth, East London, Durban and Lourenço Marques. In 1907, a report was prepared by Mr. J. Connacher upon the distribution of this traffic and in it he gave a resumé of the historical background of traffic to the Transvaal.(19) He said:

> Before the extension of the railway systems of the two coast Colonies into the interior of the country, the principal trade route to the Transvaal and the northern districts of the Orange Free State, lay through Natal, along which the greater portion of the imports for that part of the interior were transported by ox-wagon. For the southern part of the Free State the route lay through the Cape Colony, from the eastern ports of which the imports were similarly transported.
>
> Between 1880 and 1890, the relative position of these two Colonies in connection with this trade was gradually altered by the successive extensions of their respective railway systems. In November, 1885 the Cape lines from Cape Town and Port Elizabeth reached Kimberley, on the western, and Colesberg on the southern, boundaries of the Orange Free State, while its line to Aliwal North gave the Cape Colony a second position on that border for traffic passing through East London. A month later, the Natal line,

(19) The report by Mr. J. Connacher upon the Distribution of Oversea Traffic Between the South African Railways and upon Certain Other Matters Relating Thereto, was published, without reference, in Pretoria in 1908.

which until then had terminated at Howick, was extended to Estcourt. In June, 1886, it was further extended to Ladysmith; in September, 1889, to Glencoe, and in May, 1890, to Newcastle.

These extensions, by shortening the distances over which ox-wagon traffic had to be resorted to, greatly improved the means of communication with the interior, without, as far as I can gather, materially affecting the share of the traffic falling to each. But in December, 1890, the Cape Government Railways, in pursuance of an agreement with the Free State, extended its system to Bloemfontein, and in May, 1892, to the Vaal River. Four months later the Nederlands-Zuid Afrikaansche Spoorweg Maatschappij, with financial assistance from the Cape Government, opened a connecting line from the Vaal River as far as Johannesburg, and in three more months, on 31st December, 1892, completed the line to Pretoria.(20) Six months previously the Cape Government had also opened a line from Burgersdorp to Springfontein, so that on the completion of the N.Z.A.S.M. line to Pretoria, unbroken rail communication was for the first time established between all the Cape Ports and the Orange Free State and the most important districts of the Transvaal, the immediate effect of which was to divert to the Cape Routes a large portion of the traffic which had previously passed to Natal. In the meantime, however, the Natal Government had, in April, 1891, extended its line from Newcastle to Charlestown (on the Transvaal-Natal Border), and in November of the same year it had opened a line from Ladysmith to Van Reenen, thereby bringing its System to the borders of the Transvaal and the Orange Free State, the last mentioned line having in July, 1892, been extended within the Orange Free State to Harrismith.

The next great change in the trade routes from the Coast occurred in November, 1894, with the opening of the Delagoa Bay line, but previously to that the Natal Government had taken steps to reclaim part of the traffic it had lost, by entering into an agreement with the South African Republic for the construction of a line from Charlestown to Johannesburg (Union Junction) - not, however, opened until December, 1895. It was in connection with the opening of these two lines that the controversy with regard to rates for sea-borne traffic began.

On the completion of the Cape lines to the Vaal River in May, 1892, the Cape Administration put into operation to the rail head at Viljoen's Drift (on the Vaal River) differential rates from Port Elizabeth and East London, under which East London had an advantage over Port Elizabeth of fifteen shillings per ton, but when, later in that year, the line was opened throughout to Johannesburg, and the Cape Colony

(20) The Nederlands-Zuid Afrikaansche Spoorweg Maatschappij was the company to which the Government of the South African Republic had granted the concession to construct, and operate, railway lines in its territory.

> ran its own trains throughout to Johannesburg, rates were adopted which reduced East London's advantage over Port Elizabeth to the Transvaal to eight shillings and fourpence per ton for normal and intermediate, and to six shillings and eight pence per ton for rough, class goods. In June, 1894, the N.Z.A.S.M. informed the Cape Government of their intention to put into operation on the opening of the Lourenço Marques line, rates which would give that port an advantage over East London of thirteen shillings and fourpence per ton for normal, and fifteen shillings per ton for rough and intermediate, goods. ... As regards the route from Durban, the N.Z.A.S.M. in June, 1895, proposed to the Natal Administration that the rates to be put into operation from that port on the opening of the line to Johannesburg via Charlestown should be the same as from East London. This was accepted by the Natal Administration.

In the years before the outbreak, in 1899, of the Anglo-Boer War, several Railway Conferences were held, delegates attending from each of the four Railway undertakings in South Africa.(21) The aim of these conferences was to introduce uniformity into rates and regulations,(22) but the "internecine struggle between the four Railway Systems for the largest share of the valuable through traffic to the Transvaal" continued.(23) In the years after the Anglo-Boer War, "the competitive struggle between the ports of the Cape Colony and of Natal to snatch from each other every ton of goods that could be snatched" continued.(24) The position was further complicated because the "Orange River Colony desired as much traffic as possible to be

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(21) The four Railway Undertakings were: the Cape Government Railways, the Natal Government Railways, the Nederlands-Zuid Afrikaansche Spoorweg Maatschappij and - after 1895 - the Orange Free State Railways.

(22) Detailed accounts of this period, from the point of view mainly of the South African Republic, will be found in the M.A. Thesis of the University of South Africa: "Die Drifte-Geschil" by D.J. Coetzee; and in the same author's D.Litt. Thesis: "Spoorweg Ontwikkeling in die Suid Afrikaanse Republiek; 1872-1899."

(23) S.H. Frankel: "The Railway Policy of South Africa", published by Hortors Limited, Johannesburg, in 1928; page 55.

(24) ibid.: page 313.

passed to the Transvaal through its Territory, but it was in the interests of the Cape that no such traffic should pass through the Orange River Colony and in the same way, whereas it was in the interests of the Orange River Colony that Durban traffic should pass into the Transvaal at Vereeniging ... it was in the interests of Natal to divert the traffic via Volksrust, and so exclude the Orange River Colony".(25)

Meanwhile, in 1901, Lord Milner, "impelled by the urgent necessity that the mines should resume working", entered into an agreement with the Portuguese Government,(26) whereby in return for certain facilities in the recruiting of native labour for the gold mines, the promise was given that 50 to 55 per cent of the sea-borne commercial traffic to the competitive area of the Transvaal would be secured to Lourenço Marques, if necessary the railway rates from the ports being manipulated to secure this.(27) In 1909, these provisions were embodied in the Mozambique Convention.(28)

When in 1910 the four Colonies were united into the Union of South Africa, the incentive towards attracting traffic from the Cape ports to Durban, and

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(25) ibid.: page 313
The passage of goods through the Orange River Colony involved the payment by the Cape Administration or the Natal Administration of a certain proportion of the goods revenue to the Central South African Railways, which had been formed in 1902 by amalgamating the N.Z.A.S.M. lines in the Transvaal with the lines which had been operated by the Orange Free State Railways.
(26) The agreement was termed a modus vivendi.
(27) The competitive area is that part of the Transvaal bounded by a line drawn from Pretoria to Springs to Vereeniging to Klerksdorp and back to Pretoria.
(28) Union Year Book, Number 2, page 558.

vice versa, disappeared as far as they were no longer the competing ports of independent Colonies. Nevertheless, there were in each port vested interests anxious to secure the maximum share of the sea-borne commercial traffic to the competitive area for their respective port. In addition, the shorter mileage from Durban to the competitive area was considered to be an important advantage by many importers; and there was also the Mozambique Convention, the terms of which had to be honoured. The distribution among the ports of the sea-borne commercial traffic to the competitive area of the Transvaal is shown in Table 3.

It will be seen that, with rare exceptions, Cape Town's share of the sea-borne commercial traffic to the competitive area of the Transvaal has been negligible, while Durban's share has always been considerably greater than that of Port Elizabeth or East London. Lourenço Marques has frequently had a greater share than any Union port of this traffic to the competitive area, though in some exceptional periods Durban's share has exceeded that of Lourenço Marques. As far as the remaining two Union ports are concerned, East London and Port Elizabeth have at different times had varying shares of this traffic. These ports are fairly close competitors for the sea-borne commercial traffic to the competitive area and Figure 6 (see page 58) shows the share of each port of this traffic in the years for which figures are available.

TABLE 3 (29)

Share of the Sea-borne Commercial Traffic to the Competitive Area of the Transvaal Accruing to each of the Union Ports and to Lourenço Marques in each year between 1904 and 1955

Year ended	Cape Town	Port Eliza-	East London	Dur- ban	Lourenço Marques	TOTAL
	Percentage of Total					
	%	%	%	%	%	%
31.12.1904	1.7	7.3	8.9	39.9	42.2	100.0
31.12.1905	1.4	6.1	5.5	36.1	50.9	100.0
31.12.1906	1.5	6.4	6.6	32.7	52.8	100.0
31.12.1907	1.6	6.8	5.3	30.0	56.3	100.0
31.12.1908	1.8	6.2	5.2	23.8	63.0	100.0
31.12.1909	1.8	6.6	4.9	21.9	64.8	100.0
31.12.1910	0.7	5.3	4.1	23.8	66.1	100.0
31.12.1911	0.9	6.4	4.8	28.0	59.9	100.0
31.12.1912	1.1	7.1	5.4	31.0	55.4	100.0
31.12.1913	1.2	8.1	5.3	34.0	51.4	100.0
31.12.1914	1.3	8.9	6.7	34.3	48.8	100.0
31.12.1915	2.0	9.8	8.4	43.6	36.2	100.0
31.12.1916	2.0	10.8	7.8	48.2	31.2	100.0
31. 3.1918	4.3	8.0	6.3	46.0	35.4	100.0
31. 3.1919	6.8	8.7	4.9	53.7	25.9	100.0
31. 3.1920	7.0	8.3	5.1	44.5	35.1	100.0
31. 3.1921	3.7	9.2	5.0	43.2	38.9	100.0
31. 3.1922	3.3	9.2	5.5	35.3	46.7	100.0
31. 3.1923	1.6	8.5	3.9	33.7	52.3	100.0
31. 3.1924	0.6	8.9	3.4	39.5	47.6	100.0
31. 3.1925)	*	*	*	*	*	*
to)	*	*	*	*	*	*
31.12.1938)	*	*	*	*	*	*
31.12.1939	0.1	6.4	2.6	37.7	53.2	100.0
31.12.1940	0.1	5.4	3.8	41.0	49.7	100.0
31.12.1941	0.5	8.6	7.3	37.8	45.8	100.0
31.12.1942	*	*	*	*	*	*
31.12.1943	*	*	*	*	*	*
31.12.1944	1.7	7.5	2.4	44.8	43.6	100.0
31.12.1945	2.7	8.2	3.8	43.8	41.5	100.0
31.12.1946	*	*	*	*	*	*
31.12.1947	0.9	10.9	4.9	33.7	49.6	100.0
31.12.1948	0.7	9.5	9.0	28.6	52.2	100.0
31.12.1949	0.6	6.4	8.9	29.0	55.1	100.0
31.12.1950	0.3	5.6	9.9	28.1	56.1	100.0
31.12.1951	0.4	7.2	10.1	26.4	55.9	100.0
31.12.1952	0.6	5.7	12.1	25.3	56.3	100.0
31.12.1953	0.8	5.9	11.3	22.0	60.0	100.0
31.12.1954	0.8	4.9	11.0	21.3	62.0	100.0
31.12.1955	0.4	3.4	10.8	23.7	61.7	100.0

*: No figures could be obtained for these years

(29) Sources: 1904-10: Annual Reports of the General Manager of the Central South African Railways;
1910 to 1923-24: Annual Reports of the General Manager of the South African Railways;
1939-55: Annual Statement No. 2 (Ref 750/01/II) of the Chief Accountant, S.A. Railways.

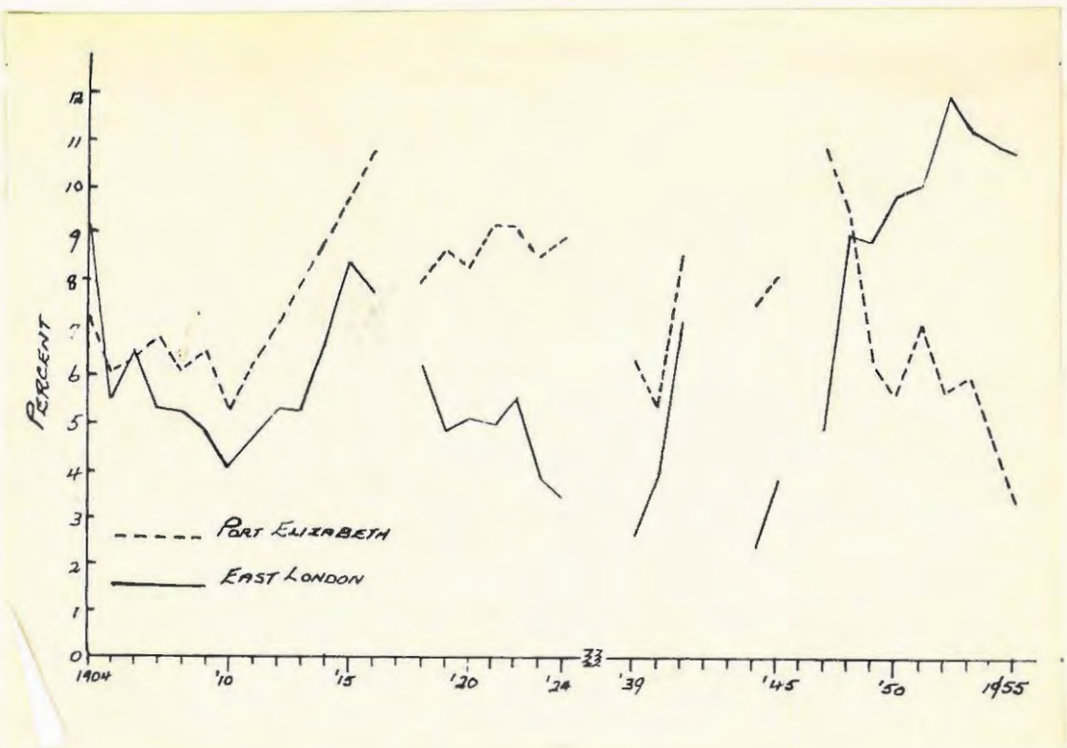


Figure 6
Percentage of the Sea-borne Commercial Traffic to the Competitive Area of the Transvaal forwarded from Port Elizabeth and East London between 1904 and 1955.

Source: Table 3.

By 1910, East London's share of the sea-borne commercial traffic to the competitive area had fallen to 4.1; in many years between 1910 and 1945 it was considerably less. By 1948, however, the figure had increased to 9.0 per cent, and since that year it has risen to a maximum of 12.1 per cent, and although showing a downward trend in the last years of the period under review, it has always been above the figure for Port Elizabeth, which has declined steadily since 1948. Though Lourenço Marques is by far the major port of entry for the competitive area, it is clear that East London is now the second port of the Union supplying that area, being exceeded only by Durban. The following reasons have been suggested by a responsible person as an explanation of East London's ascendency over Port Elizabeth

in regard to the imports of the competitive area:

a. There is a quicker despatch of the goods after they have been landed at East London than there is from Port Elizabeth;

b. Port Elizabeth has, in the past been subject to shipping delays, as too many ships call at that port at the same time; and

c. Every week-end there are two mailships in Port Elizabeth harbour, and as these vessels receive preference in handling of cargo, the smaller vessels are deprived of the labour necessary to handle their cargo, and this in turn leads to delay at that port.

It was mentioned that goods from the Buffalo Harbour reached Johannesburg almost as quickly as those from Durban. The reasons, it will be seen, are not concerned with the distance of the two ports from the competitive area, nor the standard of construction of the respective main lines, but with the handling of goods at the two Harbours.

2. Exports.

The fluctuations in the value, and the quantity, of goods exported through East London Harbour are shown in Figure 7.(30) It was in 1875 that the value of exports through East London Harbour for the first time assumed significant proportions, but even then this represented only 2.9 percent of South Africa's exports.(31) By 1884,

(30) The value of exports is not an entirely reliable guide to the development of a port, especially when, as in the case of East London, the principal commodities are agricultural raw materials, the prices of which are subject to a considerable degree of fluctuation. No quantitative figures are available, however, before 1885.

(31) An attempt to evaluate the importance of East London as an outlet for South African exports has been made in Figure 8, based on Table A.5 The same procedure has been adopted as in regard to imports. The value of gold, diamonds and material prescribed in terms of the Atomic Energy Act, number 35 of 1948, has been excluded from the computations on which this Figure and Table are based. This has been done, partly because a complete series of the value of gold and diamonds exported is unavailable, and partly because it distorts the relative figures of the various ports to include these values.

Fig. 7 Imports and Exports through East London Harbour between 1860 and 1955

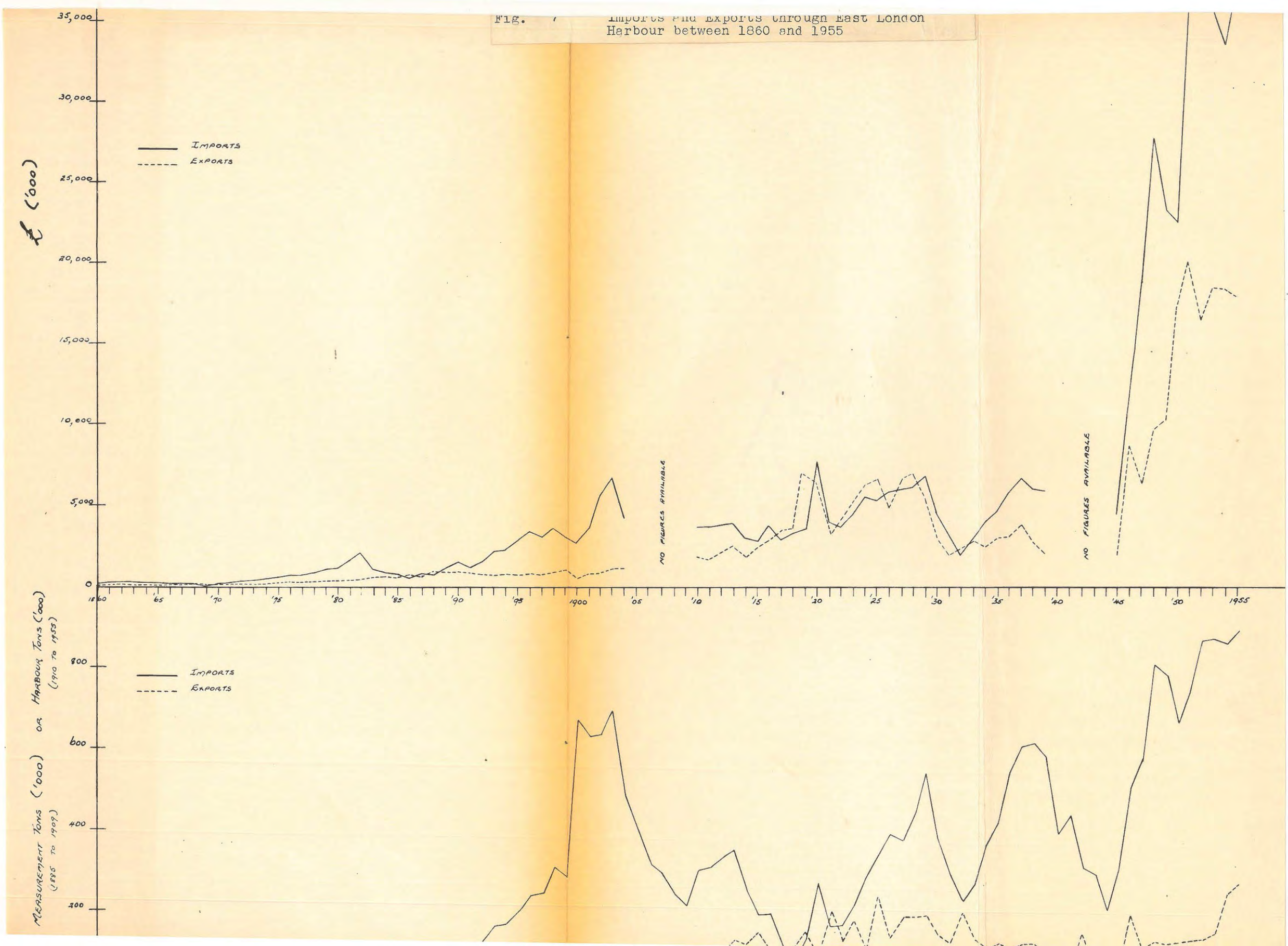
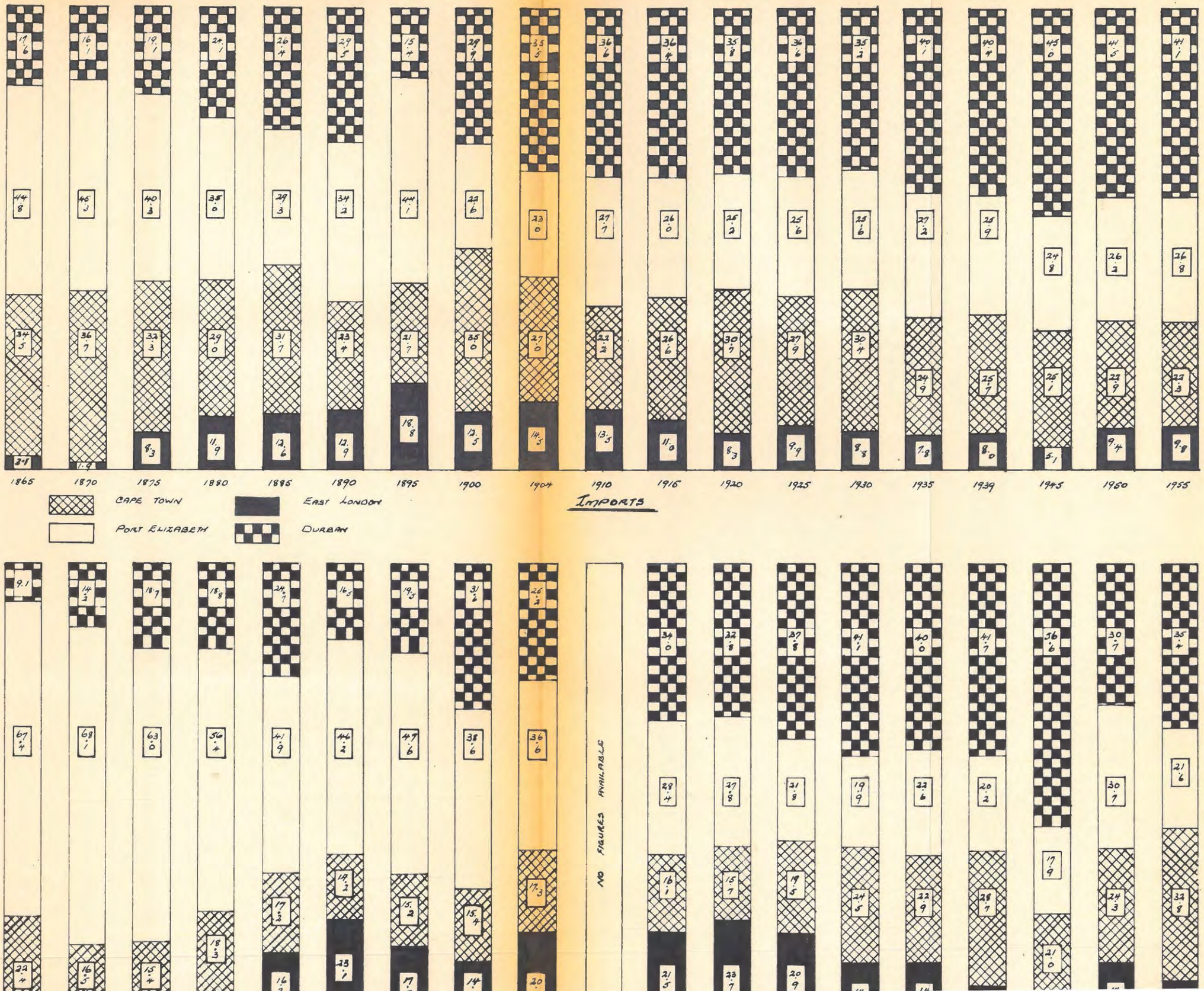


Fig. 8 Percentage of Imports and Exports passing through each of the major South African Ports in certain selected calendar years



there was a marked increase in the value of exports passing through East London Harbour, and in 1885 its share of the total exports of South Africa had risen to 16.2 per cent. In 1890, the percentage was 23.1; but by 1900 it had fallen to 14.4 - a not unexpected development in view of the dependence of the port on agricultural raw materials, which naturally would have been disturbed by the belligerent activities in the Orange Free State and the North-eastern Cape; and these were the main sources of the wool exported through East London. In the years 1904, 1915, 1920 and 1925, East London enjoyed a fairly stable share of South Africa's exports: it varied from 20.9 to 23.7 per cent, the average of the four years being 21.8 per cent.(32) Between 1930 and 1939, there was a steady decline in the share of South Africa's exports passing through East London and this continued during the second world war, the figure in 1945 being only 4.5 per cent. This latter figure reflects the unsettling effect of the second world war on international trade. By 1950, however, the percentage had risen to 14.3 - approximately the same percentage as in 1930 and 1935, when it was 14.5 per cent, but by 1955 the percentage had fallen to 10.3 per cent. In the last forty years East London's share of South Africa's exports declined by 50 per cent; while in the same period Cape Town's share increased by 100 per cent; Port Elizabeth's share declined by 25 per cent; and Durban's share remained almost unchanged.

Commodities exported:

Table A.6 shows the quantities of the principal commodities exported through East London Harbour in each calendar year from 1860 to 1955, and the fluctuations in tonnages of

(32) No figures are available for 1910.

the major exports are shown in Figure 9. No attempt has been made in this Figure to show all the commodities, as this would have produced so many lines that the clarity of the diagram would have been destroyed.

East London's prosperity has been based to a very considerable extent upon the wool exported through its Harbour, and reference to Figure 9 will show the predominance of this commodity among East London Harbour's exports. Though, at times, the quantity of wool has been exceeded by the quantities of other commodities - maize and maize products, for example - wool has been the one commodity regularly exported through the Buffalo Harbour.(33) Until the end of the first world war, the export trade of East London Harbour was founded upon wool, hides and skins and angora hair. Since then the commodities exported have shown a wider variety. Commodities such as maize and maize products, citrus fruit and ground nut oil have been added to the three traditional exports, and in some cases have exceeded the older commodities in quantity. Some comments will now be made upon the principal products exported through East London.

a. Wool:

Perhaps the most significant feature of the wool exported through East London Harbour is the steady and continued increase in quantity from 151 tons, in 1860, to 64,072 tons in 1923. During this period, East

(33) East London merchants say that the price of wool is a useful barometer of East London's prosperity. Not only does the wool export trade provide employment for those connected with its sale and export, but the proceeds realized by the wool producers provide them with a greater or lesser amount to spend on capital or consumer goods either in East London or in other towns of the Border Region.

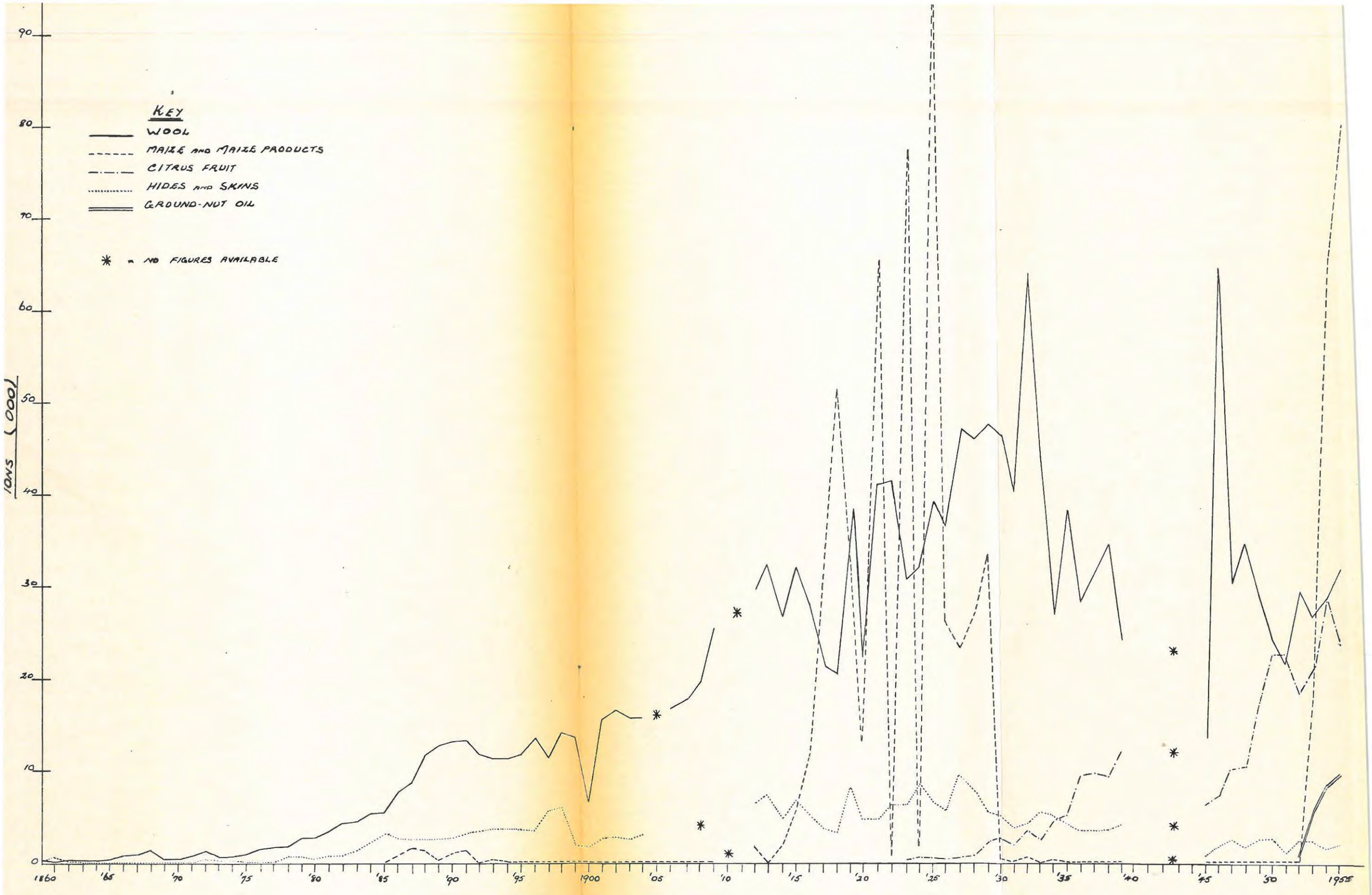


Fig. 9 Principal Commodities exported through East London Harbour between 1860 and 1955

London steadily overtook the other Union ports: Cape Town was overtaken in 1881, Durban in 1894, and Port Elizabeth in 1903, leaving East London as the premier wool port of South Africa, a position which it retained until 1933. Since that time it has been in second place to Port Elizabeth.(34) During the second world war, owing to the disorganization of world shipping, the export of wool from South Africa was erratic and considerable stocks accumulated at the ports. In 1946, much of the stock which had accumulated was exported and this accounts for the abnormal export figure for that year. In the last two years of the period under review, the quantity of wool exported through East London Harbour has shown a rising trend.(35) An analysis of the wool received by rail at East London in the period from 1st April, 1953 to 31st March, 1956, shows that the Border Region is the main source of this export, contributing approximately 60 per cent, while the greater part of the remaining 40 per cent came from the Orange Free State.

b. Hides and skins:

Although exported from 1865 onwards, it was not until 1878 that the export of hides and skins assumed significant proportions. In the thirteen years preceeding 1878, the quantity of hides and skins exported amounted to only 69 tons per annum. After rising steadily to a peak figure of 6,000 tons in 1898, there followed a period of fluctuation until 1926. From

(34) A comparison of the quantities of wool exported through the four major ports of the Union is shown in Figure 10, which is based on Table A.7 in Appendix A.
(35) Figures compiled by the Port Goods Superintendent, South African Railways, East London, indicate that this rising trend is continuing.

Fig. 10 Quantity of wool exported through each of the four major South African ports between 1865 and 1955

1927 onwards the exports of hides and skins have shown a continuous downward trend. Since 1945, the highest figure recorded has been 2,544 tons, but even this is far below the lowest figure recorded in the years before the second world war. Hides and skins have thus ceased to play a significant part among the exports through East London and reference to Figure 11 will show that East London has fallen into fourth place among the major South African ports as far as the export of this commodity is concerned.(36) An analysis of the rail traffic received at East London in the three years ended 31st March, 1956, shows that the Border Region was the principal source of the hides and skins exported, with small quantites being received from the Orange Free State and the Transvaal. The Border Region, however, sent a slightly greater tonnage of hides and skins to Port Elizabeth than it did to East London in the year ended 31st March, 1956.

c. Maize and maize products:

Maize and maize products are perhaps the most interesting of the commodities exported through East London Harbour. Between 1886 and 1891, maize was exported regularly through the port, the highest tonnage being in 1887, when 1,622 tons were exported, while the lowest was 177 tons in 1889. After 1891, exports of this commodity virtually ceased until 1912, when 1,677 tons were exported, followed in 1914 by 1,749 tons. In 1915, approximately 6,000 tons were exported, and in 1916 this was almost doubled to 11,679 tons.

(36) This Figure is based on Table A.8 in Appendix A.

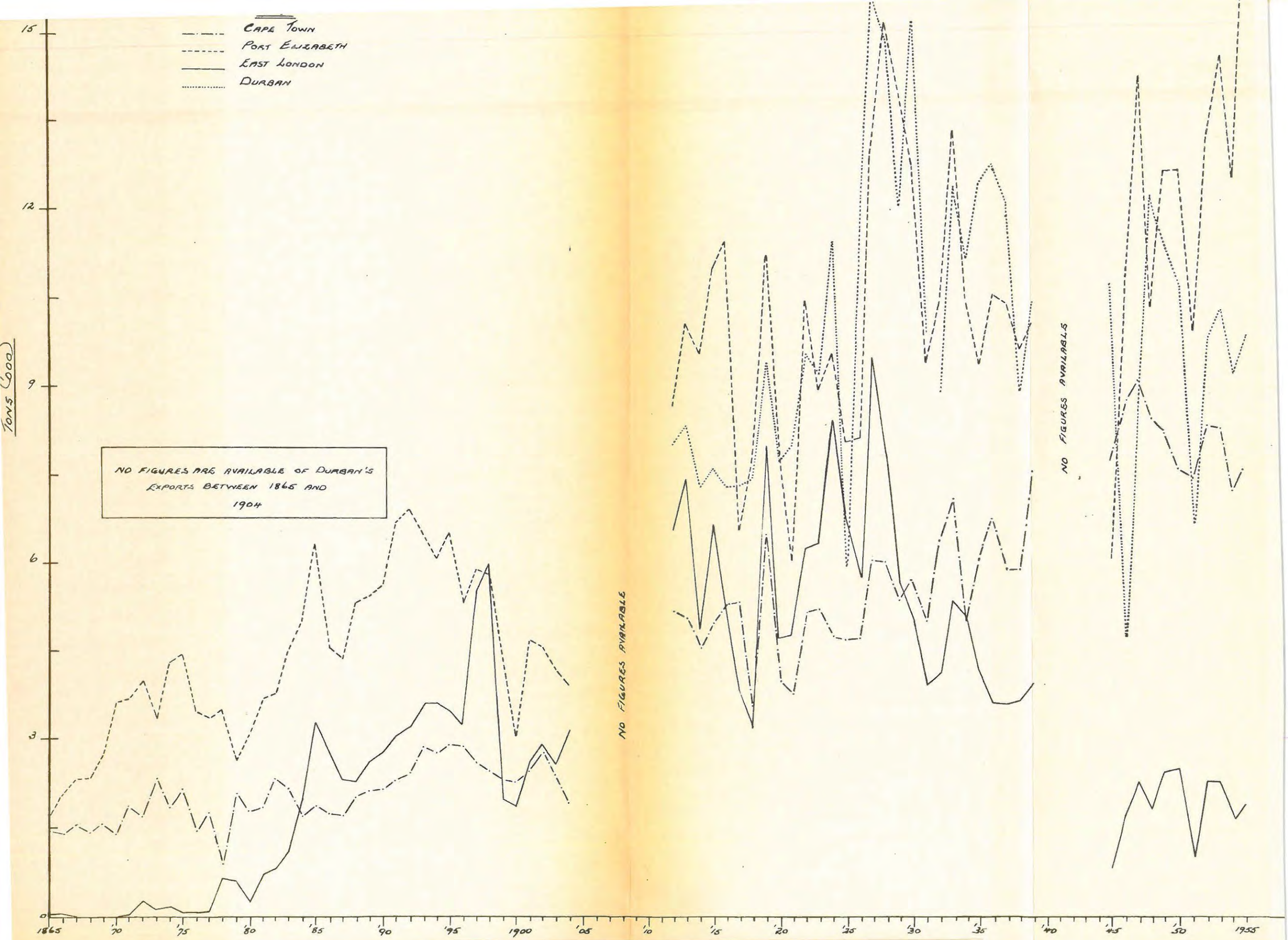


Fig. 11 Quantity of hides and skins exported through the four major South African ports between 1865 and 1955

This resumption of the exporting of maize and its derivatives through East London Harbour initiated an incredible series of peaks and depressions.(37) The magnitude of these fluctuations can be gauged from Figures 9 and 12 and the following data:

Year	Tons Maxima	Tons Minima
1918	51,340	
1920		13,185
1921	65,146	
1922		727
1923	77,496	
1924		1,943
1925	94,615	
1927		23,260
1929	33,213	

After 1929, the quantity of maize and maize products exported through East London declined, the average quantity exported in the succeeding five years being only 250 tons per annum. After 1935, the export of these commodities through East London Harbour ceased entirely, and it was not resumed until 1953, when approximately 17,000 tons were exported. In the following year the quantity exported increased to 65,687 tons, while in 1955 80,261 tons were exported.(38)

This resumption of the exportation of maize and its derivatives through East London appears to be the result of deliberate administrative policy on the part of the South African Railways Administration, for the

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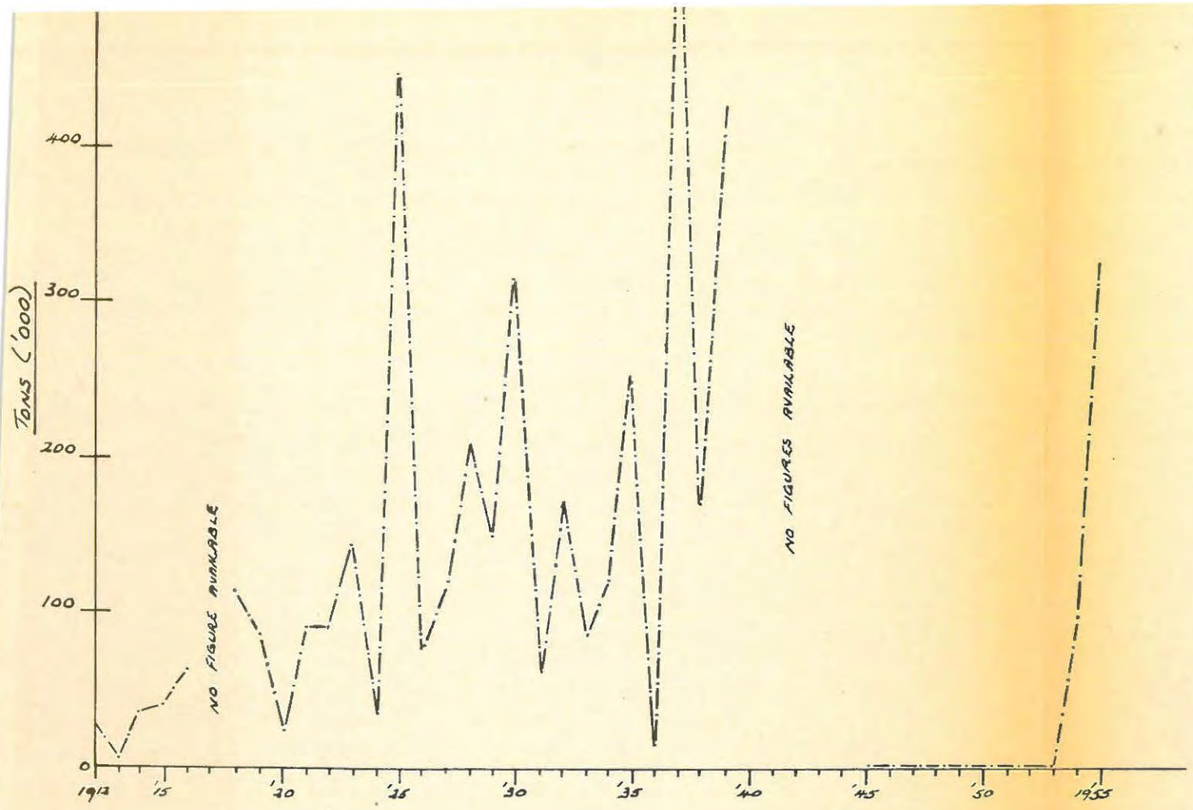
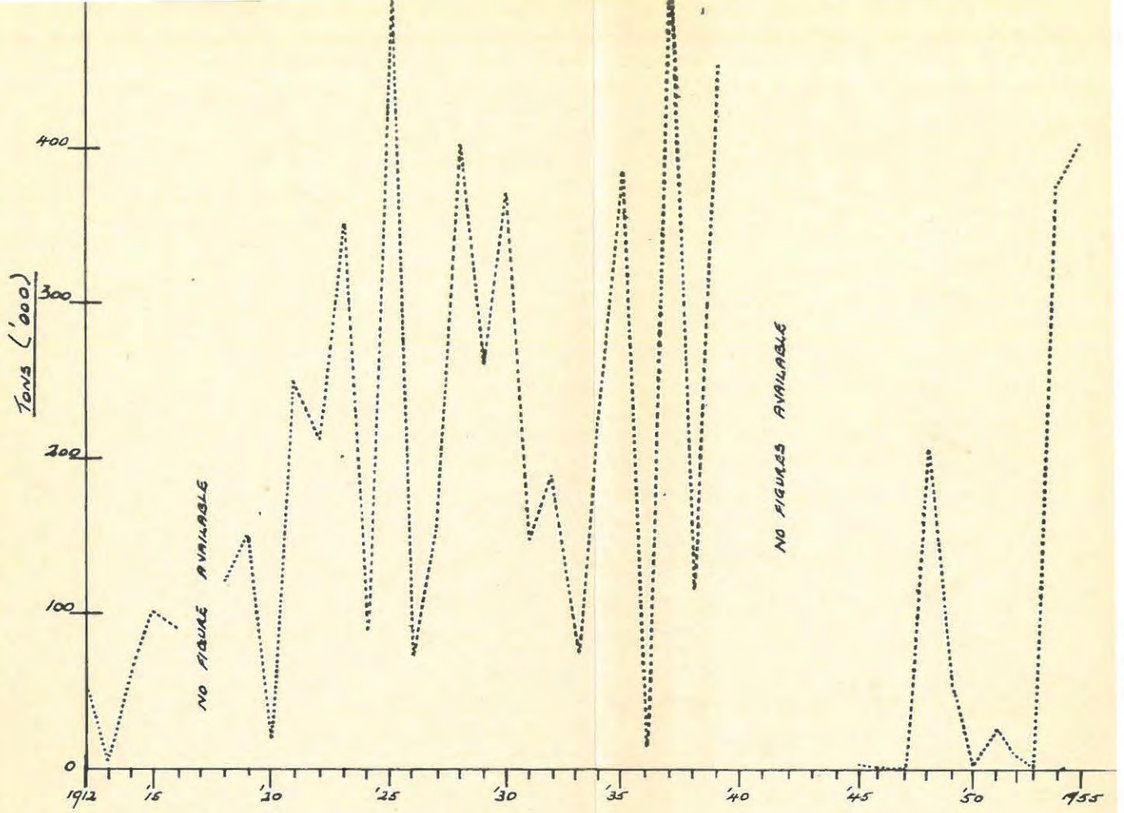
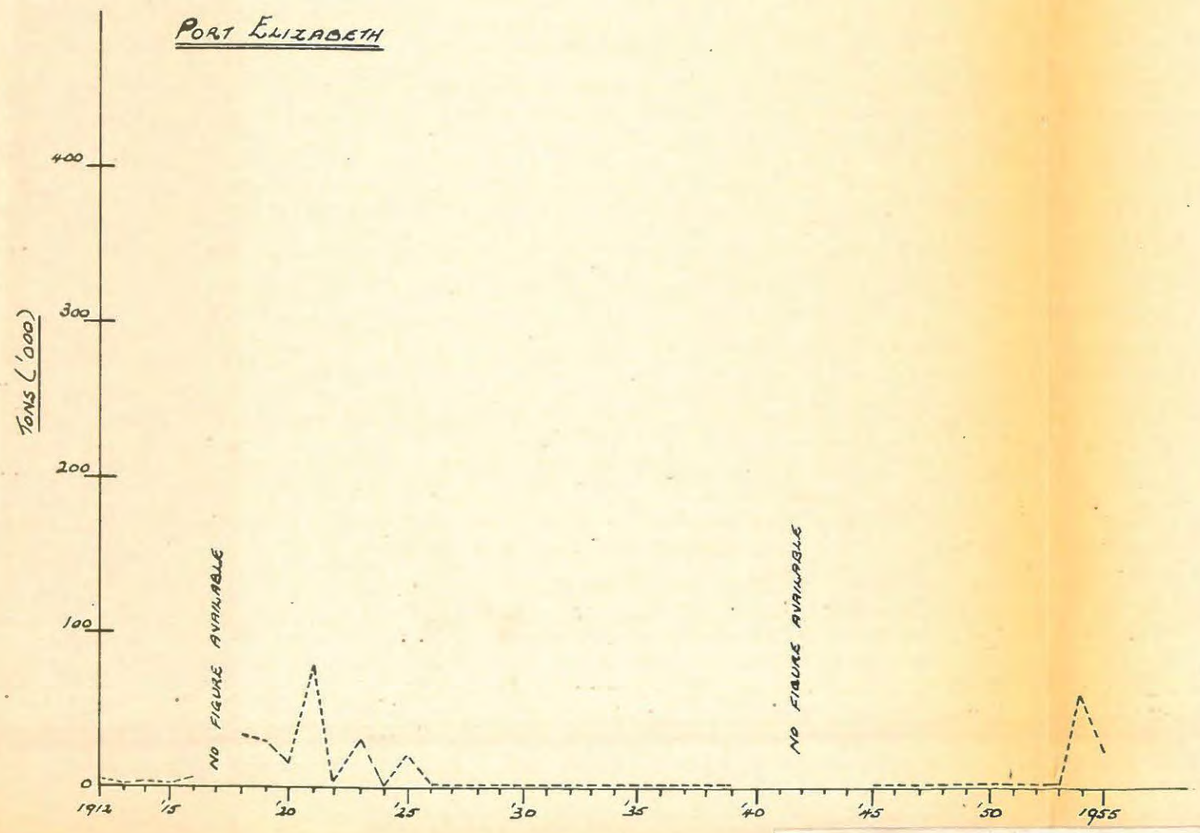
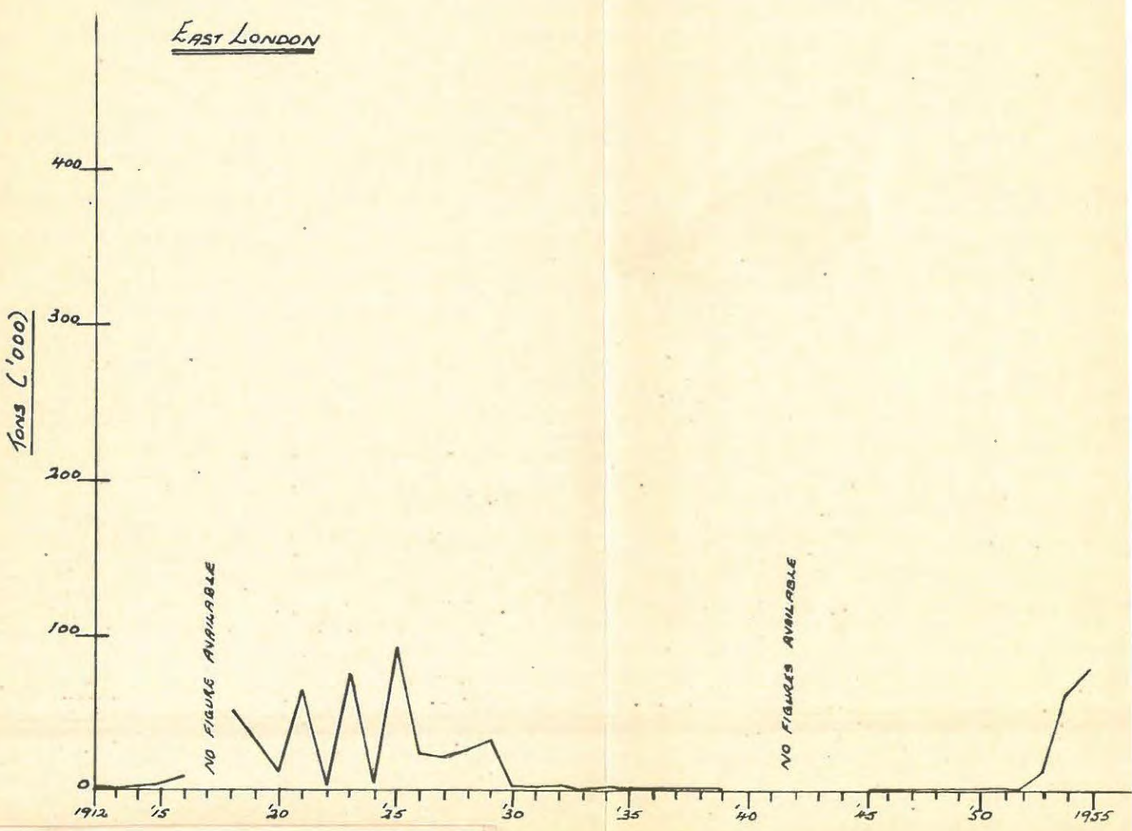
(37) This does not mean that the other commodities did not fluctuate between peaks and depressions - in the inter-war years both hides and skins and wool showed a tendency to fluctuate - but in the case of maize and maize products it is the magnitude of the fluctuations which is the cause for comment.

(38) The figures compiled by the Port Goods Superintendent, South African Railways, East London, indicate that this rising trend is continuing.









Figs. 12a - 12d: Quantity of maize and maize products exported through each of the four major

General Manager of Railways and Harbours, speaking at East London in January, 1958, announced that East London Harbour was to be developed as a major maize exporting port.(39) If this statement does nothing else, it illustrates the ease with which hinterlands of ports can be manipulated administratively by a state-owned railway undertaking.(40)

The export of maize and maize products has been of considerable importance in various years, but its erratic nature robs this commodity of some of the importance enjoyed by the more regular wool, hides and skins, etc. This regularity has been of great importance to the commercial development of the city and its port. Although large quantities of maize were exported through East London in various years, reference to Figure 12 will show that East London was relatively unimportant compared with Durban and Cape Town.(41) Both these ports still far surpass East London as far as the quantity of maize and its products exported is concerned. The maize and maize products exported through East London came overwhelmingly from the Orange Free State, the average percentages for the three year period ended 31st March, 1956 being:

From the Orange Free State	93.3 per cent
From the Transvaal and other areas	6.7 per cent
	100.0

(39) "East London Daily Dispatch": 6th January, 1958.
(40) This is further re-inforced by the exportation, in 1955 and 1956, through East London Harbour of certain mineral ores - sillimanite and cryolite - originating in South West Africa. This was done because Walvis Bay was unable to cope with these exports, as were Cape Town and Port Elizabeth, both the latter being busier ports than East London.
(41) This Figure is based on Table A.9 in Appendix A.

d. Citrus fruit:

Although exported since 1921, citrus fruit was not a significant export through East London Harbour until 1924. In recent years, this commodity has become of considerable importance in the export trade of the port. The relative position of East London, compared with the other ports, is shown in Figure 13.(42) In the financial year ended 31st March, 1956, 20,742 tons of citrus fruit were consigned to East London for export.(43) Of this tonnage, 10,741 tons came from the Transvaal, while the remaining 10,001 tons came from Alice, Fort Beaufort, Adelaide, Katberg and Seymour in the Border Region.

e. Ground-nut oil:

This is a new export through East London Harbour, and at present, it ranks fourth among the exports. It originates in the Transvaal; and it is still too early to discuss the permanency of this commodity as an export through East London Harbour.

f. Angora Hair:

The quantity exported per annum is small in comparison with that of wool, hides and skins, maize and maize products, etc., and thus it has not been shown on Figure 9. It is, nevertheless, a significant export through East London Harbour because of its

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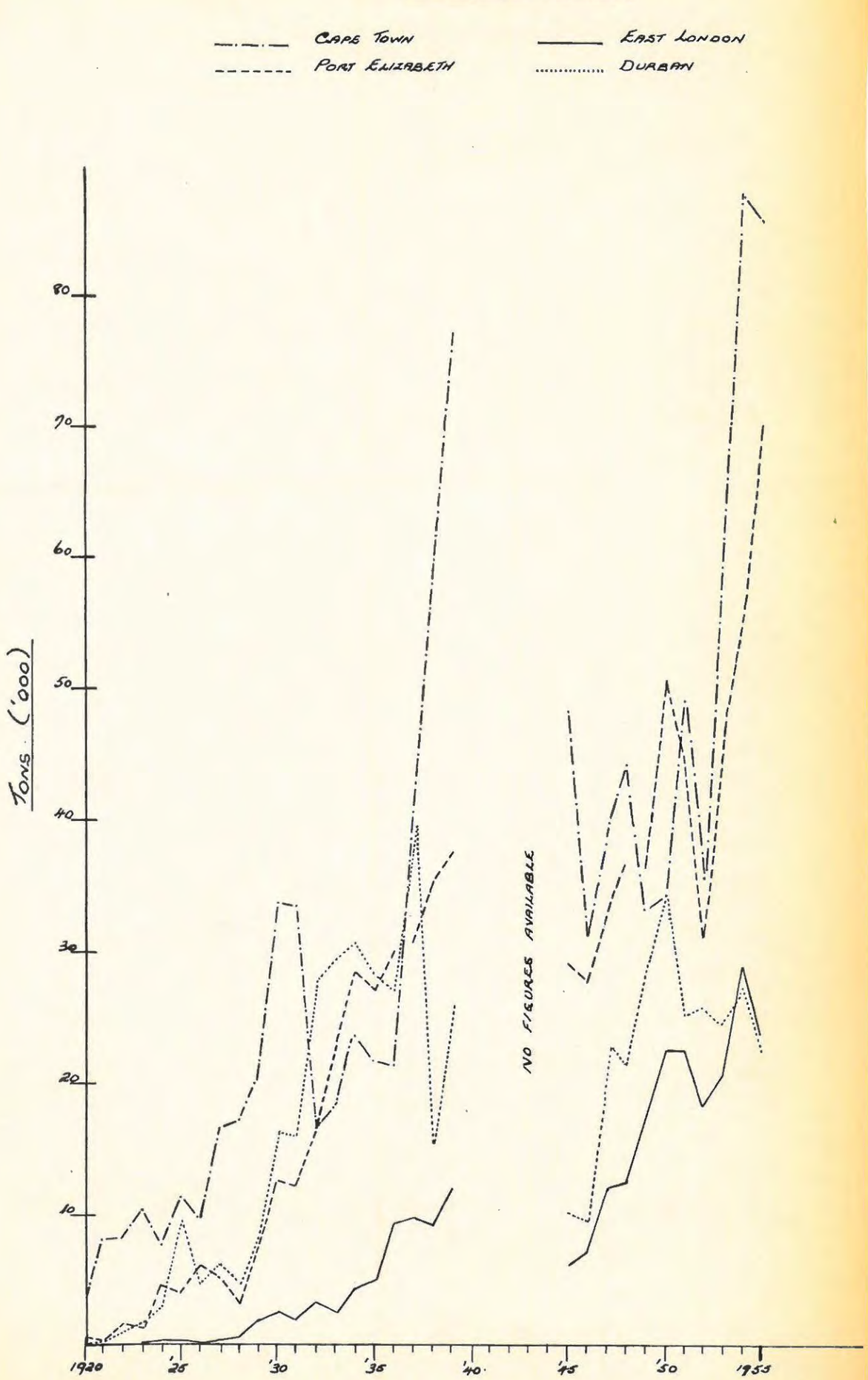
(42) This Figure is based on Table A.10 in Appendix A.
(43) Figures are not available for the period before the year ended 31st March, 1956, because before that only the quantity of export fruit received at East London was recorded, no indication being given as to what quantity was citrus fruit and what quantity was other types of fruit.

FIGURE 13: QUANTITIES OF CITRUS FRUIT EXPORTED THROUGH EACH OF THE MAJOR SOUTH AFRICAN PORTS IN EACH CALENDAR YEAR BETWEEN 1920 AND 1955.



regularity. In the twelve years before 1882, only 75 tons were exported; after this the quantity exported per annum increased steadily, and in 1912 1,327 tons were exported. In 1922, after a period of fluctuation, 1,400 tons were exported. Since then, the annual export has varied between extremes of 55 tons and 502 tons, the average per annum in the eleven years from 1945 to 1955 being 381 tons. Despite the decline in the quantity exported per annum, East London retains the position of second port of the Union for the exportation of this commodity, Port Elizabeth being the most important. Since 1946, Durban's and Cape Town's exports have been only about one-tenth of East London's average annual export.(44)

g. Other commodities:

There are certain other commodities which have been, or are, of importance in the export trade through East London Harbour.

i. Other fruit has been exported since the middle twenties, but the exports were recorded in boxes, and due to the heterogeneous nature of the commodity, it has not been possible to deduce a factor by which these boxes could be converted for comparison with the more recent figures which are given in tons. The figures published by the Department of Customs and Excise do not indicate the nature of the fruit exported. The Railways and Harbours Administration,

(44) Table A.11, in Appendix A, shows the comparative figures for angora hair exported through each of the major South African ports between 1870 and 1955.

however, records the quantity of pineapples exported through East London, but does so in harbour tons for each financial year.(45) Between 1st April, 1934, and 31st March, 1940, a total of 1,931 harbour tons of fresh pineapples were exported;(46) during the war and for some years afterwards no fresh pineapples were exported, but in the year ended 31st March, 1952, exportation was resumed with 712 harbour tons. The following are the figures for the latest financial years:(47)

Year ended 31st March	Harbour tons
1953	1,933
1954	2,987
1955	3,576
1956	6,345

In the financial year ended 31st March, 1952, the exportation of tinned and frozen pineapples trhough East London Harbour commenced, 124 harbour tons being exported. The exports of this commodity have increased considerably in importance, and in the year ended 31st March, 1956, 3,959 harbour tons were exported.(48)

ii. Eggs have been exported regularly through East London Harbour since the middle twenties, with the exception of the second world war years. The average annual tonnage exported between 1925 and 1939 was 268 tons. In the eight years

(45) An harbour ton of pineapples (fresh or frozen) is calculated on the measurement basis of 40 cubic feet.
(46) No figures were compiled before 1st April, 1934.
(47 Unpublished Reports of the Port Goods Superintendent, South African Railways, East London for the several years.
(48) A harbour ton of tinned or frozen pineapples is calculated on the measurement basis of 40 cubic feet.

between 1949 and 1955, an average of 258 tons per annum was exported.

iii. Butter was a regular export through East London Harbour between 1932 and 1939, the annual average being 432 tons. No butter was exported during the second world war years, and since 1946. only 302 tons have been exported in the whole decade.

iv. Fresh or frozen meat was exported regularly between 1931 and 1939, the quantity exported per annum varying between the extremes of 2,792 tons and 81 tons. Since the resumption of exports after the second world war, only 1,000 tons of this commodity have passed through the port.

The above detailed analysis of the commodities exported through East London Harbour emphasizes what has been already mentioned: the exports through East London Harbour are predominantly agricultural raw materials, or agricultural products which have undergone a certain amount of processing, such as butter and maize products. There is a certain quantity of general merchandise - mainly local manufactures such as confectionery and soap - exported through the Harbour to the other South African ports. This cargo has increased considerably since 1st. September 1954, when the Sea Competitive Rate Scheme of the South African Railways was abolished.(49) Detailed figures are shown in Table 4.

(49) An explanation of this special rating scheme will be found in Chapter 5.

TABLE 4 (50)

General Cargo shipped from East London to the other South African Ports in the three years ended 31st August, 1956.

Destination	Year ended 31st August		
	1954	1955	1956
	Harbour tons		
Durban	6,781	13,089	14,040
Port Elizabeth	1,615	2,652	1,431
Mossel Bay	15	52	88
Cape Town	2,468	13,213	13,666
Lüderitz	20	7	42
Walvis Bay	313	485	553
TOTAL:	11,212	29,498	29,820

4. Summary.

1. The import trade through East London Harbour has, with only few exceptions, far outweighed the export trade. From 1860 onwards there was a steady increase in the imports through the port, reaching a climax of approximately 696,000 measurement tons in 1903. After this, imports declined to 77,285 harbour tons in 1918; this was followed by a gradual increase until 1929 when 547,178 harbour tons were imported. During the depression, however, the harbour tonnage of imports fell, the lowest recorded figure being 230,008 harbour tons in 1932. By 1938 imports had risen to approximately 620,000 harbour tons, but during the second world war they fell to less than 207,000 harbour tons. Since 1945, however, there has been a marked increase in

(50) Source: Unpublished monthly statement of cargo shipped coastwise, compiled by the General Manager of Railways and Harbours, Johannesburg. (Reference: H.33/5)

the quantity of goods imported through East London, the 1955 figure being 897,141 harbour tons - an increase of 44.6 per cent over the 1938 figure.

2. In 1865, 3.1 per cent of the total value of imports into South Africa through the four major ports passed through East London; after rising to 18.5 per cent in 1895, the figure fell steadily to 5.1 per cent in 1945, but, in 1955, it had risen to 9.8 per cent.

3. It is not possible to obtain quantitative figures of the commodities imported, but using value as a guide, up to 1904 the following three commodity groups were the most important:

   a. clothing and textiles;
   b. foodstuffs and grain; and
   c. metals, metal manufactures and machinery.

   At various times each of these groups held first place. Since 1915, these three groups have been joined by a fourth: the oils, waxes, paints, varnishes and motor spirit group. These four groups account for three-quarters, or more, of the total annual value of goods imported through East London. Since 1925, the metals, metal manufactures and machinery group has accounted for a greater percentage of the total value of imports than any other commodity group.

4. It is not possible to trace the destination of the goods imported through East London Harbour, as it is not considered to be a separate station distinct from East London by the South African Railways Administration. Records are kept, however, of the

distribution among the ports of the sea-borne commercial traffic destined for the competitive area of the Transvaal. This traffic has passed mainly through Lourenço Marques and Durban; East London's share averaging only 5.3 per cent per annum between 1904 and 1947. Since 1948, there has been a marked increase in East London's share of this traffic, the average for the eight years up to 1955 being 10.4 per cent per annum, and East London now ranks second among the Union ports as a port of entry for sea-borne commercial traffic to the competitive area.

5. After a period of comparative stability exports increased slowly to reach 154,564 harbour tons in 1915. A period of fluctuation followed, reaching 198,587 harbour tons in 1932, this being followed by a steady decrease which was not arrested until after 1944. Since 1945, there has been a steady increase in the quantity of goods exported through East London, the figure for 1955 being 270,981 harbour tons, which represents an increase of 118.8 per cent over the figure for 1938.

6. In 1865, 1.1 per cent of the total value of the exports through South Africa's four major ports passed through East London; after rising to 23.1 per cent in 1890, there was a period of fluctuation, but by 1920 it had risen to 23.7 per cent. It then fell steadily, until in 1945 only 4.5 per cent was recorded. By 1950 the percentage had risen to 14.3, but by 1955 it had fallen to 10.2 per cent. (It will be remembered that the value of gold,

diamonds and material prescribed in terms of the Atomic Energy Act, Number 35 of 1948, exported through the ports has been excluded from the computations on which these figures are based.)

7. Up to the end of the first world war, the exports through East London consisted predominantly of three commodities: wool, hides and skins and angora hair. Other commodities were exported from time to time, but their export was erratic. From the end of the first world war, a greater variety has been introduced into the commodities exported through the Harbour, the most important of the new products being maize and maize products, citrus fruit and ground-nut oil. Although the quantity of maize and maize products exported has, at times, been large, it has been irregular.

8. East London, though the least important of the major South African ports, is nevertheless a port of some consequence. The total quantity of goods handled at the port in 1955 was 1,168,122 harbour tons: an increase of 183.0 and 57.2 per cent, respectively, over the figures for 1910 and 1938.

It is impossible to over-estimate the importance of the Harbour as far as the commercial development of East London and the Border Region is concerned. For the latter it provides the means of disposing of surplus agricultural products, and of obtaining the imported manufactured goods, still imported in significant quantity despite the development of secondary industry in South Africa having

lessened the Region's dependence on overseas manufacturers. In East London itself, industry is of comparatively recent development, and the prosperity of the town in the past has been built very largely on the activities connected with the exportation of wool and hides and skins, and the importation and distribution of manufactured consumer goods. The decrease in the quantity of manufactured goods imported has forced many wholesale houses in East London to go out of business, or to modify their operations by moving away from pure wholesaling and distribution. A large proportion of the imports at present passing through East London Harbour are capital goods, raw materials of industry and oil and liquid fuels, and much of these is sent directly to the Southern Transvaal. Despite the changing pattern of imports, the activities at the Harbour will continue to play an important part in the commercial development of East London, and the growth of industry will help to place that development on a more balanced basis than in the past.

PART TWO

THE CAPE EASTERN RAILWAY SYSTEM

CHAPTER 3.

THE EVOLUTION OF THE CAPE EASTERN SYSTEM

1. The Main Line.

In 1860, the first railway was opened for traffic in South Africa - the two mile long, privately owned line from Durban to the Point. Early in 1862, the first section of a railway line, which was being constructed from Cape Town to Wellington by the Cape Town, Wellington and Docks Railway Company, Ltd., was opened. The total open railway mileage in South Africa was thus increased to twenty-three miles.(1)

The first hint of a railway in the Border Region came in the early sixties of the last century, with the suggestion by the Colonial Engineer of the Cape of Good Hope that a "tramway" should be constructed between East London and King William's Town. In his reply, the Civil Engineer of British Kaffraria stated that he did not believe that the traffic between the two towns was sufficient to warrant the construction of such a tramway, the cost of which he estimated at £160,000, including buildings and rolling stock. Upon this sum interest at the rate of 6 per cent per annum would have had to be paid. He further estimated that approximately 3,550 tons might be expected to pass annually between East London and King William's Town,(2) and that the traffic between the intermediate stations would approximate 1,000 tons per annum.

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(1) U.G.36-1956: Report of the General Manager of Railways and Harbours for the year ended 31st March, 1956; Statement No. 17, showing in chronological order, the date of opening and the mileage of each section of railway.

(2) This estimate of the Civil Engineer was based on the quantity of traffic landed and shipped through the Buffalo Harbour in the year ended 31st March, 1861.

The annual revenue of the tramway was estimated at £4,792, of which £3,792 was to be derived from goods traffic and the remainder from passenger traffic. It was pointed out that 55 per cent of the revenue would have been needed to meet the working expenses of the line, leaving only £2,157 to cover an annual interest payment of £9,600 - in other words, an annual deficit of £7,443. It was, furthermore, considered extremely doubtful, in view of the entrenched ox-wagon transport, if traffic would increase sufficiently to make the tramway a paying proposition. It was mentioned that, although the ox-wagon rate was considerably higher than the proposed tramway rate of five pence per ton per mile, those who patronized the tramway would have the additional expense involved in the transportation of their goods from the harbour to the station at East London and from King William's Town station to their warehouses; and vice versa.(3) No further mention appears to have been made about this precursor of mechanical transport in the Border.

It was not, however, until 1872 that definite steps were taken towards the construction of a railway in the Border Region. On July 23rd, 1872, the House of Assembly resolved that a survey should be made of the country between East London and Queenstown, with a view to the construction of a rail link between these towns.(4) This survey was entrusted to Mr. W.G. Brounger, who supplemented his report with certain statistics of the traffic by road between King William's Town, East London and certain other

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(3) Copy of the reply from the Civil Engineer, British Kaffraria, to the Colonial Engineer, Cape Town. (To be found in the Civil Engineer's letter book, in the British Kaffraria section of the Cape Archives, Cape Town.)

(4) Cape of Good Hope: Votes and Proceedings of the House of Assembly: 1872; page 569.

centres.(5) According to these figures, the traffic between East London and King William's Town, in both directions, was between ten and eleven thousand tons per annum: approximately three times as great as the estimate made ten years earlier. The traffic in both directions between East London and Queenstown amounted to almost 3,000 tons; between King William's Town and Queenstown, in both directions, it was approximately 2,500 tons. The traffic between East London and King William's Town, on the one hand, and the Kimberley Diamond Fields, on the other, amounted to only a few hundred tons.(6)

In the report of his survey, Mr. Brounger suggested two possible routes for the railway line: a direct route, and a route via King William's Town. The latter route left the direct line in the Berlin-Blaney area and rejoined it at Peelton. In 1873 the sum of £25,000 was voted by Parliament, and in January, 1874, construction of the railway commenced. This was, however, confined to a twenty-eight mile long section between East London and Berlin, leaving the direction the line should take beyond that point an open question which Parliament attempted to resolve by ordering further surveys to be made of the country between King William's Town and the proposed direct line to Queenstown. In his report, however, the Resident Engineer in charge of the construction of the line advised firmly against taking

(5) A.21-1873: Report of the First Section of the Survey of the East London and Queenstown Railway.
(6) A.22-1873: Statistics collected ... of the weight of traffic between King William's Town, East London and other places during the year 1872: pages 4-6. (The detailed figures will be found in Chapter 7 of this Thesis.)

the line through King William's Town because:

a. it would be necessary to construct a greater length of line through very difficult country, instead of a shorter line with easy curves and gradients, and thus the cost of the line as a whole would be increased;

b. the great number of sharp curves and the heavy gradients which would have to be constructed, if the line were taken through King William's Town, would make the working expenses of that portion of the line excessive; and

c. if the line were taken through King William's Town, all traffic between East London and Queenstown would be forced, without any plausible reason, to pay about 12 per cent more railage than if the direct line were constructed.(7)

The report recommended that a ten mile long branch line should be constructed to connect King William's Town with the main line at Blaney Junction. Naturally, these proposals were not well received in King William's Town, for the by-passing of the town by the main line could not but have unfavourable repercussions on its commercial development. Despite strong protests from King William's Town, culminating in a petition to both Houses of Parliament, the Resident Engineer's proposals were endorsed by the Colonial Railway Engineer,(8) and embodied in Act number 19 of 1874. The railway line reached King William's Town on 1st May, 1877; and Queenstown in May, 1880, the construction of the latter section having been considerably impeded by native disturbances.(9)

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(7) A.5-1874: Reports of surveys, estimates and copies of correspondence in connection with proposed lines of railway (No. 5: Railway - East London to Queenstown): page 87.

(8) ibid: page 102.

(9) At this stage there were 971 miles of railway open in South Africa, distributed as follows:
Cape Colony: 912 miles (Western: 407 miles; Midland: 339 miles; Border: 166 miles.
Natal: 59 miles.

A marked feature of the railway line from East London to Queenstown was the number of sharp curves used in its construction. These curves were rendered necessary by the broken and difficult country through which the line passed, and by the instruction that it was to be constructed as cheaply as possible. Furthermore, the route mileage was increased by an attempt at contouring and adapting the line to the sinuosities of the country, as far as the prescribed maximum gradient and minimum radius of curves would allow. These maximum and minimum limitswere freely used in the construction of this line; and helped to reduce the first cost of the line, because heavy earthworks of all kinds, especially excavation in rock, were reduced to a minimum. It was not only the question of cost which dictated this construction policy, but also the labour difficulties encountered by the Resident Engineer. Though this policy reduced the first cost of the line, it left a legacy of high operating costs, and many other disadvantages, to burden those charged with the operation of the Cape Eastern System; a burden which was not removed until the reconstruction of the main line south of Queenstown was finally completed after the second world war.

Extension northward from Queenstown:

In 1878, the House of Assembly agreed that, with a view to the extension to the Orange River of one or more of the railway lines sanctioned by Act number 19 of 1874, surveys should be made to ascertain which were the most eligible routes between one or more of the existing termini and the Orange River.(10) In 1879 and 1880, a series of surveys

(10) Cape of Good Hope: Votes and Proceedings of the House of Assembly: 1878: page 393.
The existing termini were Cradock and Queenstown

were made of the country north of Queenstown, two lines being investigated:

a. round the eastern end of the Stormberg Range, passing to the west of Dordrecht and on to Aliwal North; and

b. through the centre of the Stormberg Range, via Molteno and Burgersdorp to Aliwal North.(11)

The particular problem confronting the Engineers who were trying to find a route from Queenstown to Aliwal North was the position of the Stormberg Range. This high range of mountains starts near the boundary of the Cape at Steynsburg, and lies directly between Queenstown and the Orange River, affording few passes for either road or railway. The only two possible points at which a railway line might have crossed the Range were at Koopsleegte, at the eastern end - route (a) above; or in the centre through Bushman's Hoek - route (b) above. It was finally decided to construct a line through Bushman's Hoek, and then take it via Molteno and Burgersdorp to Aliwal North.(12) At the same time the extension of the Midland line from Cradock to Colesberg was authorized.(13)

The rapid construction of a railway line northward from Queenstown was a matter of particular importance to East London, because the possibility of retaining a share of the

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(11) G.53-1879: Reports on inspections made to ascertain the best lines of possible railway extension in the Colony: No. 2 - Cradock and Queen's Town [sic] extension survey.
G.45-1880: Reports of inspections made to ascertain the best lines of possible railway extension in the Colony: No. 1 - Possible extension of the East London and Queen's Town [sic] System.

(12) See Figure 16, after page 100.

(13) Act number 14 of 1881.
From this point onward, the main line northward from East London will be referred to as the Eastern line, and as the railway network develops, the term Cape Eastern System will be employed to designate these lines collectively. The main line northward from Cape Town will be termed the Western line; and that northward from Port Elizabeth the Midland line.

trade to the Kimberley Diamond Fields depended upon the extension of the Eastern line keeping pace with the extensions of the Western and the Midland lines. East London was at a disadvantage in regard to the traffic to Kimberley compared with both Cape Town and Port Elizabeth. Although Cape Town was farther from Kimberley than either Port Elizabeth or East London, it was the first port of call in South Africa for vessels from England and it was the best equipped of the Cape Ports; much of the traffic for the Kimberley mines was therefore, discharged at Cape Town. As long as ox-wagons had to be used for some part of the journey from the ports to Kimberley, East London stood to obtain some share of the trade because, although the journey was longer than from Port Elizabeth, the country through which the wagons passed was more favourable from the point of view of pasture, and thus the transport riders could quote lower rates from East London than from Port Elizabeth. With the construction of a railway, however, the tendency would be to use the railway in preference to the less efficient ox-wagon. The nearer the Western and the Midland lines drew to Kimberley, the less would be the chance of East London drawing Kimberley traffic, and thus it was urgently necessary that the Eastern line should keep pace with the others. This, however, it failed to do, and when the Western and Midland lines, which had been united at De Aar, reached the Orange River in November, 1884, the Eastern line had only reached Molteno.

In May, 1884, in his speech at the opening of Parliament, the Governor of the Cape of Good Hope had intimated that his Ministers deemed it inexpedient to ask Parliament to authorize any further railway works, with the exception

of the section between the Orange River and Kimberley. This section was to be constructed only if the mining districts guaranteed to re-imburse the Treasury if the revenue of the section was insufficient to cover its working expenses, as well as the interest on the capital outlay involved.(14) Two days later, however, Mr. Scanlen resigned the Premiership and his government was replaced by one under Mr. Upington; and the new government declined to introduce any bills providing for further railway construction.

Though ox-wagon transport would thus have been necessary between the rail-heads and Kimberley, the rail-head of the Western and Midland lines at the Orange River would have been nearer Kimberley than any Eastern line rail-head could be. The decision not to construct any further lines meant that there was no immediate prospect of a rail link between the Midland and the Eastern lines; and this isolation of the latter would materially reduce East London and the Border's share of the Kimberley trade. In February, 1885, however, it was announced in Cape Town that the British Government intended to lend the Cape Government £400,000, with interest at 4½ per cent per annum, to enable a line to be constructed from the Orange River to Kimberley, which was reached on 28th November, 1885.(15) Three months

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(14) Cape of Good Hope: Debates in the House of Assembly: 1884; page 46.

(15) Commenting upon this loan, the "East London Daily Dispatch", in a sub-leader dated 14th March, 1885, said:
"We can well immagine with what enthusiasm the news [of the loan] has been received in Cape Town, Kimberley and Port Elizabeth. There is nothing in the news to make East London rejoice because we cannot do business with Kimberley by rail, but we may express our satisfaction that the country is to obtain this great boon at such an early period and on such easy terms."

earlier, the Eastern line had reached Aliwal North, but this did not materially assist the Border merchants. Various customs difficulties arose with the Orange Free State Republic, rendering Aliwal North virtually useless as a railhead and wagon-loading centre for the Diamond Fields, the shortest route to which lay through the territory of the Republic. Aliwal North remained the terminus of the Eastern line until 1892.

Three years before the Eastern line reached Aliwal North, the House of Assembly had authorized the Cape Government to enter into an agreement with any person or company who was prepared to construct a railway line from Burgersdorp to the Orange River near Bethulie. When the work was completed, the Government was to pay a sum not exceeding one-sixth of the cost of constructing the line; and the following conditions were to apply:

a. the contracting party should guarantee to construct a line similar in all respects to the lines already constructed in the Cape Colony and to be fully equipped;

b. the contracting party would have the right to work the line, for his own benefit, for a period, and on terms to be mutually agreed upon; and

c. the Government could take over the line, either immediately, or after a certain period, on terms and conditions to be mutually agreed upon.(16)

Nothing, however, came of this scheme, and it was not until ten years later that such a line was constructed.

After the discovery of gold in the Transvaal, and the proclamation of the Witwatersrand as a Public Diggings in September, 1886,(17) it became urgently necessary,

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(16) Cape of Good Hope: Votes and Proceedings of the House of Assembly: 1882; page 689.

(17) Union of South Africa: Department of Mines: "The Mineral Resources of South Africa", (Pretoria 1940); page 109

if the Cape was to be able to challenge Durban for a share of the Gold Fields traffic, that a railway line should be constructed to the Vaal River through the Orange Free State Republic. The two routes which could possibly have competed with Durban (which had an absolute mileage advantage over the Cape Ports) for part of the increasing trade with the Gold Fields were:

1. an extension of the Midland line from Noupoort, crossing the Orange River at Norvalspont and running via Bloemfontein to the Transvaal Border; or

2. an extension of the Eastern line from a point near Burgersdorp, crossing the Orange River at Bethulie, and joining the extension of the Midland line at some point south of Bloemfontein.

Of these two lines, the latter would have given the more favourable mileage from the Cape Colony's point of view, but it was not favoured by the Volksraad of the Orange Free State Republic. In a Convention, signed by the Governor of the Cape of Good Hope and the President of the Orange Free State Republic in 1889, the Cape Government was authorized to "construct, maintain and work a line of railway from ... the immediate vicinity of Norval's Pont to Bloemfontein".(18) This Convention also gave the Cape Government the option, subject to certain conditions, of constructing and operating any extensions to, or connections with, the line under the control of the Cape Government. In December, 1890, the extension of the Midland line, via Norvalspont, reached Bloemfontein.

Meanwhile, in 1889, the Cape Parliament had provided for an extension of the Eastern main line from a point near Burgersdorp, via Bethulie Bridge, to a point on the

(18) The terms of the Convention will be found in the Cape Blue Book G.53-1889. Further correspondence will be found in the Cape Blue Book A.7-1889.

Norvalspont-Bloemfontein line, provided that the Government of the Orange Free State signified, before the 31st July, 1890, that the Volksraad of the Free State had authorized an extension from Bethulie Bridge to some point on the Norval's Pont-Bloemfontein line.(19) (The italics are the writer's.) Naturally, the Cape Government was anxious to construct this line, for, as already mentioned, it was the most favourable for competing with Durban for the increasing traffic to the Transvaal Gold Fields. The Free State Volksraad, however, in two consecutive sessions, and with overwhelming majorities, refused to authorize the construction of the section of this line passing through the Orange Free State.

The Cape Government, under Sir Gordon Sprigg, had now two possible alternatives: firstly, to persevere with its original plan, hoping for a change of attitude on the part of the Free State Volksraad; or, secondly, to find an alternative line which, even though longer than that from East London to the Transvaal Border, via Bethulie, would be yet shorter than the line via Norvalspont from Port Elizabeth. The Government decided upon the latter course, and introduced into Parliament a Bill providing for the construction of a junction line from a point near Burgersdorp to Norvalspont, as shown in Figure 15. This line was longer than that via Bethulie, but shorter than the line from Port Elizabeth to the Transvaal Border. When introducing the Bill providing for this line, the Commissioner of Crown Lands and Public Works, Colonel Schermbrucker, said that the Sprigg Government

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(19) Act number 28 of 1889: An Act to Provide for Acquiring, Constructing and Equipping and Working certain Lines of Railway and for certain Additional Works on Existing Railways.

was not prepared to wait until the Free State Volksraad changed its attitude to the Bethulie line, because this waiting would not be in the best interests either of East London or of the Cape Colony as a whole.(20) It was also intended that the line from Burgersdorp to Norvalspont should serve as a junction line between the Midland and the Eastern lines.(21) This scheme was rejected by the House of Assembly on July 7th, 1890, by forty-five votes to sixteen.(22)

On July 10th, 1890, Sir Gordon Sprigg resigned as Prime Minister, and was succeeded by Mr. Rhodes, whose Government declined to proceed with the Burgersdorp-Norvalspont line, but made provision for the construction of the junction line much farther to the South. Mr. Rhodes' Government also introduced a Bill to remove the proviso in Act 28 of 1889,(23) and to substitute therefor:

> "that a railway should only be constructed in the event of the Government of the Free State signifying that the Volksraad had authorized an extension from Bethulie Bridge to a point on the Norval's Pont line".(24)

This Bill failed to become law, but this was not serious, because, in the meantime, the Orange Free State Volksraad had granted permission to the Cape Government to construct a line from Bethulie Bridge to a point on the Norvalspont-Bloemfontein line. At the same time the Cape Government was authorized to construct a line from Bloemfontein to Viljoen's Drift, on the Vaal River.(25) The Cape

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(20) Cape of Good Hope: Debates in the House of Assembly: 1890; page 37a.
(21) The question of the junction line between the Eastern and the Midland lines is dealt with in detail later in this Chapter.
(22) Cape of Good Hope: Debates in the House of Assembly: 1890; page 140b.
(23) See italics on page 85.
(24) Cape of Good Hope: Debates in the House of Assembly: 1890; page 208a.
(25) G.45-1891: Railway Convention between the Cape Colony and the Orange Free State, dated 23rd and 28th March, 1891.

Parliament, in 1891, sanctioned the immediate construction of these lines.(26) The line from Bloemfontein to Viljoen's Drift was completed in May, 1892; fourteen days later the line from Albert Junction - now called Dreunberg - to Springfontein was opened for traffic, thus providing East London with direct communication to the Transvaal Border.(27) A few months later, when a line from Viljoen's Drift, on the Vaal River, to Germiston was opened, East London was provided with a direct railway line to the Witwatersrand Gold Fields - the shortest route from any of the Cape Ports.

After the completion of the Eastern main line, attention was naturally focussed on the construction of railways in the areas not served by the main line. This involved the construction of a number of branch lines, each of which will be dealt with under its appropriate heading. It is convenient, however, to mention here two short branch lines: that from Bowker's Park to Tarkastad (completed in 1900); and that from Molteno to Jamestown (completed in 1931).

The improvement of the main line:

The handicap of the Eastern main line, arising from its sharp and excessive curvature and its heavy gradients, has been already mentioned. In 1939, the Railways and Harbours Board reported:

> "It has for long been felt that owing to its physical disabilities the Cape Eastern main line does not meet the needs, under modern conditions, of the public or the Department. Journeys from the coast to the interior take far too long and too great a restriction is placed on the train loads which are

(26) Act number 17 of 1891: An Act to Provide for Constructing, Equipping and Working certain Lines of Railway, including a Bridge over the Orange River.

(27) Albert Junction and Springfontein were selected as "the point near Burgersdorp" and "the point on the Norvalspont-Bloemfontein line", respectively, of the line via Bethulie Bridge.

> hauled on this line. The existing line between Amabele and Imvani particularly is one with many sharp curves and heavy gradients which prohibit the use of the larger types of engines ..."(28)

To overcome these difficulties the reconstruction of the Eastern main line was sanctioned, and this work involved a complete relocation of the line, particularly between Amabele and the new station at Imvani, extensive use being made of heavy earthworks and tunnels. As a result of the reconstruction of the main line:

a. the radius of the sharpest curve on the line was increased from 330 to 716 feet;

b. the total curvature of the line was considerably reduced;

c. gradients were eased and the total rise and fall of the line between East London and Queenstown was reduced by 920 feet; and

d. the mileage between East London and Queenstown was reduced by sixteen miles, the Engineer in charge of the reconstruction remarking that it was seldom given to an engineer to achieve such satisfactory reductions in curvature and gradients and, at the same time, be able to reduce the total mileage so considerably.

This reconstruction of the main line has resulted in various savings to the Railways Administration: for example, it is less often necessary to "double-head" trains;(29) it is possible to make more intensive use of engines, crews and rolling stock as a result of the speedier journeys and the shorter mileage; (30) and maintenance costs have been reduced following the reduction in mileage and the easing of the curves and gradients. The main advantage derived by

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(28) White Paper: Report of the Railways and Harbours Board relative to .. the regrading and deviation of the Cape Eastern main line between Amabele and Imvani. 1939. (Reference B. 20/263935.850.5.39.)

(29) This is a railway term meaning that two engines are used to haul a train. It has been possible to reduce this practice because of the easier gradients and also because it has been possible to employ engines with greater tractive power. At present (October 1958), experiments are being conducted with class GMAM engines.

(30) For example, drivers of passenger trains now work from East London to Queenstown, instead of, as formerly, to Cathcart.

the public from the reconstruction of this line has been the general improvement in the transportation service between East London and Queenstown. It has, however, not been possible to derive the maximum benefit from the reconstruction of the main line south of Queenstown as far as traffic going beyond Queenstown is concerned. Owing to the unsatisfactory state of the line between Queenstown and Burgersdorp, because of sharp curves and heavy gradients, traffic to the interior cannot be moved from the coast as expeditiously and efficiently as would be the case if the line were of the same standard as that south of Queenstown. The position should be improved somewhat, however, when the completion of a culvert strengthening programme, currently being carried out, permits the use of more powerful engines north of Queenstown. A small improvement was effected to this section of the Eastern line in 1947, when the steep gradients between Burgersdorp and Dreunberg were eased. Repeated requests, from various interested organizations, for the complete reconstruction of the main line north of Queenstown have been rejected, however; the Railways Administration stating that no difficulty is experienced in handling traffic on this line. In January, 1958, the General Manager of Railways and Harbours said that, while the regrading of the main line north of Queenstown was admittedly desirable, there was as yet no intention of regrading this line because more urgent work had to be done elsewhere.(31)

2. The Northern Junction Line.

It has been mentioned that, when the Eastern line was completed in 1885, it was isolated from the Western and the

(31) "East London Daily Dispatch": 6th January, 1958.

Midland lines which had been united at De Aar and extended to Kimberley. This meant that East London and the Border Region were isolated from the main area of economic development in South Africa at that time - the Diamond Fields. The question of a junction line between the Eastern main line and the Midland line was, therefore, an urgent one; but it was a question which was to command considerable attention in various quarters for eleven years before it was finally settled. There were two major difficulties attending the construction of this junction line: the first was the unwillingness of Parliament to vote the money necessary for its construction; the second - and beside which the first difficulty faded into insignificance - was the route which the line was to take. Had the selection of a route involved only the solution of topographical difficulties, the problem might soon have been overcome; however, various economic factors and interests were involved, each clamouring for consideration. East London, for example, was anxious that the junction line should be so located that the distance between that port and Kimberley would be as short as possible, although Port Elizabeth would always have the mileage advantage. Each commercial centre in the Border Region had its local claims to advance; so also had Port Elizabeth. There was, however, from the Cape Government's point of view, one major and over-riding economic factor: coal.(32)

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(32) Coal had been discovered at Cyphergat in 1859, and in 1864 a colliery had been opened close to Molteno. Soon after this, coal was discovered at Indwe, seventy miles east of Molteno. A few years later the serious mining of coal in the Indwe-Molteno district commenced. (Union of South Africa: Department of Mines: "The Mineral Resources of the Union of South Africa", page 358. Pretoria; 1940 edition.)

The Government was anxious that any junction line should be located so that the coal mines at Stormberg, Cyphergat and Indwe would best be served, for it was convinced that such a line would be a paying proposition only if coal was conveyed over it in considerable quantity. The main market for coal at that time was the Kimberley Diamond Fields, where imported Welsh coal was being used. The Colonial coal was somewhat inferior to the imported coal, and more of it had to be used.(33) The decisive competitive factor, therefore, was the price at which the Colonial coal could be delivered at Kimberley. Naturally, the location of the junction line would influence the delivered price of the Colonial coal by increasing or reducing transport costs. The Cape Government was also concerned because the displacement of imported coal on the Diamond Fields by Colonial coal would result in a decrease in the quantity of coal hauled from Cape Town and Port Elizabeth to Kimberley. This would mean a loss of revenue, which might not be compensated by that derived from carrying coal for the Diamond Fields from the Colonial coal mines. The Cape Government was also interested in the possibility of using Colonial, 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. 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.

In 1879, when surveys were being made of possible routes for the extension to the Orange River of the Midland and the Eastern lines, a possible junction line, via Tarkastad, between Queenstown and Zoutfontein was surveyed,

(33) Coal from the Stormberg, Cyphergat and Indwe mines will be termed Colonial coal.

together with certain alternative junctions.(34) (See Figure 16.) Zoutfontein was a point on a proposed line from Cradock to Bethulie, via Steynsburg. This proposed line being abandoned in favour of one from Cradock via Noupoort to Colesberg, further surveys were made in 1880 for a junction line from, either Cradock or a point fourteen miles to the South, via Tarkastad, to various points on the Eastern line north of Queenstown.(35) (See Figure 14.)

In November, 1882, a further series of surveys were ordered, Mr. Watson - Chief Resident Engineer of the Midland System - being entrusted with the task.(36) Mr. Watson reported on five possible lines:

1. From Tafelberg station on the Cradock-Colesberg line, 231 miles from Port Elizabeth, via Steynsburg to Droogvlakte, a point on the Eastern line about 17 miles south of Burgersdorp and 74 miles north of Queenstown;

2. From Middelburg station,(37) 243 miles from Port Elizabeth on the Cradock-Colesberg line, to a point approximately 20 miles from Tafelberg station on line 1, and thence by the same route to Droogvlakte;

3. From Valsfontein on the Cradock-Colesberg line, 278 miles from Port Elizabeth and 6 miles north of Noupoort, to a point approximately 74 miles from Tafelberg station on line 1, and thence by the same route to Droogvlakte;

4. From a point approximately 2 miles south of Colesberg, via Venterberg, to a point about 4 miles north of Burgersdorp; and

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(34) G.53-1879: Reports on inspections made to ascertain the best lines of possible extension in the Colony: (No. 2: Cradock and Queen's Town [sic] extension Survey); pages 36-40.

(35) G.45E-1880: Reports of inspections made to ascertain the best lines of possible Railway Extension in the Colony: (No. 5: Connection between the North-eastern and the East London and Queen's Town [sic] Extension Railways).

(36) G.111-1883: Reports ... upon the result of Surveys for a Junction Between the Midland and Eastern Railways.

(37) This should be Middelburg Road station - the present Rosmead.

5. From a point fourteen miles south of Cradock, via Tarkastad, to Rhebokfontein, about twenty-five miles north of Queenstown.

(These lines are shown in Figure 14.) The lines are arranged in the order in which Mr. Watson regarded them as meriting consideration, as far as they might have been considered to be rival proposals. This report was presented to the House of Assembly during the 1883 Session; and in 1884 the whole matter was referred to a Select Committee, which was also to report on the best means of connecting the Colonial Coal Fields with the Railway System of the Colony.(38)

The Committee considered that none of the junction lines surveyed in 1882 by Mr. Watson was altogether suitable for connecting the coal fields with the railway system of the Colony. The main problem was, as in the case of the northward extension of the Eastern main line, the peculiar position of the Stormberg Range. Lines 1 and 2 were criticized on the ground that the coal from the Colonial Coal Fields would have to be hauled up the heavy gradients of the Stormberg on the Eastern line, and then descend into the Fish River Valley by a line tending southwards, before being hauled up heavy gradients on the Midland line to Noupoort. Line 3, although it avoided the gradient on the Midland line, and appeared to be the most direct, had heavy gradients of its own and was circuitous and costly. Line 4 was considered to be too far north to serve the coal industry, while line 5 was said to make a deflection southwards, although it was alleged to traverse more level ground, Various suggestions were made to the Committee for new lines or

(38) Cape of Good Hope: Debates in the House of Assembly: 1884; page 34ab.

modifications of lines already surveyed. (See Figure 14.) The Committee also drew attention to the fact that the point of departure of the junction line from the Eastern line would undoubtedly be influenced by the point at which the line from the Indwe Coal Fields joined the Eastern line; and on this point there was no unanimous opinion.

The Committee recommended that a fresh examination of the ground should be made, particular attention being paid to:

a. the most advantageous route from Indwe to the main Eastern line;

b. a re-examination of line 3 to ascertain if it could be shortened and the gradients lessened;

c. an examination of the ground between Molteno, or some other point on the summit of the Stormberg, and Steynsburg; and between Steynsburg and the Midland line; and

d. an examination of the country between Sterkstroom and Maraisburg; and between Sterkstroom and Friesfontein.

The Committee made these recommendations on evidence submitted to it, but as a re-examination of the country might favour an entirely new route, the Committee suggested certain general conditions should be complied with in any new survey. These conditions were:

a. the point of departure from the Eastern line should be at a point as favourably situated as possible for the Molteno, Cyphergat and Indwe coal mines, bearing in mind the most favourable point at which the latter could connect with the main line;

b. the point of connection with the Midland line should be as near as possible to Noupoort junction;

c. the junction line should be, as nearly as the nature of the ground would permit, at right angles to the existing trunk lines, avoiding deflections either to the north or to the south; and

d. the working expenses of the line for heavy haulage should be considered, as well as the direction of the line.(39)

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(39) A.3-1884: Report of the Select Committee on Coal Fields Railways; pages iii - v.

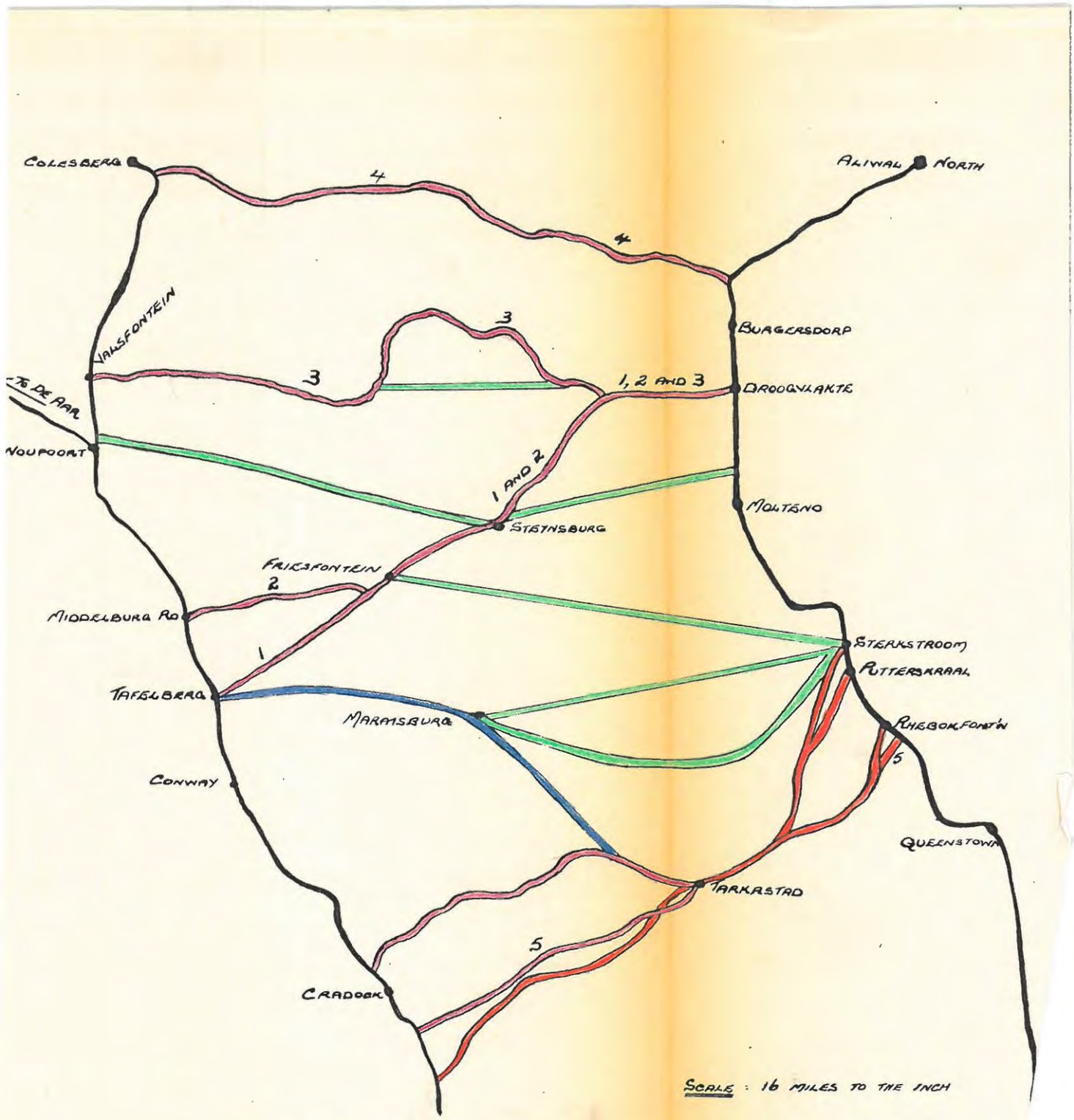

FIGURE 14: MAP TO SHOW NORTHERN JUNCTION LINE SURVEYS BETWEEN 1880 AND 1884

This report was accepted by the House of Assembly, and it was resolved that a fresh survey should be made to determine the best line for connecting the Colonial Coal Fields with the Railway System of the Colony.(40) The survey was entrusted to Mr. Wilcox, who reported that, having inspected the country, and taken into account all the points in favour of the different routes, he was unable to arrive at any other conclusion than that expressed by Mr. Watson whom he had assisted in the 1882 surveys. This was that lines 1 or 2 were best suited to serve the interests of the Colony, but of the two line 1 was shorter, and thus approximately £30,000 would be saved if it were constructed. Mr. Wilcox believed that it would be as cheap to transport coal to Noupoort by either of these lines than by any other route, provided the line started from the point suggested - about four-and-a-half miles north of Molteno.(41)

One might think that this would have been conclusive enough evidence upon which to determine the route of the junction line, but in 1885 the Government said in the House of Assembly that it did not believe it had sufficient information to enable it to judge which would be the best junction line.(42) In East London it was felt that, as the previous surveys had been made by engineers from the Midland System, Port Elizabeth's interests might have been unduly favoured; and a survey by an engineer from the Eastern System was accordingly requested.(43) Mr. Slessor, Chief Resident Engineer of the Eastern System was instructed to examine the

(40) Cape of Good Hope: Votes and Proceedings of the House of Assembly: 1884; page 362.
(41) G.33-1885: Report by Mr. Wilcox .. of his Flying Inspection of the Routes proposed for the junction of the Eastern and the Midland Railway Systems.
(42) Cape of Good Hope: Debates in the House of Assembly: 1885; page 167b.
(43) ibid.: page 164a.

country between the Eastern and the Midland lines. His report on a lower line - between Queenstown and the Midland line - and on an upper line - between a point near Molteno and the Midland line - was tabled in the House of Assembly in 1886.(44)

In 1886, a motion calling for the construction of a junction line was defeated, after the Commissioner of Crown Lands and Public Works had stated that, while a junction line would have to be constructed eventually to complete the railway system of the Colony, he thought that the House ought first to be satisfied that the line would pay and that it should only be undertaken if it could be clearly established that it would not impose greater burdens on an already overburdened people.(45) Part of the reluctance to construct the line at this stage appears to be attributable to certain prospecting for coal being carried on near Kimberley.

During the 1888 Parliamentary Session, the House of Assembly agreed "that with the view of speedily effecting a junction between the Eastern and Midland Systems of Railway", the Government should be authorized to incur the necessary expense of having a detailed survey made of the country between these two systems, and also between the Indwe coal mine and Queenstown and between Indwe and a point on the summit of the Stormberg beyond Bushman's Hoek, so that a Bill for the construction of the junction line and a line to the Indwe coal mine, from some point on the Eastern line, could be submitted to the 1889 Session of Parliament.(46)

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(44) G.35-1886: Report of .. the Country to be traversed by a Junction line between the Midland and the Eastern Systems.
(45) Cape of Good Hope: Debates in the House of Assembly: 1886; pages 243a and 241b.
(46) Cape of Good Hope: Votes and Proceedings of the House of Assembly; 1888; page 435.

This decision illustrates the extent to which the locations of the junction line and the line to the Coal Fields were mutually interdependent. The engineer entrusted with the survey was informed by the General Manager of Railways that "the ruling principle was to effect a connection between the two Systems with special regard to the development of the Stormberg and Indwe Coal Fields".(47) The surveying engineer reported on two possible lines:

1. a line below the Stormberg Range, leaving the Eastern line at Bowker's Park, near Queenstown, and proceeding via Tarkastad to three possible junctions with the Midland line: Conway station, Tafelberg station or Cradock; and

2. a line above the Stormberg Range, leaving the Eastern line at a point about ten miles north of Molteno, and proceeding via Steynsburg to Middelburg Road station on the Midland line.(48)

When it seemed that the route for the junction line had been settled, and Parliament prepared to grant the money necessary for its construction, a difficulty arose. Mention has been already made of the suggestion by Sir Gordon Sprigg's Government, during the 1890 Parliamentary Session, that the junction line should not be constructed along any route previously surveyed, but that it should run from near Burgersdorp to Norvalspont. This was to achieve the double purpose of a junction line between the two Systems, and a direct route from East London to the Witwatersrand Gold Fields.(49) The House of Assembly refused to sanction this line and agreed, instead, that a junction line should be constructed from "a point about ten miles north of Molteno via

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(47) G.42-1889: Reports on Railway Surveys: 1889: Parts I and II; page 1.
(48) ibid.
(49) See pages 85 and 86, and Figure 15 (after this page).

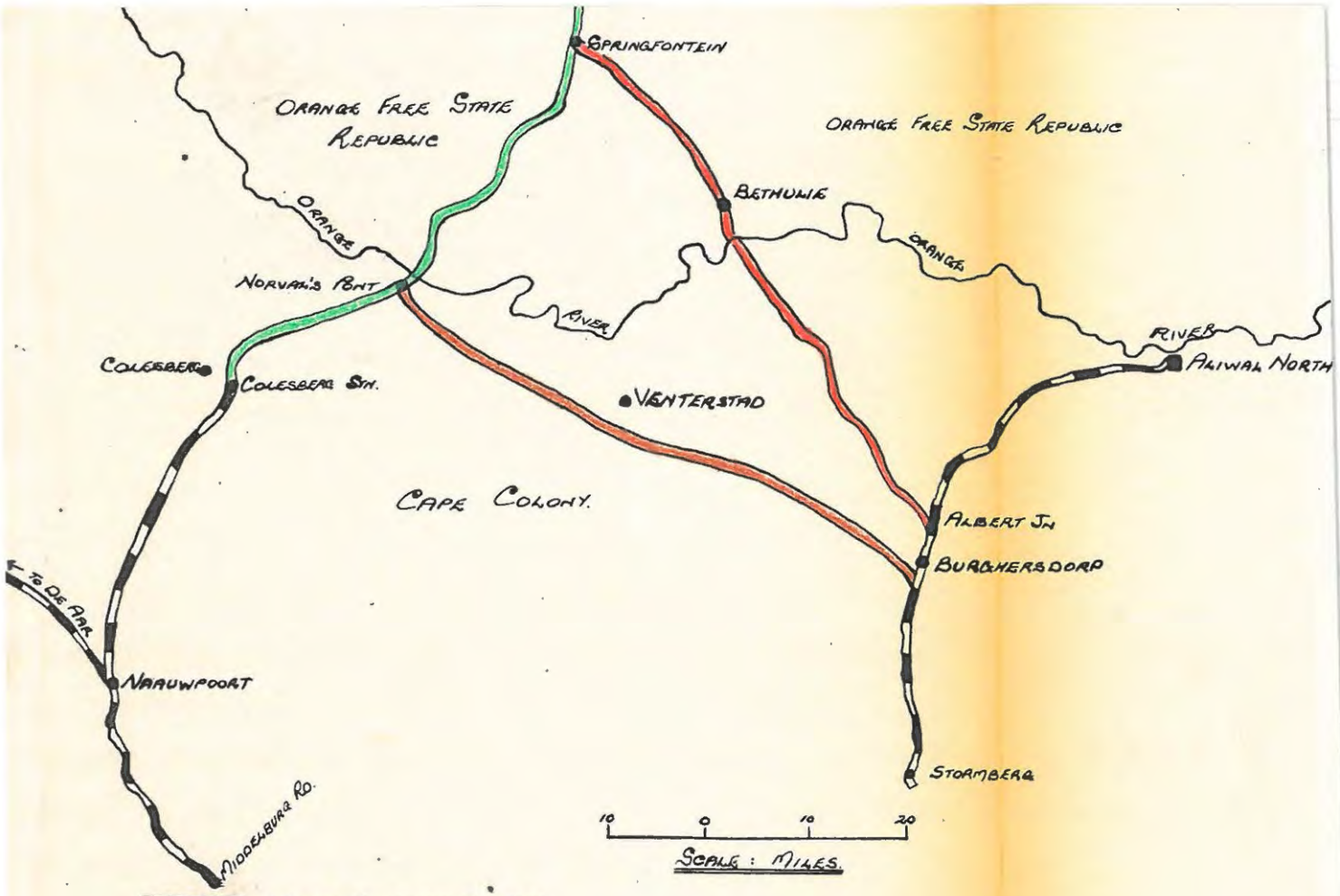

FIGURE 15: MAP TO ILLUSTRATE AUTHORIZED AND PROPOSED RAILWAYS IN THE NORTH-EASTERN CAPE BETWEEN 1889 AND 1892.

Steynsburg to Middelburg Road".(50) Mr. Rhodes' Ministry included this line in a Railway Extension and Works (Colonial) Bill, which as Act number 10 of 1890, brought to an end eleven years of argument about the route of the junction line, not to mention the considerable expense involved in having repeated surveys made. In 1892, the junction line was opened for traffic.

The Cape Collieries Company's Line:

In 1902, this line, which ran from Bamboo Junction (four miles from Stormberg on the junction line) for a distance of sixteen miles to various mining properties belonging to the Cape Collieries Company, Limited, was acquired by the Cape Government by purchase.(51) In 1900, this Company had been granted a subsidy of £1,500 per mile of its line, and in return the Company became a public carrier, thus enabling other owners of mining properties in the area to develop their mines and be assured of railway transport for the coal they produced.(52) In 1902, however, the Cape Government exercised the option contained in the 1900 agreement with the Company and purchased the line. Various extensions to the line were planned, but never carried out; and following the decline of coal mining in the area it was uplifted, partly in 1912, and completely in 1917.(53)

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(50) Cape of Good Hope: Votes and Proceedings of the House of Assembly: 1890; page 196.
The junction stations of this line are now called Stormberg (on the Eastern line) and Rosmead (on the Midland line).
(51) The purchase of this line was authorized by Act number 38 of 1902.
(52) The subsidy was authorized by Act number 19 of 1900.
(53) U.G.36-1956: Report of the General Manager of Railways and Harbours for the year ended 31st March, 1956: Statement no. 17, showing, in chronological order, the date of opening and the mileage of each section of railway. (Lines uplifted are also shown in this statement.)

The Schoombee-Hofmeyr Spur:

In 1902 and 1903, surveys were carried out with a view to establishing railway communication between either Conway, on the Midland main line, or Schoombee (on the junction line) and Maraisburg, which is now called Hofmeyr. In 1906, the construction of a line from Schoombee to Hofmeyr, via the salt pans at Teviot, was authorized. This line was opened to traffic in 1912.

3. The Indwe Coal Fields Railway.

In the sixties of the last century, coal deposits were discovered in the Indwe district; and the mining of what was generally considered to be the best coal available in the Colony commenced soon afterwards. In 1879, while surveying for a possible route for a line to Aliwal North from Queenstown, via Koopsleegte, Mr. Wilcox also surveyed the country east of Queenstown and the Stormberg Range to find possible routes for a railway to the Indwe coal mines.(54) He suggested two possible routes:

1. from the proposed main line near Dordrecht; or
2. from Imvani, on the Eastern main line, via Braam Nek and along the valley of the Indwe River to the coal mines.

(These lines are shown in Figure 16.)

In 1880, the country between Queenstown and the Indwe coal mines was again inspected, this time by Mr. Hall, with a view to the construction of a railway. A line was suggested with Imvani and Queenstown as possible alternative junctions. Mr. Hall favoured Imvani as the junction because

(54) G.53-1879: Reports on Inspections made to ascertain the best lines of possible Railway Extension in the Colony: (No. 2: Cradock and Queen's Town [sic] Extension Survey); pages 40-43.

the line to Queenstown would have involved sharp curves and heavy gradients.(55)These lines are shown in Figure 16.

In 1881, the House of Assembly, impressed by "the advantages which would result to the country from the construction of a railway, either from the Imvani to the Coal Fields or from the Coal Fields to Putterskraal, or both such lines, and from the opening and working of the coal fields," recommended that any company or individual who should undertake, within two years, to construct a railway line of a gauge and on a gradient approved by the Government, should be paid a certain sum of money and granted the right to select, prospect and work exclusively a certain area of coal-bearing land in the vicinity of the Indwe River.(56) These recommendations were embodied in the "Imvani and Indwe Railway and Coal Mines Act," number 3 of 1882, the relevant provisions of which were:

a. the contractor constructing the line was to receive, if the line was completed within five years of the contract being signed:

   i. a sum of money not exceeding £50,000; and
   ii. an area of not more than 1,000 acres of coal-bearing land at the Indwe; or
   iii. in lieu of half the sum mentioned in (i), at the option of the contractor, an area of land not exceeding 25,000 morgen, at a place or places contiguous to the railway line from Imvani to the Indwe coal fields;

b. the contractor was to pay the Government a royalty of sixpence for every ton of coal taken from the land granted in terms of (a) (ii);

c. the Cape Government was to have the right to take over the line, upon specified terms, at any time after the expiration of twenty years from the opening of the line, or any part of it, for public traffic; and

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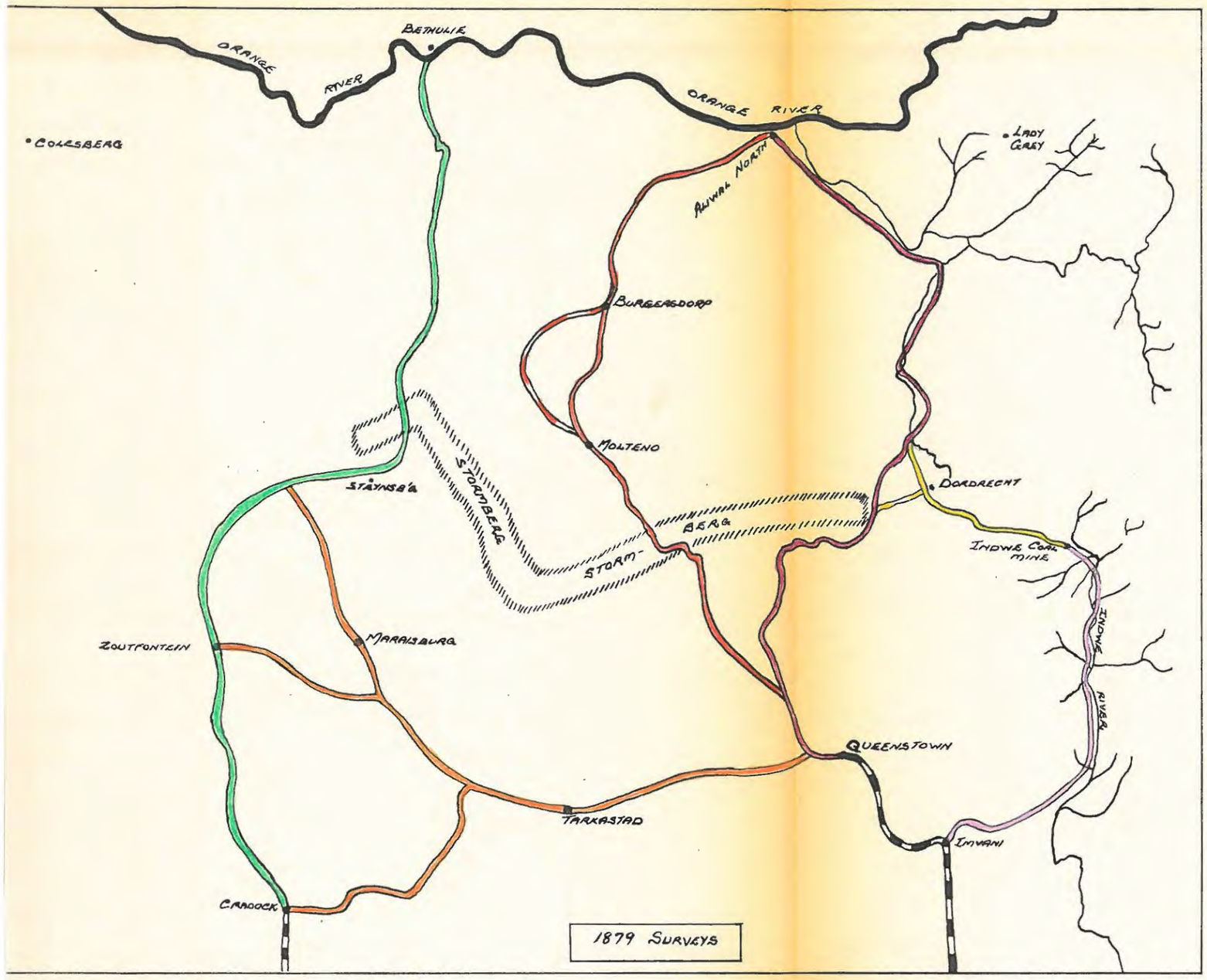
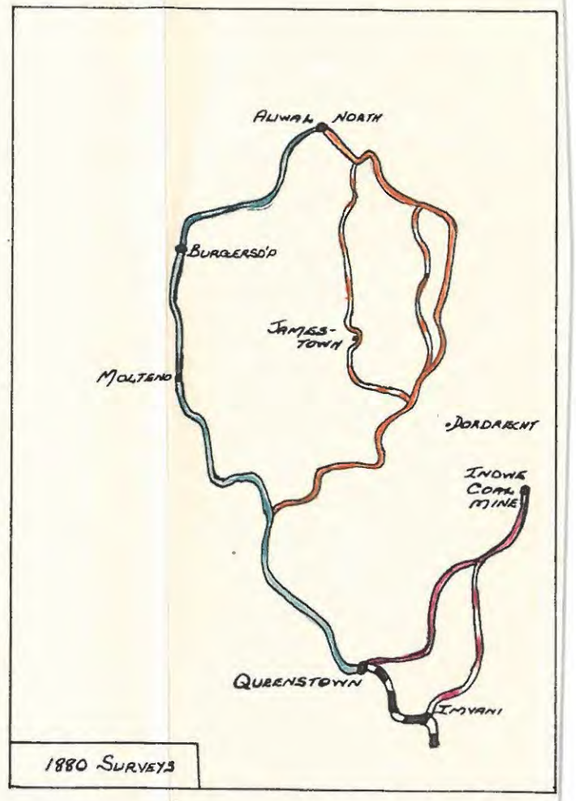
(55) G.45H-1880: Reports of Inspections made to ascertain the best lines of Possible Railway Extension in the Colony: No. VII - Extension from the East London and Queen's Town [sic] Railway to the Indwe Coal mines.

(56) Cape of Good Hope: Votes and Proceedings of the House of Assembly: 1881; page 578.





OPEN LINES

NOTE: ROUTES COLOURED IN BROKEN COLOURS ARE ALTERNATIVE LINES TO THE MAIN ROUTES WHICH ARE COMPLETLY FILLED IN WITH COLOUR.

FIGURE 16: SKETCH MAPS TO ILLUSTRATE RAILWAY SURVEYS NORTH OF QUEENSTOWN AND CRADOCK IN 1879 AND 1880. THE MAPS ARE BASED ON THE MAPS IN THE CAPE GOVERNMENT BLUE BOOKS G. 69-1879; G. 45E-1880 AND G. 43H-1880.

d. if the contractor failed to complete the line within five years of the signing of the contract, or failed to obtain a satisfactory certificate from an Engineer appointed by the Government, the latter was to have the right to take possession of the completed part of the line without compensation.(57)

Thus began an attempt to have a railway line built by private enterprise to the Indwe Coal Fields - an attempt which, for one reason or another, was not to be fulfilled until 1896: fourteen years after the Act authorizing the construction of the line was passed. On 27th December, 1882, an agreement was signed between the Governor of the Cape Colony, on the one hand, and the contractors - James Wilson Weir, Edmund John Byrne and William Alfred Johnson, all of King William's Town - on the other, for the construction in terms of Act number 3 of 1882 of the Indwe and Imvani Railway.(58) In terms of the agreement, the railway was to be of the same gauge as the main line - 3 feet 6 inches; and the gradients were not to be steeper than one-in-forty, nor were the curves to be of a lesser radius than five chains.(59) In 1884, the Government granted the contractors permission to construct a line from Indwe to some point near Sterkstroom on the main line, instead of from Indwe to Imvani.(60) The new line suggested by the contractors was very similar to that suggested by the Government Engineer, Mr. Wilcox, in 1879. (See Figure 16.)

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(57) Provision was, however, made for an extension of time for the construction of the line to compensate for the duration of "native wars or disturbances" which prevented construction taking place.

(58) A.6-1891: Contracts, Correspondence and Statistics respecting Cape Colonial Coal; page 66.

(59) G.53-1891: Papers and Correspondence relating to the Indwe Coal Fields Railway; pages 7-9.

(60) A.6-1891: Contracts, Correspondence and Statistics respecting Cape Colonial Coal, page 69.
(While Act 3 of 1882 had provided an option in regard to the route the line could follow, the 1882 Agreement had mentioned only a line from Imvani to Indwe.)

It was in 1884, too, that a Select Committee of the House of Assembly drew attention to the inter-relationship of the line from the Indwe Coal Fields and the junction line between the Eastern and the Midland lines.(61) The Committee pointed out that the position of the one would influence the position of the other. As most of the coal from Indwe would have to pass over the junction line, it was obvious that the line from Indwe should join the main line as near as possible to the point of departure from it of the junction line. The uncertainty in regard to the position of the junction line was one of the reasons advanced in 1886 by the contractors for their delay in starting the construction of the Indwe line, as it was most important for the success of their project that the two lines should join the Eastern main line at the same point, or at least at points sufficiently near for the convenience of trade. It was now January, 1886, and so much of the time allowed for the construction of the line had expired, that as there was still no certainty in regard to the position of the junction line, the contractors considered they had no alternative but to act independently. As matters stood, they considered that their only safe course would be to bring the Indwe line to the main line at a point moderately convenient to a junction line whether constructed above or below the Stormberg Range. Such a point, the Contractors suggested, would be Putterskraal, or thereabouts, some six miles south of Sterkstroom. To get from there to the nearest point of the Coal Fields, however, the empty trucks would have to be hauled up a gradient of one-in-thirty for

(61) A.3-1884: Report of the Select Committee on Coal Fields Railways; pages iii-v.

part of the distance. To meet this problem, the Government was asked to relax the stipulation in the 1882 Agreement that the maximum gradient should be one-in-forty; it being understood that the loaded trucks coming from the mines would never encounter a gradient steeper than one-in-forty.(62) Both these points were included in a Supplementary Agreement, dated 18th November, 1886. In the meantime, an Imvani and Indwe Railway Coal Mines Act of 1886 had authorized any point between Imvani and Molteno as the junction for the Indwe Coal Fields line.(63) In December, 1887, however, the 1882 Agreement lapsed through non-fulfillment of its terms by the contractors, despite the pleas of the latter that the "course of the Indwe line was so intimately bound up with the course of the junction line that it was impossible to proceed with the former until the course of the latter was fixed".(64) In an Act passed in 1887, it had been laid down that, if a contractor failed to carry out the terms of Act 3 of 1882, or if the contract should lapse, or be rescinded, the powers of the Governor to enter into another contract under the 1882 Act should be revived.(65) The 1887 Act also re-affirmed that the line was to be completed within five years of the work being commenced, which was to be not more than one year after the contract was signed.

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(62) A.6-1891: Contracts, Correspondence and Statistics respecting Cape Colonial Coal; page 73.
(63) Act number 11 of 1886: An Act to Amend in Certain Respects the "Imvani and Indwe Railway and Coal Mines Act", Number 3 of 1882.
(64) G.53-1891: Papers and Correspondence relating to the Indwe Coal Fields Railway; pages 10-11.
(65) Act number 26 of 1887: An Act to Explain and Amend Act number 3 of 1882, as amended by Act number 11 of 1886, being the "Imvani and Indwe Railway and Coal Mines Act, 1882".

At this stage, the draft of a new Agreement, between the Governor and the Contractors, was prepared, but no binding contract was signed. This, at any event, was the point of view adopted by the Government, though the contractors strongly rejected it. In support of their interpretation of the situation, the Government quoted the words in a rider to a resolution passed in the House of Assembly on 1st August, 1888, authorizing a survey of the country between the Eastern and Midland main lines and between Indwe and a point on the summit of the mountain beyond Bushman's Hoek, so that a Bill might be introduced into Parliament at the following session for the construction of a junction line and a line to the Indwe Coal Fields. The rider authorized the Government to take such steps as might be competent to them "to terminate the arrangement pending with the Indwe Railway Company for constructing a Railway between Indwe and the Eastern Railway System."(66) (The italics are the writer's.) To add to the acrimony between the Government and the contractors, the Government objected to the price at which the contractors proposed to sell to the Railways the coal from the Indwe properties they were to receive for constructing the line.

In pursuance of the resolution of the House of Assembly, an engineer was instructed to survey the country between the Eastern main line and the Indwe Coal Fields. In his report he suggested three lines: the first leaving the main line at

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(66) Cape of Good Hope: Votes and Proceedings in the House of Assembly: 1888; page 435. Also: G.53-1891: Papers and Correspondence relating to the Indwe Coal Fields Railway; pages 25,26.

Imvani, the second at approximately 207 miles from East London (i.e. between Cyphergat and Molteno), and the third leaving from Queenstown.(67)

In 1890, as part of Sir Gordon Sprigg's railway scheme, it was proposed that a line should be built from Indwe to Molteno, this being related to the Sprigg Government's plan to build the junction line from Burgersdorp to Norvalspont. It will be remembered that this latter scheme was rejected by the House of Assembly; and the new Government, under Mr. Rhodes, introduced a Bill authorizing the Government to construct and equip a "line from the Indwe Coal Mines to a point between Cyphergat and Molteno".(68) (Writer's italics.) In 1891, however, the House agreed to rescind so much of the resolution of 1st August, 1888, as referred to the termination of the arrangements pending with the Indwe Railway Company for the construction of a line between Indwe and the Eastern Railway System.(69) On December 28th, 1891, a new Agreement was entered into between the Governor, and Messrs. James Wilson Weir, Edmund John Byrne and John Linden Bradfield - who had replaced Johnson, for the construction of the line to Indwe. This agreement was amended in 1892, but in the same year a further Act was passed by the Cape Parliament, altering the terms and conditions of payment of the subsidy to the contractors,(70) and by mutual consent the 1891 agreement and its supplement were cancelled

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(67) G.42-1889: Reports on Railway Surveys: 1889: Part II. Unfortunately, no map was included with this report.
(68) Cape of Good Hope: Votes and Proceedings of the House of Assembly: 1890: page 196. This Bill became Act 10 of 1890.
(69) Cape of Good Hope: Debates in the House of Assembly: 1891; page 369ab.
(70) Act number 39 of 1892.

and replaced by an agreement dated 21st January, 1893, and based on the provisions of the Act of 1892. In terms of the 1893 Agreement, the contractors were given five years in which to construct the railway, the work to be commenced within one year of the date of the Agreement. The contractors were given the option of constructing either:

a. a line of the same gauge as the Eastern line, with curves of not less than five chains radius and with maximum gradients of one-in-forty each way; or

b. a narrow gauge line, but not of lesser gauge than two feet, with curves of not less than five chains radius and with a maximum gradient of one-in-forty in ascents met with coming from the Coal Fields and one-in-thirty going to the Coal Fields.

If a line of the former type were constructed, the contractors were to be paid £50,000, together with a land grant of 25,000 morgen. In the event of a line of the second type being constructed, the contractors were to receive only £8,000, together with 25,000 morgen of land. In either case, the contractors were to receive, in addition, 1,000 acres of coal-bearing Crown Land in the Indwe area when the railway was satisfactorily completed.(71)

On March 27th, 1893, the contractors wrote to the Secretary of the De Beers Consolidated Mines, Ltd., at Kimberley that, owing to the depressed condition of the money market, they had not been able to find the necessary capital for the construction of the Indwe railway, and asking De Beers for financial assistance, in return for certain concessions in the price of coal and railage thereon.(72) De Beers agreed to take £75,000 of shares in a company to be formed by the contractors, provided the contractors

(71) A.12-1893: Report of the Select Committee on Indwe Railway Papers: Appendix; page ii, ff.
(72) ibid.: page ix.

complied with certain conditions. Some of these conditions were in regard to the capital structure of the new company; while of the others one was that the new company, when coal mining was commenced, should bind itself to supply De Beers with as much coal as they would elect to take, at a price not exceeding fifteen shillings per ton, the railage on the coal not to exceed one penny per ton per mile over the Indwe Railway Company's line and over the Cape Government Railways.(73) It was also stipulated that the whole of these suggested arrangements should receive the approval of the Cape Parliament.(74)

When the proposed scheme was presented to Parliament for approval, the House of Assembly referred the matter to a Select Committee, which recommended that the Government itself should build the railway from Sterkstroom to Indwe.(75) The House of Assembly, however, not only sanctioned the provisional agreement between the De Beers Company and the contractors, but further resolved that: "with a view of giving every facility to enable the said company to construct the Sterkstroom-Indwe line, the Government should be authorized to advance, from time to time, out of the subsidy fixed by act number 39 of 1892, the proportionate expenditure incurred on sections of the line built, ... and to supply 45lb. rails and sleepers taken up on the Eastern and other lines, at such a price, and to be paid in debentures or cash, as may be agreed upon." (76)

(73) The Secretary of De Beers stated that any other price for coal, and any other rate of railage, would make the proposition an uneconomic one, having regard to the other sources of coal available to the Diamond Mines.
(74) A.12-1893: Report of the Select Committee on Indwe Railway Papers; Appendix; pages xii-xiv.
(75) A.12-1893: Report of the Select Committee on Indwe Railway Papers: page iii.
(76) Cape of Good Hope: Votes and Proceedings of the House of Assembly: 1893; page 789.

The line to Indwe was completed on February 1st, 1896 - fourteen years after the first Act of Parliament authorizing the construction of the line had been passed; years of negotiation, indecision and argument; years during which the much needed coal from the Indwe mines was being transported by the highly inefficient ox-wagon.

In 1900, the Cape Government was authorized to purchase the Indwe line, and it became Government property on 1st November of that year.(77) The Government supported its purchase of this line with the following reasons:

a. the line tapped rich Coal Fields;

b. if the line were owned by the Government, all who wished to develop these Coal Fields would be assured of an equitable rail tariff; (78) and

c. if it were decided to extend the line to Natal, it was expedient that the line from Sterkstroom to Indwe should be owned by the Government to prevent the Colony from being forced to pay whatever rates, and accept whatever conditions, were imposed by a Company which knew that it possessed a vital section of a main trunk line. (79)

The further development of this line is dealt with in section 5 of this chapter, dealing with surveys eastward aimed at effecting a junction between the Cape and the Natal Railway Systems.

4. The King William's Town-Cookhouse Junction Line.

As early as 1877, a survey was made of the country between King William's Town and Fort Beaufort with a view to

(77) This purchase was authorized by Act number 19 of 1900.
(78) It would appear that, in many quarters, there was considerable misgiving in regard to the rates charged by the Company.
(79) Cape of Good Hope: Debates in the House of Assembly: 1900; page 497b.

the possible construction of a railway between the two towns.(80) In 1880, a survey was made of the country between King William's Town and Cookhouse and, as a result, a route suggested for a junction line between the Eastern and the Midland lines which was practically identical to the one the present line follows.(81) Attention was, however, transferred to the construction of a junction line at or north of Queenstown and nothing was done towards connecting King William's Town with Cookhouse. In 1882, a survey was carried out of the country between Grahamstown and Fort Beaufort. (See Figure 19.) Commenting on this survey, the "East London Daily Dispatch" said:

> "Grahamstown, having got a Survey of a line to Fort Beaufort ... the Grahamstown Journal seeks to gain the ear of the Border in support, and says: 'We can offer to King William's Town, by supporting this line, the shortest and easiest communication with the Midland and the West; for no one will doubt that the formation of the line to Beaufort will ensure the completion of the link between Beaufort and King William's Town. If the Kaffrarians should stand aloof from our effort and allow the junction to be formed between Queenstown and Cradock, they will simply condemn their town, already badly situated in railway matters, to the condition of an out of the way station whose commercial decay is certain'." (82)

No line between Grahamstown and Fort Beaufort was built, however, and nothing further was heard of railway development in this area until 1890.

In 1890, Sir Gordon Sprigg's Government proposed the construction of a railway line from Mossel Bay to King

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(80) A.11-1877: Report of Mr. Schmid of his Survey of the Country between King William's Town and Fort Beaufort, with a view to Railway Construction.

(81) G.45G-1880: Reports of Inspections made to ascertain the best lines of possible Railway Extension: VI. - Junction between Cookhuis [sic] and King William's Town.

(82) The extract is taken from the "East London Daily Dispatch", dated 15th March, 1882. The report of the survey is printed in G.113-1883: Report on the Survey of a line of Railway between Grahamstown and Fort Beaufort. (Figure 19 is after page 121.)

William's Town, via George, Oudtshoorn, Willowmore, Klipplaat, Somerset East, Bedford, Fort Beaufort and Alice.(83) As each section of this scheme was proposed by the Commissioner of Crown Lands and Public Works, it was negatived by the House of Assembly.(84) Not surprisingly, in view of the definite way in which the House had rejected the Sprigg railway scheme, and considering that the members of Mr. Rhodes' Government had led the opposition to it, no mention of the Mossel Bay-King William's Town scheme was made in the Railway Extension Bill introduced by the Rhodes Government. It was not until 1895 that the scheme was revived in a modified form, providing for the construction of three lines:

1. from Mossel Bay to a point on the Port Elizabeth-Graaf-Reinet line at or near Klipplaat;
2. from a point at or near Somerset East, via Cookhouse to Fort Beaufort; and
3. from Fort Beaufort to King William's Town.(85)

After a heated discussion, this scheme was passed by the House of Assembly,(86) the Government's plan being that tenders for the construction of the line should be called for. The tenderers were required to state what subsidy, not exceeding 40 per cent of the actual cost of construction as determined in terms of the Act authorizing the construction of the line or £1,500 per mile, they would accept for the construction of the above three lines at their own expense.(87) On May 19th, 1896, a contract was signed by the

(83) Cape of Good Hope: Debates in the House of Assembly: 1890; page 5a.
(84) ibid.: page 109ab.
(85) Cape of Good Hope: Debates in the House of Assembly: 1895; page 155a.
(86) The construction was authorized by Act number 28 of 1895.
(87) On the section of the line from Mossel Bay to Oudtshoorn, the maximum subsidy was fixed at £2,000 per mile.

Governor of the Cape Colony and the Chairman of the Grand Junction Railways, Ltd. - the only tenderer - for the construction of the lines on the basis of a subsidy of one-third of the actual cost of construction, but not exceeding £1,500 per mile.(88) Construction work was to be commenced immediately, and the lines were to be completed by August 2nd, 1899, unless the Governor, with the authority of both Houses of Parliament, extended the period for special reasons. Had the Government of that day been able to foresee the trouble and problems which were to arise before even part of this railway scheme was completed, they would certainly never have resorted to this method of railway construction.

It was soon apparent that the Grand Junction Railways was a most unsatisfactory contractor; and that the possibility of the first section of the line, from Oudtshoorn to Klipplaat, being completed within the stipulated time was most remote. At the end of 1897, the Government decided to call for tenders for the construction of the Oudtshoorn-Klipplaat section as a Government line,(89) and to leave over until the following session the question of the Somerset East-King William's Town section. Three tenders were received, but none was accepted, as the Attorney-General advised that, as there was no absolute proof that the Grand Junction Railways would be quite unable to finish its work in the time allowed by the contract, the Government could not legally break the contract until August, 1899. This legal impasse would only have been solved by some other

(88) A.9-1897: Copy of the contract for the construction of the King William's Town-Somerset East line of railway.
(89) This meant that the Government would pay the full cost of the construction of the line.

contractor coming to terms with the Grand Junction Railways, Ltd., and with the latter's consent, taking over its interests. This was indeed what happened; and an almost equally unsatisfactory contractor replaced the Grand Junction Railways. The Grand Junction Railways, Ltd., ceded to an English company, the Thames Ironworks and Shipbuilding Company Ltd., all their rights and interests in the 1896 Agreement with the Cape Government. The new contractor also took over the obligation of the Grand Junction Railways to construct lines from Somerset East to King William's Town and from Oudtshoorn to Mossel Bay, thus securing, in theory, the completion of all these lines by 1899.(90) These arrangements were embodied in Act number 40, passed in 1898.

The result of this substitution of contractors can be well gauged from a statement made in 1899 by the Commissioner of Crown Lands and Public Works that "the construction of the line from King William's Town was being proceeded with, but whether it was being proceeded with satisfactorily was difficult to say". Substantial work was being done, but the Commissioner was inclined to think that, unless the amount of work done was considerably increased, it was very doubtful whether the line would be completed in the contract time.(91) This doubt having become a reality, a new agreement was entered into with the Thames Ironworks Company by which the King William's Town-Somerset East line was to be constructed as a Government line at a price of £4,500 per

(90) A.25-1898: Copies of Correspondence relative to the calling of tenders for the Oudtshoorn-Klipplaat and other railways, and negotiations with the Thames Ironworks and Shipbuilding Company, Ltd., for their construction; pages 41 and 46. Also: Debates in the House of Assembly for 1898: passim.

(91) Cape of Good Hope: Debates in the House of Assembly: 1899; page 279ab.

mile.[92] Construction had been started from both Somerset East and King William's Town, but the progress of the work was so unsatisfactory that the Government took over the works by an Order of the Supreme Court, dated May 12th, 1902, in terms of clause 22 of the 1900 Agreement. The work was continued on behalf of the contractor until June 19th, 1902; on this date, under a further Order of the Supreme Court, the Government took possession of the line in terms of clause 52 of the 1900 Agreement.[93] The line was completed in 1904, when on October 17th, the lines from Somerset East and King William's Town met at Adelaide, thus linking the Eastern and the Midland Systems at a second point.

In 1925, a narrow gauge line was opened from Fort Beaufort to Katberg, and a year later it was extended to Seymour. In 1940, this line was converted to the standard gauge of the South African Railways.

5. Railways Eastward to Natal and into the Transkeian Territories

The first mention of railways in the Native Territories east of the Kei River was in 1891, when a private Bill was introduced into the House of Assembly "to authorize certain persons or a company formed by them ... to construct, maintain and work a line of railway from the mouth of the St. John's River to the district of Maclear in East Griqualand". The Bill was passed, despite the spirited opposition of the member for East London, who contended that the proposed railway would seriously affect the interests of that port.[94]

(92) Authorized by Act 19 of 1900.
(93) G.34-1903: Report of the General Manager of the Cape Government Railways for 1902; page 13.
(94) Cape of Good Hope: Debates in the House of Assembly: 1891; page 67a.

Owing to the "unprecedented financial depression and the unsettled state of Pondoland", it proved impossible to raise the necessary capital within the three years allowed for the commencement of the railway, and the scheme lapsed.(95) An extension of a year was granted in 1894, but failed to save the situation and nothing more was heard of this particular scheme.(96) In 1905, however, two Acts were passed by the Cape Parliament, authorizing the construction, under subsidy from the Government, of two lines of railway: one from Port St. John's to Umtata; and the other from Port St. John's to Kokstad.(97) Again, the scheme did not materialise.

In 1895, the House of Assembly agreed that, with the view to possible railway construction being undertaken at some future time, the Government should obtain from a qualified officer a report as to the direction which a railway from the Eastern main line towards Natal should take. At the same time, the House refused to authorize a survey for a railway from a point on the Eastern System to Port St. John's via Kokstad.(98) The survey was entrusted to Mr. Fletcher, who reported that he did not think it feasible or expedient to form a connection with the Eastern line at a point lower than Imvani. To enter the Transkei at any lower point would, in addition to the physical difficulties which would be encountered, involve the use of imported coal or the transport of Indwe coal to a coaling station on the line. Mr. Fletcher suggested that both of these objections would be met if Indwe was made the base of a line through

(95) Cape of Good Hope: Debates in the House of Assembly: 1894; page 470a.
(96) ibid: page 511b.
(97) Act number 49 of 1905, and Act number 48 of 1905, respectively.
(98) Cape of Good Hope: Debates in the House of Assembly: 1895; page 389ab.

the Transkeian Territories and he accordingly suggested the line shown in Figure 17.

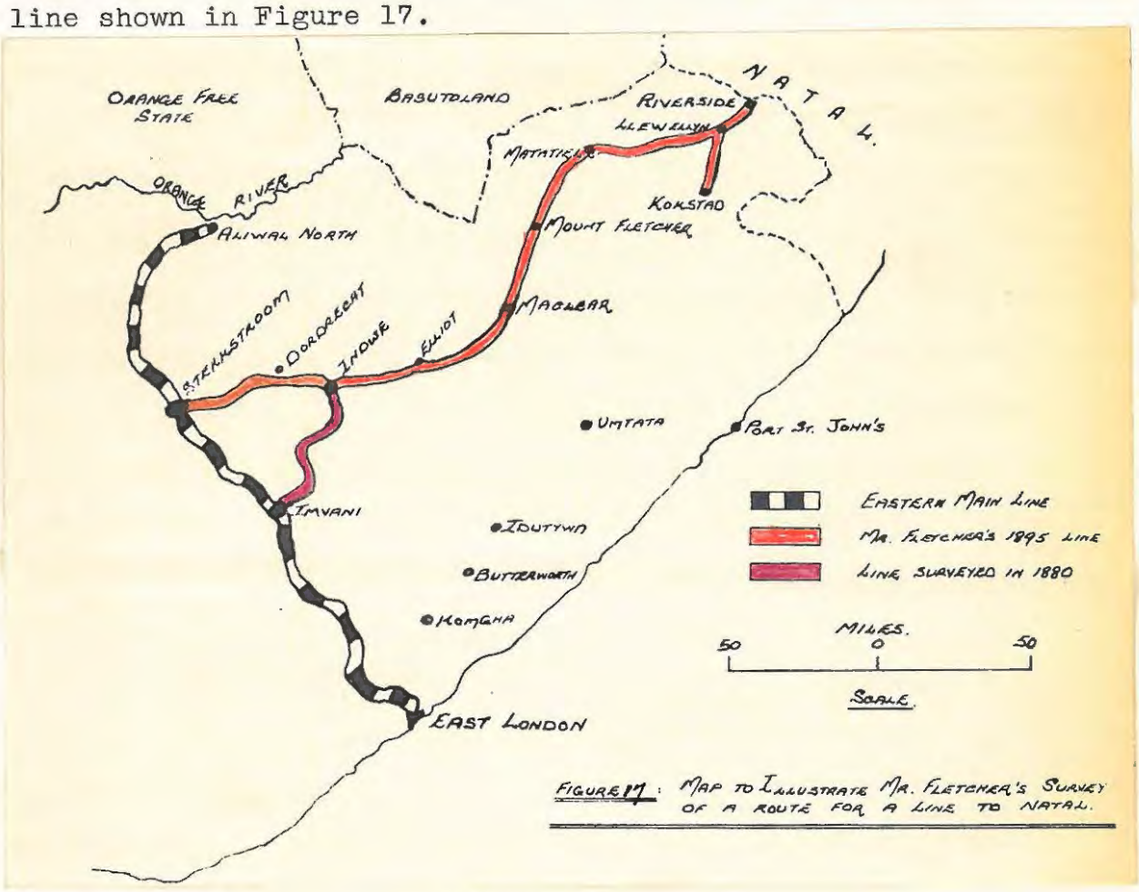

Figure 17.
Mr. Fletcher's Line to Natal (1895)

Mr. Fletcher also said that, if it were thought desirable to effect a junction between his proposed line to Natal and the Eastern main line at some point south of Sterkstroom, which was the junction of the main and Indwe lines, a line could be constructed along the route surveyed in 1879 between Indwe and Imvani.(99) Commenting on this report, the Chief Inspector of Public Works said that he feared that the traffic between East London and all the country between the Great Kei and the Bashee Rivers would have to be conveyed by road transport for some years to come, because of the difficulty of constructing a railway line across the Great

(99) A.13-1896: Report of Survey of Railways through Transkeian Territory.
The Indwe-Imvani line is described in the Cape Blue Book G.53-1879: pages 40-43. See also Figure 16.

Kei Valley.(100)

In 1897, further surveys were made in the Transkeian Territories, by Mr. A.D. Tudhope, who had been informed that there were three lines meriting special consideration: a lower line from some point near Amabele on the Eastern main line; a middle line from Imvani and an upper line from Indwe. Mr. Tudhope suggested the following three possible lines:

1. A lower line from Amabele loop, via Komgha, Ndabakazi, Butterworth, Idutywa, Umtata, Qumbu, Mount Frere and Kokstad to Riverside on the Natal Border; with an alternative route between East London to Mpuluse - a place near Butterworth; (101)
2. A middle line from Imvani via St. Mark's and Engcobo to join line 1 near Mount Frere; and
3. An upper line from Indwe via Maclear, Mount Fletcher, and Matatiele direct to Riverside, as well as a line from Matatiele to Riverside via Kokstad.(102)

These lines are shown in Figure 18.

Further surveys were carried out,(103) before it was decided, in 1902, that two lines should be constructed:

1. from a point at or near Amabele to Butterworth towards Umtata; and
2. from Indwe to Maclear towards Kokstad.(104)

From the report of a survey made in 1901, certain interesting facts can be obtained about the trade to and from the Transkeian Territories. It was pointed out, firstly, that it was easy to calculate the trade to and from the Territories, because the trading stations obtained their

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(100) A.13-1896: Report of Survey of Railways through Transkeian Territory; page 2.
(101) The route suggested from East London to Mpuluse is substantially that followed at present by the National Road from East London to Idutywa.
(102) G.58-1897; Report on a Preliminary Examination of Transkeian Territories by A.D. Tudhope; 1897, ...
(103) The surveys are recorded in the following Cape Blue Books: G.82-1898; G.77-1899; pages 3-10; and G.22-1902; pages 11-26; 52-60; and 77-82.
(104) These lines were authorized by Act number 38 of 1902.

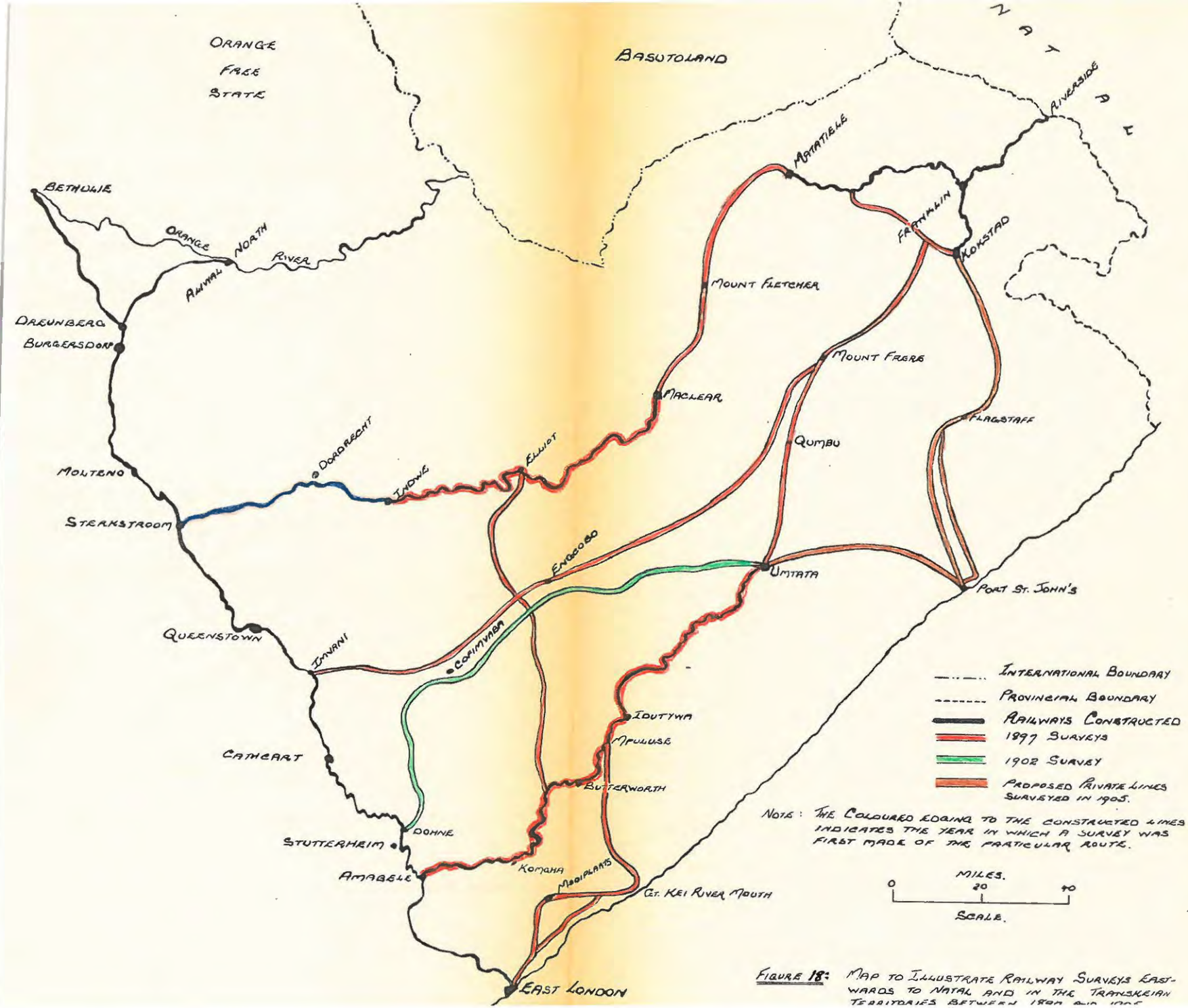

FIGURE 18: MAP TO ILLUSTRATE RAILWAY SURVEYS EASTWARDS TO NATAL AND IN THE TRANSKEIAN TERRITORIES BETWEEN 1892 AND 1905

goods mainly from King William's Town and East London and there were only three points at which the wagons could cross the Great Kei River into the Territories: St. Mark's Bridge, Bolo Drift and the Great Kei Bridge near Komgha. It was reported that, in the period between December 1st, 1897 and April 30th, 1898, the import traffic into the Transkeian Territories had been almost evenly divided between King William's Town and East London. In the period between July 1st and November 30th, 1901, however, King William's Town supplied only about 30 per cent of the traffic into the Transkei, while East London supplied approximately 69 per cent. "Since then," continued the report, "the greater part of the trade [of the Transkei] is with East London, where most of the King William's Town merchants have established themselves." (The reasons underlying this migration are dealt with at page 144ff of this thesis.) It was also stated in the report that Kokstad, Matatiele and the area north of Mount Frere, were within Durban's orbit and that their trade was "largely lost to the Colony". It was suggested that the following figures were a fair estimate of the imports of the Transkeian Territories:

Route	Tons per annum.
via Great Kei Bridge	14,000
via Bolo Drift	800
via St. Mark's Bridge	1,500
by sea, via Port St. John's	1,000
TOTAL	17,300

It was estimated that the exports from the Territories amounted to approximately 6,000 tons per annum, with wool predominating.(105)

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(105) G.22-1902: Reports on Flying Surveys: Dohne-Umtata Survey; pages 17,18.

The line from Amabele reached Butterworth in 1906, and after further surveys had been made,(106) it was decided to extend the line to Idutywa, but this town was not reached until 1913. In this year the extension of the line to Umtata was authorized,(107) that town being reached on 18th September, 1916. The line from Indwe reached Maclear in 1906, passing about three miles away from the town of Dordrecht because surveys conducted in 1902 had shown that, owing to the difficult nature of the country west of that town, it would have been too expensive to take the railway through it. The possibility of linking Dordrecht by a short branch line south-eastward to the through line had also been explored in these surveys. Although there were no topographical difficulties to be overcome in the construction of such a branch line, it was rejected because it was estimated that insufficient traffic would pass over it to make it a paying proposition.(108) It was not until 1932, that a deviation was authorized, thus giving Dordrecht direct rail communication for the first time.(109) Finally, in 1927, a short line was built from Imvani to Qamata (near St. Mark's). (110)

It will have been noticed that, originally, the intention of the Cape Government was the construction of a line, or lines, eastwards from the Eastern main line to form a junction with the Natal Government Railways. In East

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(106) These surveys are recorded in the following Cape Blue Books: G.8-1905; pages 29-33; G.6-1906; page 47.
(107) This was authorized by Act number 23 of 1913.
(108) G.49-1903: Reports on Railway Surveys; pages 1-3.
(109) For some years prior to the deviation of the line so that it passed through Dordrecht, the Railways Administration operated a Road Transport Service between Dordrecht station and Dordrecht town.
(110) This line was authorized by Act number 33 of 1925.

Griqualand, a line was built by the Cape Government from Riverside, on the Natal Border, to Llewellyn; and this line was subsequently extended to Matatiele and Kokstad.(111) There is, however, still a gap between Umtata and Kokstad, on the one hand, and between Maclear and Matatiele, on the other. There does not seem to be any prospect of these gaps being closed, and indeed from East London's point of view, such a thing might not be desirable. In its report, in 1940, the Railway Line Revision Commission said that the representations for the closing of either one, or both, of these gaps between the Cape Eastern and the Natal Systems came mainly from farming interests, but that it had been pointed out:

> "that if a line were built from Maclear to Matatiele to meet the requirements of the farming community, East London, which was the business centre for the Native Territories, would be seriously handicapped. The distance from East London to Matatiele was 360 miles compared with 255 miles from Durban, and a link via Matatiele to Maclear would bring Maclear nearer to Durban than to East London. This would mean that East London would lose the business done with Maclear. ... As far as the route from Kokstad to Umtata was concerned, this distance from Durban to Kokstad was 223 miles and from East London to Umtata was 228 miles. East London would therefore ... share with Durban the trade of the Transkeian Territories." (112)

In the same report, the Chief Traffic Manager of the South African Railways said that the traffic passing between the Border Region and Natal did not warrant the construction of a link either between Maclear and Matatiele or between

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(111) Riverside was connected to the Natal Government Railways System in 1909.
(112) U.G. 20-1940: Report of the Railway Line Revision Commission; page 66.

Umtata and Kokstad.(113)

6. The Aliwal North-Barkly East Line.

It will be remembered that, when the East London and Queenstown Railway was extended northward between 1881 and 1885, Aliwal North became the terminus of the Eastern line. When the line from Dreunberg to Springfontein was constructed in 1892, Aliwal North became the terminus of a branch line approximately 30 miles long. In 1896, the House of Assembly recommended an enquiry be made into the necessity for, and the cost of, a light line of railway from Aliwal North to the grain growing country to the east.(114) After surveys had been made,(115) a two-foot gauge line was sanctioned in 1902 from Aliwal North to Lady Grey towards Barkly East.(116) The narrow gauge was adopted as an economy measure. In 1903, the Commissioner of Crown Lands and Public Works said it would be too expensive to contemplate widening the gauge in view of the very difficult country through which the line passed,(117) but, in 1904, the construction of a line of standard gauge to Lady Grey was authorized.(118) By 1915,

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(113) ibid.: page 98.
As a matter of interest, the average tonnage per annum forwarded from East London to Natal in the period from 1st April, 1953 to 31st March, 1956, was 5,140 tons or 0.9 per cent of the total goods traffic forwarded from East London. In the same period, the average annual tonnage received at East London from Natal was 64,146 tons, or 12.3 per cent of the total received goods traffic. 46,375 tons, however, were coal from the mines in Northern Natal.

(114) Cape of Good Hope: Debates in the House of Assembly: 1896; page 68la.

(115) These surveys will be found recorded in the following Cape Blue Books: G.46-1898; page 76; and G.59-1899; page 49.

(116) Act number 38 of 1902, Schedule "J".

(117) Cape of Good Hope: Debates in the House of Assembly: 1903, page 238b.

(118) Act number 29 of 1904.

this line had been extended to New England, but it was not until fifteen years later, in 1930, that the line was extended to its present terminus at Barkly East. In the interval, in 1916, Aliwal North had been linked with the lines in the Orange Free State via Zastron.(119)

7. Surveys in the Peddie District.

Between 1896 and 1904, there was considerable activity in the Peddie District as far as railway surveys were concerned.(120) (See Figure 19) The possibilities were explored of linking Peddie by rail, either eastward with East London, or westward with Round Hill, a siding near Trappes Valley on the Grahamstown-Port Alfred line. The possibilities of linking Peddie by rail with King William's Town, Alice or Debe Nek were also investigated. In his report for 1901, the Chief Inspector of Public Works said:

> "A short line from Peddie and District to East London is very much needed to hasten the development of the District and to feed the port. Transport in its neighbourhood is very heavy, and the farmers are mostly in poor circumstances, because they with their working oxen, are continually on the road to and from market instead of giving their lands the full benefit of both." (121)

In 1904, a survey was made of the route for a possible coastal railway from Barkly Bridge - twenty-seven miles from Port Elizabeth on the Midland main line - through Alexandria to Round Hill and Peddie and on to East London. A line was built to Alexandria from Barkly Bridge in 1909, but the

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(119) This date, as with all other dates of completion of railway lines, has been taken from Statement No. 17 in the Report of the General Manager of Railways and Harbours for the year ended 31st March, 1956. (U.G.36-1956.)

(120) Records of these surveys will be found in the following Cape Blue Books: G.46.-1898; pages 1-13 and 18-20; G.72-1896; pages 19 and 22; G.61-1903; and G.8-1905; pages 83-92.

(121) G.49-1902: Report of the Chief Inspector of Public Works for 1901; page 5.

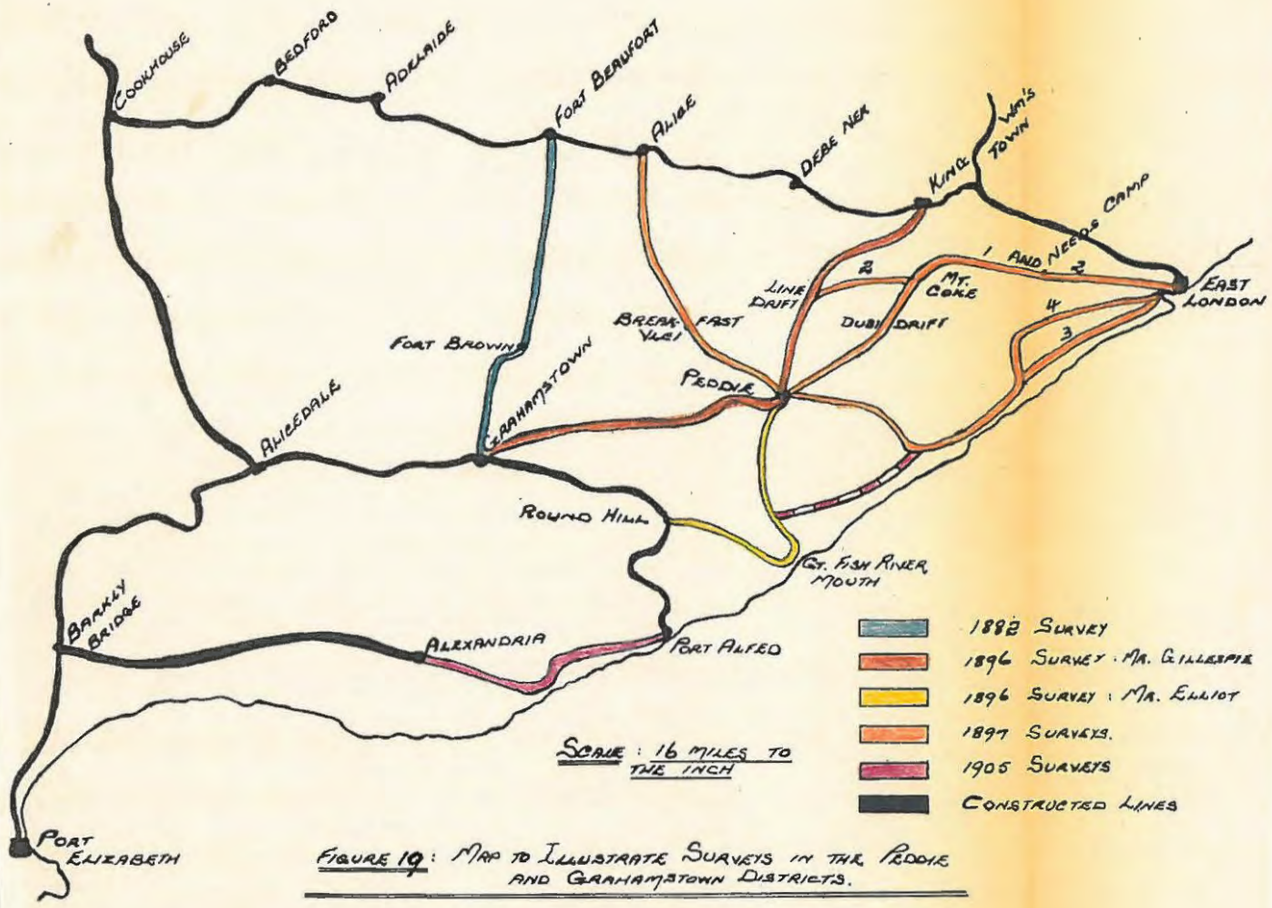

FIGURE 19 : MAP TO ILLUSTRATE SURVEYS IN THE PEDDIE AND GRAHAMSTOWN DISTRICTS.

remainder of the proposed line was not constructed; periodically, however, there has been revived interest in the construction of such a line, but it now appears most unlikely that the Railways Administration will consider such a scheme.

8. Lines approved but not constructed.

The Cape Colonial Government approved the construction of two minor lines in 1906:

1. from Queenstown to Whittlesea; and
2. from Cathcart to a point in the vicinity of Fairford or Chilton.

Neither of these lines, however, were constructed.

9. Conclusion.

In 1910, when the unification of the four Colonies into the Union of South Africa took place, the pattern of railway development in the Border Region had been very largely determined. In the years since Union, only 260 miles of line have been constructed, compared with 942 miles before 31st May, 1910. Since 1931, no further railway lines have been constructed in the Region, the Railways Administration having provided communication to many of the outlying districts by means of its Road Transport Service. (122)

The Railways Administration has, however, spent a considerable amount of money in effecting various improvements to the Cape Eastern System, most important of which was the reconstruction of the main line south of Queenstown. Two

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(122) The events leading up to the decision not to construct further branch lines, and the development of the Administration's Road Transport Service, are dealt with in Chapter 7.

major bridges have been built to replace older ones: one over the Orange River at Bethulie and the other over the Great Kei River at Sihota, near Komgha. Other bridges have been strengthened, as have culverts; in some areas the track has been relaid with heavier rails; signalling has been improved; several crossing loops have been lengthened and attention has been given to the improvement of locomotive water supplies.

CHAPTER 4.

THE TRAFFIC OF THE CAPE EASTERN SYSTEM.

1. The Area Served by the Cape Eastern System - the Border Region.

The area served by the Cape Eastern System is approximately the same as that which in this thesis has been designated the Border Region.(1) The Border Region is not an administrative unit, nor has the term Border any precise geographical connotation at the present time. The term is still widely used, however, and often refers to an area greater than that which once formed British Kaffraria, the border between the predominantly white Colony, on the one hand, and the Native Tribes on the other. For the purpose of this thesis, the Border Region has been defined on the basis of its economic relationship to East London. It is that area which, because of geographical factors or the transport system, finds in East London its natural and cheapest importing and exporting harbour. East London enjoys a virtual monopoly of the overseas trade of the whole area, being strategically placed to control the wholesale distribution of the consumer goods which form so important a part of the imports of the Region. Apart from those used in agriculture, there is little demand for capital goods and there are few factories outside East London using imported raw materials.(2) The greater part of the Region's agricultural produce which finds its market overseas passes through

(1) The Cape Eastern System is an administrative unit of the South African Railways and, in addition to the stations in the Border Region, the System includes the following stations: Bedford, Eastpoort, Steynsburg, Schoombee, Teviot, Hofmeyr and Bethulie.

(2) Increasingly, consumer goods are being manufactured in the Union, particularly in the Southern Transvaal. For the distribution of these goods, a wholesaler in, say, Queenstown would appear to be more strategically placed than his counterpart in East London.

East London.

1. Population and area:

The Border Region covers an area of 27,699 square miles and has a population of 1,424,586, composed of the following racial groups:(3)

Race	Population	Percentage of Total
Europeans	119,452	8.2
Natives	1,270,270	89.4
Coloureds and Asiatics	34,864	2.4
TOTAL:	1,424,586	100.0

The numerical superiority of Natives in the population is not surprising when it is remembered that a large part of the Region consists of Native Reserves - economically backward and depressed areas "in which Bantu tribal structure, communal land tenure and subsistence farming still survive, though in a modified form".(4) The poverty of these areas has been a severe handicap to the economic expansion of East London and any substantial improvement in their productivity and living standards would have a profound influence on East London's expansion. Table A.12 gives detailed figures.

The forty-two Magisterial Districts which will be regarded as forming the Border Region, can be divided into two groups on the basis of land-ownership. In Group A land is owned predominantly by Europeans, although some Districts (indicated by an asterisk) include considerable areas of Native Reserve Territory. Group B comprises twenty Districts in which land is owned entirely by Natives. (See Figure 20.)

(3). U.G.42-1955: Population Census, 8th May, 1951: Volume 1: Geographical Distribution of the Population of the Union.
(4) "Economic Development in a Plural Society (Studies in the Border Region of the Cape Province)". Edited by D. Hobart Houghton. Chapter 1.

FIGURE 20: THE BORDER REGION, SHOWING MAGISTERIAL DISTRICTS.

(PART OF MAP 1 IN U.G. 42-1955: POPULATION CENSUS: 8TH. MAY, 1951: VOL. 1: GEOGRAPHICAL DISTRIBUTION OF THE POPULATION OF THE UNION OF S. AFRICA.)

GROUP A: Adelaide, Albert, Aliwal North, Barkly East, Cathcart, East London *, Elliot, Fort Beaufort, Indwe, King William's Town *, Komgha, Lady Grey, Maclear, Molteno, Peddie *, Queenstown *, Sterkstroom, Stockenstrom, Stutterheim, Tarka, Victoria East and Wodehouse.

GROUP B: Glen Grey, Herschel, Keiskamma Hoek and Middledrift, which are outside the Transkeian Territories; and Tsolo, Elliotdale, Engcobo, Mqanduli, St. Mark's, Umtata, Xalanga, Butterworth, Idutywa, Kentani, Nqamakwe, Tsomo, Willowvale, Libode, Ngqeleni, and Port St. John's, which form part of the Transkeian Territories.

In Group A, the density of population is 23.3 per square mile; in Group B it is 89 per square mile. This population is essentially rural, for apart from East London which at the time of the 1951 census had a population of 91,264, there were only five towns in the Region with populations exceeding 5,000 when the 1951 census was taken: Queenstown (25,880); King William's Town (12,480); Aliwal North (9,717); Umtata (9,185) and Fort Beaufort (8,293).

2. Natural Resources:

a. Mineral resources:

Apart from coal deposits in the Stormberg-Molteno-Indwe area, there do not appear to be any significant mineral deposits in the Border Region. These coal deposits were of considerable importance in the latter part of the nineteenth century, and considerable expenditure was incurred in determining the extent of the Coal Fields and the quality of the coal. The exploitation of the Coal Fields of Northern Natal, the Northern part of the Orange Free State and the South-Eastern Transvaal - in all of which the coal is superior to that found in the Cape - led to a steady decline in coal mining activity in the Stormberg-Indwe area, and since 1949 no coal has been mined there.

b. Agriculture:

Farming, in one form or other, is the occupation of the majority of the inhabitants of the Border Region. The rearing of sheep and cattle is the main pastoral occupation, the number of head of cattle and sheep in each Magisterial District being shown in Table A.13.
The total number of these animals in the Region in the year ended 31st August, 1954, were:

Type of animal	Head	Percentage of Union Total
Cattle	1,544,973	13.3
Woolled Sheep	6,568,857	17.7
Non-woolled Sheep	39,998	0.9

The main crop of the Region is maize; kaffir corn, wheat and various other grains are also grown, as shown in Table A.14. The total production for the Region in the year ended 31st August, 1954 was:(5)

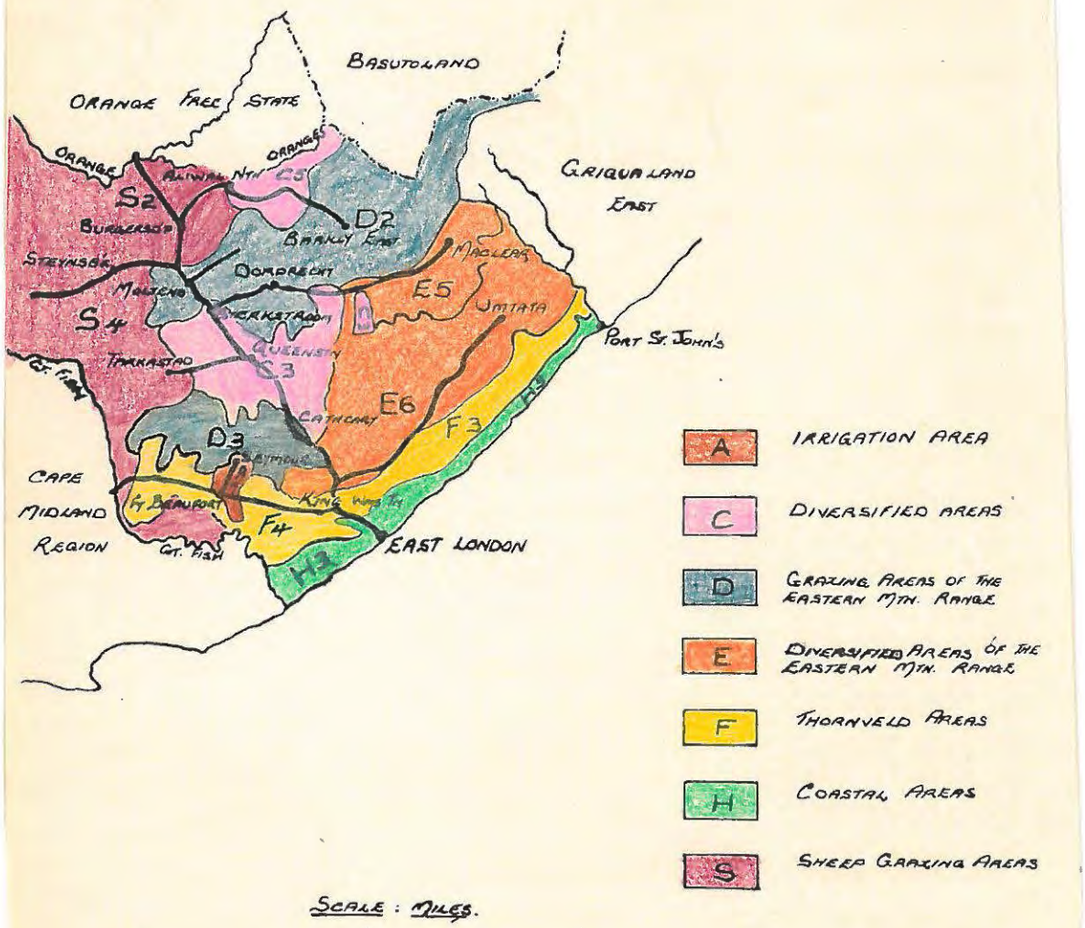
Type of grain	Tons harvested	Percentage of Union Total
Maize	136,107	3.5
Kaffir corn	12,067	9.9
Wheat	16,375	2.8
Other grain	8,031	4.7

Fruit farming is an important activity in many areas: citrus fruit is grown fairly widely throughout the Region, but the most important areas of production are in the Magisterial Districts of Adelaide, Fort Beaufort, Stockenström, Victoria East, East London, King William's Town and Peddie. Pineapples are grown in the Magisterial Districts of East London, Peddie, Komgha and King William's Town, while East London and Port St. John's Magisterial Districts each have a

(5) The tonnage of wheat and of other grains is in respect of production on European farms only: no census of the production of these crops by Natives is taken.

FIGURE 21: AGRO-ECONOMIC MAP OF THE BORDER REGION

(PART OF THE AGRO-ECONOMIC MAP OF SOUTH AFRICA PUBLISHED IN THE DEPARTMENT OF AGRICULTURE BULLETIN NO. 320.)



large number of sub-tropical fruit trees, guavas being particularly important in the East London District. Deciduous fruit is grown throught the Region. The total number of fruit trees in the Region, in the year ended 31st August, 1950 were:

Type of Tree	Number of Trees	Percentage of Union Total
Citrus fruit	304,115	6.5
Deciduous fruit	471,822	3.1
Sub-tropical fruit	147,842	4.7

In the same year, there were 5,885 morgen under pine apples, representing 26.7 per cent of the Union total. (See Table A.15)

In an attempt to show all the main farming activities carried on in various parts of the Border Region, a portion of the Agro-economic map of the Union of South Africa is reproduced in Figure 21, with the following explanatory comments.(6)

Area A 7: (Oasis Farming):

An area in the Kat River Valley, in which citrus fruit farming predominates, with some lucerne cultivation. Livestock farming is negligible.

Area C 3: (Transition area):

In this area livestock farming far overshadows crop farming, and sheep farming - mainly woolled sheep - is most important, with cattle second. Wheat is the most important crop as a source of cash income.

Area C 5: (Transition area):

An area in which livestock farming predominates, with cattle slightly more important than sheep, which latter are mainly woolled. Maize is slightly more important than wheat as a source of income. Vegetables and fruit also contribute to a small extent towards income.

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(6) Union of South Africa: Department of Agriculture: Economic Series No. 39: Key to the Agro-Economic Map of the Union of South Africa. (Published by the Government Printer, Pretoria, 1951-52.) Bulletin No 320.

Areas D 2 and D 3: (Mountain grazing areas):

These are almost exclusively livestock areas, and 85 per cent of the income is derived from sheep and cattle, sheep farming - almost entirely woolled sheep - being more important. Maize is the most important crop of the region, wheat contributing a small amount towards the cash income. The remaining crops are sown for their value as stock-feed.

Area E 5: (Mixed farming area):

Livestock farming is of greater importance than crop farming in this area, wool being the most important source of cash income. Wheat is much more important than maize as an income producer. Potatoes make a small contribution to cash income.

Area E 6: (Mixed farming area):

This is largely Native Reserve Territory in which cattle farming surpasses all other branches of farming, although a number of woolled sheep are also kept. Maize, kaffir corn and pumpkins are produced by the Natives, mainly for their own consumption.

Area F 3: (Thornveld area):

This area of the Transkeian Territories is almost exclusively a cattle area.

Area F 4: (Thornveld area): This is also a livestock area and the income from crops is so small that it need not be taken into account. Sheep farming - mainly woolled sheep - contributes three-quarters of the total cash income. Cattle were next in order of importance.

Area H 3: (Coastal area):

A portion of this area falls in the Transkeian Territories, but from East London in a south-west direction the area is well developed. It is the most important pineapple producing area of the Union, while maize, vegetables and fruit also contribute towards the cash income of farmers in the area.

Area S 2: (Sheep grazing area):

The average farm in this area measures 2,213 morgen and approximately 95 per cent of the cash income is derived from livestock farming. Sheep contribute more than 80 per cent of the income derived from livestock. The income from cattle is also important. Wheat is the only crop worth mentioning, and even its contribution is small.

Area S 4: (Sheep grazing area):

The average farm in this area measures 3,584 morgen. This is also a predominantly woolled sheep farming area and cattle play only an insignificant role. Wheat is the most important crop, while lucerne contributes a small amount to income.

c. Forestry:

In the year ended 31st August, 1950, there were in the Border Region the following areas of natural forest and plantation:

Type of tree (all ages)	Morgen	Percentage of Union Total
Plantations:		
Conifers	13,787	5.6
Eucalypt	3,680	2.1
Wattle	10,687	3.4
Other	2,578	7.8
TOTAL	30,732	3.9
Indigenous forest	107,679	17.2

Detailed Figures for each Magisterial District are shown in Table A.16.

3. Industry:

No figures are published giving the number of industrial establishments in the Border Region.(7) The area under the Inspectorate of Labour at East London, however, corresponds very largely to the Border Region,(8) and certain figures are available for that Inspectorate. In the year ended 31st December, 1954, there were in the Inspectorate, approximately 800 industrial establishments, of which approximately

(7) The Census of Industrial Establishments provides statistics of four areas: Southern Transvaal, Western Cape, Durban and Pinetown and Port Elizabeth and Uitenhage. The remainder of the Union is put into a residual category, in which the Border Region is included.

(8) The Border Labour Inspectorate consists of 44 Magisterial Districts: compared with the Border Region, it omits Adelaide and adds Mount Fletcher, Mount Frere and Qumbu.

600 were located in seven Magisterial Districts:

Magisterial District	Number of Industrial Establishments.
East London	320
Queenstown	75
King William's Town	65
Umtata	50
Aliwal North	35
Burgersdorp	25
Stutterheim	20

Counting only the number of establishments, the Border Inspectorate accounted for approximately 5 per cent of the Union total. Too much importance should not be attached to the number of establishments, however, for they vary greatly in size and importance. Most of those in the country districts are small, and include such things as small country garages, carpenter's shops etc, while some will be concerned with processing agricultural products, e.g. creameries. No other figures are available, however, except the number of persons employed: this shows that although the East London Magisterial District contained less than half the number of industrial establishments, approximately three-quarters of the total number of persons employed in the Border Labour Inspectorate were employed in the East London Magisterial District. The total number of persons employed in the Border Inspectorate was approximately 2.5 per cent of those employed in secondary industry in the Union as a whole.

It can be said, then, that the Border Region is not an industrialized area for apart from East London itself, there are only two areas with any significant industrial development: Queenstown and King William's Town, but both are small in comparison with East London. They may, however, be potential industrial areas for they have good communications by both road and rail (except perhaps King William's

Town is at a slight disadvantage through being situated on a branch line) with the port of East London and the interior. They are adequately supplied with power and water. They are also adjacent to large Native Reserves, and the Government's declared intention of fostering industrial development on the periphery of the Reserves gives these areas added significance. The foundation upon which East London's economy was built was wholesale trading, but it is important to note that industrial development has been very rapid and the present trends indicate that it is likely to play an increasingly important part in the general economic development of the area.(9)

2. The Available Statistics.

The analysis, against the above background, of the traffic over the Cape Eastern System will be based on the following data:

a. the revenue of the System;

b. the forwarded goods, coal and mineral traffic;

c. passenger tickets issued; and

d. train mileage.

There are other analyses which would be desirable, but the above data are the only information available for the Cape Eastern System in isolation. A more detailed discussion of this problem will be found in Appendix B.

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(9) "Economic Development in a Plural Society. (Studies in the Border Region of the Cape Province." Edited by D. Hobart Houghton. Chapter 5.

3. The Revenue of the Cape Eastern System.

The fluctuations in the revenue of the Cape Eastern System between 1st January, 1877 and the 31st March, 1956,(10) are shown in Figure 22, which is based on Tables A.17 and A.18. In 1877, the total revenue of the Cape Eastern System amounted to only £11,971, or £214 per open mile of line; in the year ended 31st March, 1956, the revenue of the System amounted to £6,015,334, or £5,145 per open mile. Part of this increase in revenue has been due to an increase in traffic, partly as a result of the increased open mileage, and partly because of the increasing economic and commercial development of the area served by the System, as well as of the Union as a whole. This is particularly true of the period since the end of the second world war, in which period there has been a very marked increase in the revenue of the System.

It must be noted that revenue is not an entirely reliable guide to the traffic development of a railway undertaking because it is possible, if tariffs are raised, for revenue to increase without a corresponding increase in traffic. Between 1st April, 1946 and 31st August, 1954, the goods tariffs of the South African Railways were increased by approximately 50 per cent.(11) With effect from

(10) As from 1st April, 1917, the Railways Administration has used as its accounting period the twelve months ending on 31st March in each year.

(11) The following increases in goods rates were made between 1st April, 1946 and 31st August, 1954:
as from 1.10.1946: a 10 per cent surcharge on goods, excepting petrol;
as from 1. 4.1949: a further 7½ per cent surcharge on goods, with the exception of petrol;
as from 1. 4.1950: a further 10 per cent surcharge on goods rates;
as from 1. 8.1953: the 1950 surcharge was increased to 25 per cent, resulting in an average increase of approximately 13.63 per cent.

1st September, 1954, an entirely new tariff structure was introduced, based largely on the recommendations of the Committee appointed to Inquire into Railway Rating Policy in South Africa (the Newton Committee).(12) The principal features of this new tariff structure are:

a. the abolition of several of the special rating arrangements which had existed in the old rating structure;(13) and

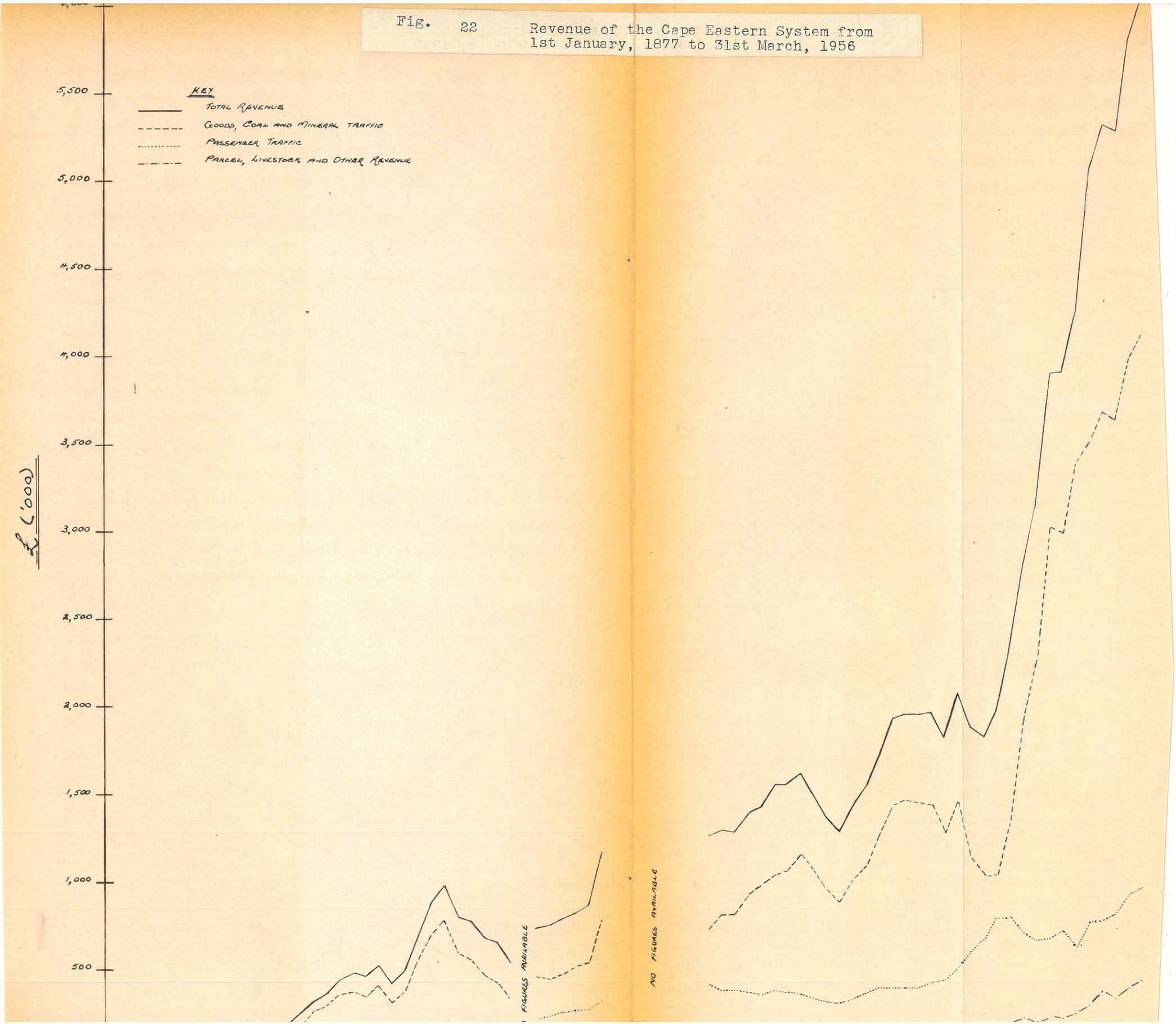
b. the revision of the goods classification, and the provision of fourteen, instead of ten, scheduled rates, as well as a revision of the rates themselves, generally in an upward direction.

Passenger fares were increased, between 1st April, 1943 and 31st August, 1954 by approximately 34 per cent. When the new tariff structure was introduced in September, 1954, passenger fares were revised and amended.

Other revenue consists of that derived principally from the conveyance of livestock and parcels; in addition a small amount is derived from various miscellaneous sources. The tariff for parcels and livestock was increased, between 1st April, 1946, and 31st August, 1954, by the same percentage as goods traffic; and a new tariff was introduced for each as from 1st September, 1954. Part, therefore, of the increase in total revenue since the end of the second world war must be attributed to the continuous upward revision from 1st April, 1946, of all the rates and tariffs of the South African Railways. Reference to Figures 23 and 24 will show, however, that there has also been an expansion in

(12) This matter is dealt with in detail in Chapter 5.
(13) The special rating arrangements abolished were: distribution rates, nearest port rates, preferential rates, maximum rates, sea competitive rates and branch line rates.

Fig. 22 Revenue of the Cape Eastern System from 1st January, 1877 to 31st March, 1956



the actual goods and passenger traffic of the System.

There are, therefore, three sources from which the revenue of the Cape Eastern System is derived:

a. goods, coal and mineral traffic;(14)

b. passenger traffic; and

c. other sources, mainly luggage and parcels and livestock.

The importance of each of these sources, as constituent parts of total revenue, at five yearly intervals, is shown in Table 5. The significant feature revealed by this table is the preponderance of goods revenue. Though passenger revenue has increased absolutely, its importance relative to goods revenue has decreased in the last ten years of the period under review. (Table 5 is on page 136.)

A comparison of the increase in goods traffic revenue between the year ended 31st March, 1928 and that ended 31st March, 1956, with the increase in actual forwarded goods traffic in the same period, shows that:

goods revenue	increased by	340 per cent;
	whereas	
goods traffic	increased by	163 per cent.

In comparing the increase in revenue with the increase in traffic, it must be remembered that goods traffic is not an homogeneous commodity, so that at one time high-rated traffic may account for a higher proportion of total traffic than at other times. Another factor which plays an important part in the revenue-traffic relationship is the proportion of long haul traffic to short haul traffic, for the tonnage

(14) At present, the revenue of the Cape Eastern System under this head is derived mainly from ordinary goods traffic, there being only a very small amount of coal traffic, resulting from the re-distribution of Transvaal or Natal coal; and mineral traffic, apart from salt from Teviot, is small. This was not always the case; when the Indwe and Stormberg coal mines were in operation, coal was an important commodity.

TABLE 5 (15)

Goods, Passenger and Other Revenue expressed as Percentages of the Total Revenue of the Cape Eastern System in certain selected years between 1st January, 1877 and 31st March, 1956

Year ended	Source of Revenue			TOTAL
	Goods, coal and mineral traffic	Passenger traffic	Other	
	%	%	%	%
31.12.1880	70.0	29.9	0.1	100.0
31.12.1885	75.7	22.3	2.0	100.0
31.12.1890	76.0	21.4	2.6	100.0
31.12.1895	80.5	17.1	2.4	100.0
31.12.1900	75.6	21.4	3.0	100.0
31.12.1905	71.7	25.0	3.3	100.0
31.12.1910	61.9	29.7	8.4	100.0
31.12.1915	67.4	27.3	5.3	100.0
31. 3.1921	*	*	*	*
31. 3.1926	66.8	26.8	6.4	100.0
31. 3.1931	71.0	23.0	6.0	100.0
31. 3.1936	72.6	22.5	4.9	100.0
31. 3.1941	70.0	24.0	6.0	100.0
31. 3.1946	57.6	34.5	7.9	100.0
31. 3.1951	79.5	14.7	5.8	100.0
31. 3.1956	76.8	16.0	7.2	100.0

*: figures not available.

remains the same, irrespective of the distance the goods are conveyed, but the revenue fluctuates with distance. (15a)

It is difficult to compare passenger traffic revenue with passenger traffic, because the revenue includes that derived from the sale of season tickets, as well as fares collected on the trains, neither of which are reflected in

(15) This Table is based on Tables A.17 and A.18, in Appendix A.

(15a) It is not possible to calculate ton-mileages for the Cape Eastern System in isolation.

the passenger ticket statistics. It is interesting to note, however, that since the year ended 31st March, 1951, the number of tickets issued to first and second class passengers has been falling steadily, and since the year ended 31st March 1954, so has the number issued to third class passengers.(16)

Summary:

1. There has been a steady increase in the total revenue of the Cape Eastern System, particularly since the end of the second world war. This has also be been true of goods traffic revenue. Passenger revenue showed a marked increase during and immediately after the second world war, this being mainly attributable to the abnormal conditions created by the war - the movement of troops and the restriction on the use of motor cars. Subsequently falling, in the last years of the period under review passenger traffic revenue has increased steadily. Revenue derived from other sources, after a long period of stability, has been increasing steadily since the latter years of the second world war.
2. In the period between 1st January, 1910 and 31st March, 1956, the revenue of the Cape Eastern System has not increased at the same rate as has the revenue of the South African Railways as a whole. This is shown in Tables 6 and 7, on page 138.

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(16) Third class passengers are exclusively Non-European; first and second class passengers are predominantly European, but many Non-Europeans travel in these two classes in the coaches specially reserved for their use.

TABLE 6 (17)

Increase in the Revenue of the Cape Eastern System, Compared with the Increase in the Revenue of the South African Railways as a whole, between the year ended 31st December, 1910 and the year ended 31st March, 1956

Source of Revenue	Percentage Increase	
	Cape Eastern System	South African Railways
	%	%
Total Revenue	712	1,041
Goods, coal and mineral traffic	910	1,151
Passenger traffic	339	581
Other	582	1,462

TABLE 7 (18)

Revenue of the Cape Eastern System as a Percentage of the Revenue of the South African Railways in the years ended 31st December, 1910 and 31st March, 1956.

Source of Revenue	Revenue of the Cape Eastern System as a percentage of the Total Revenue of the South African Railways.	
	Year ended 31.12.1910	Year ended 31. 3.1956
	%	%
Total Revenue	6.0	4.4
Goods, coal and mineral traffic	5.5	4.5
Passenger traffic	7.8	5.0
Other	6.2	2.8

(17) Source: Compiled from data published in the Reports of the General Manager of Railways and Harbours for the years ended 31st December, 1910 and 31st March, 1956 (U.G.39-1911 and U.G. 36-1956, respectively) and the data in Tables A.17 and A.18 in Appendix A.

(18) Source: As for Table 6.

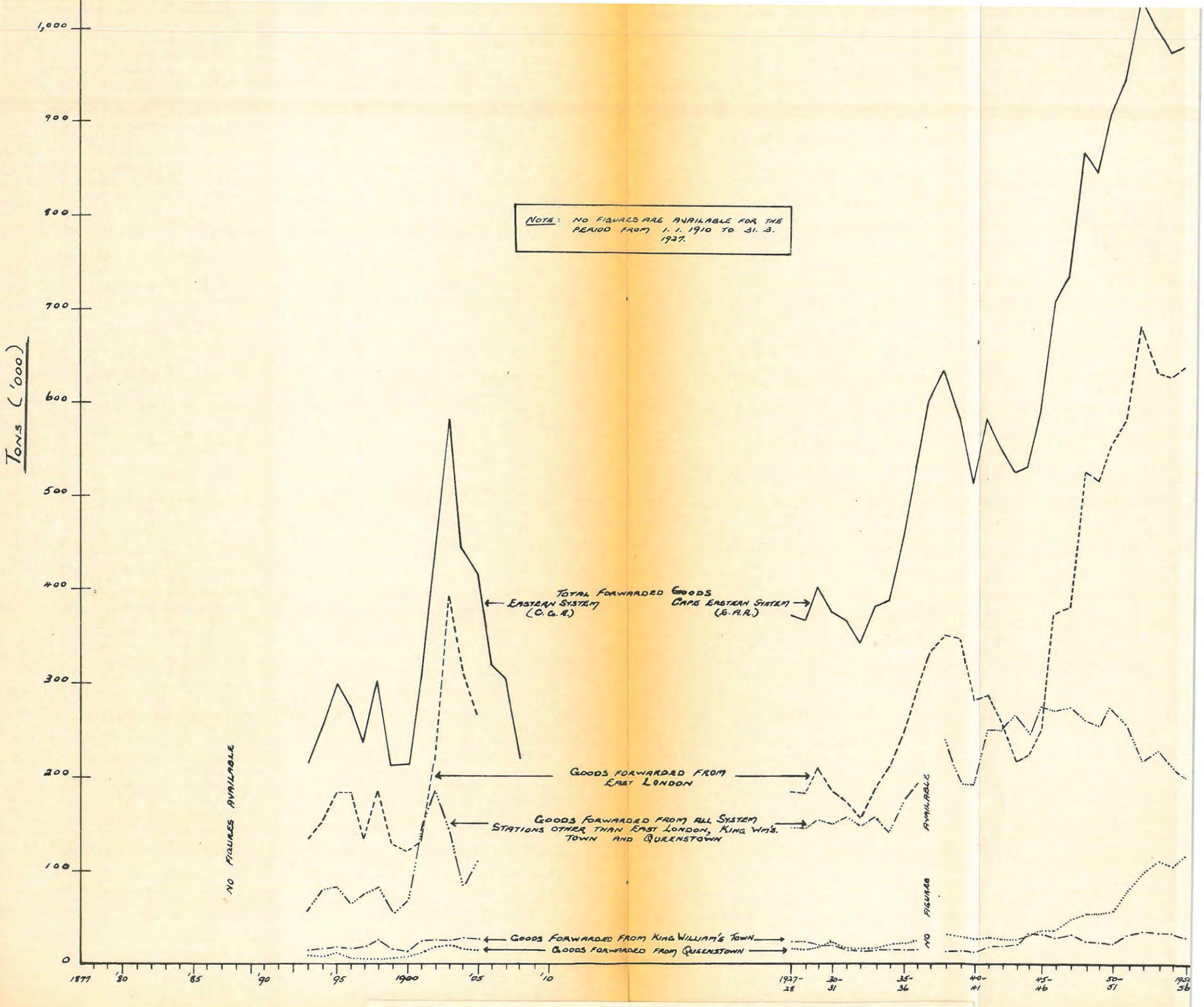

Fig. 23 Forwarded Goods Traffic of the Cape Eastern System from 1st January, 1893 to 31st March, 1956

4. The Forwarded Goods Traffic of the Cape Eastern System.

The fluctuations in the goods traffic forwarded from East London,(19) King William's Town, Queenstown, and the Cape Eastern System as a whole, for the years for which data are available, are shown in Figure 23, which is based on Tables A.19 and A.20 in Appendix A. An analysis showing the percentage of the total forwarded goods traffic of the System emanating from each of the above three stations, and from the remaining stations of the System, at five-yearly intervals, is shown in Table 8.

TABLE 8 (20)

Forwarded Goods Traffic of East London, King William's Town, Queenstown, and the remaining Cape Eastern System Stations, expressed as a Percentage of the Total Forwarded Goods Traffic of the System in selected Years.

Year ended	Origin of Traffic				TOTAL
	East London	King W'ms Town	Queens-town	Remaining Stations	
	%	%	%	%	%
31.12.1895	62.0	6.4	4.1	27.5	100.0
31.12.1900	57.0	6.8	4.4	31.8	100.0
31.12.1905	63.8	6.6	3.5	26.1	100.0
*	*	*	*	*	*
31. 3.1931	49.4	5.4	5.5	39.7	100.0
31. 3.1936	53.2	3.4	4.7	38.7	100.0
31. 3.1941	54.8	2.4	5.4	37.4	100.0
31. 3.1946	42.5	5.3	5.6	46.6	100.0
31. 3.1951	61.0	2.4	6.2	30.4	100.0
31. 3.1956	64.8	3.0	11.8	20.4	100.0

*: Figures not available

(19) As the South African Railways Administration regards the Buffalo Harbour and East London as one forwarding station, the figure for East London represents traffic forwarded from the city and directly from the Harbour.

(20) Source: Tables A.19 and A.20 in Appendix A.

The importance of East London, as revealed by Figure 23, and the above Table, in the forwarded goods traffic of the Cape Eastern System is impressive. Seldom have all the other stations together equalled the tonnage emanating from East London - a fact which is undoubtedly attributable to the existence of the Harbour. The other significant trend revealed by the analysis is the declining importance of King William's Town, and the increasing importance of Queenstown.

a. East London:

As a detailed analysis of East London's forwarded goods traffic forms the subject of Chapter 6 of this thesis, only a summary will be given at this point. Taking the annual average for the three years from 1st April, 1953 to 31st March, 1956,(21) the commercial traffic forwarded from East London was distributed to the following areas:(22)

Area (23)	Percentage of Total Forwarded Goods Traffic
The Border Region	38.0
The Transvaal	28.7
The Orange Free State	22.1
Remainder of the Union, South West Africa, Bechuanaland Protectorate and the Rhodesias.	11.2
TOTAL	100.0

The Border Region, the Transvaal and the Orange Free State, thus accounted for approximately 90 per cent of the goods traffic forwarded from East London. Table 9, on page 141, shows, in summary form, the principal commodities forwarded from East London to the stations in the Border Region.

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(21) This was the only period for which data could be obtained.
(22) Commercial traffic excludes railway stores and material, motor cars accompanying tourists, and second-hand furniture.
(23) A definition of these areas will be found in Appendix C.

TABLE 9 (24)

Summary of the Commercial Traffic Forwarded From East London to the Border Region in the Period 1st April, 1953 to 31st March, 1956.

Commodity	Average Annual Tonnage
Petrol	44,112
Power Paraffin	12,236
Paraffin	10,047
Crude Fuel Oil	9,134
Lubricating Oil and Grease	2,094
TOTAL: Petrol, oil and liquid fuel	77,623
Sugar	24,041
Empty Containers	19,864
Animal Foodstuffs	14,260
Wheat	10,359
Flour	6,100
Alcoholic Beverages	5,340
Timber	5,104
Maize Meal	3,114
Wool : to woolwasheries	2,304
Maize	2,220
Fencing Material, including Wire	2,176
Soap	2,117
Bricks, sand and stone	1,634
Iron and Steelware	1,560
Cement	1,098
Fresh Fish	1,071
Confectionery	703
Other Commodities	32,270
TOTAL	212,958

Some explanations must be made concerning certain items appearing in the above Table.

i. Petrol, oil and liquid fuel: the tonnage shown in Table 9 includes the weight of the drums and other containers in which these commodities are conveyed to stations other than Queenstown and Aliwal North. To the latter stations, railway tank trucks are used for conveying these commodities in bulk, and

(24) Source: Tables A.31, A.32, and A.33, in Appendix A.

the weight of these trucks is not included in the forwarded petrol, oil and liquid fuel tonnage.

ii. Empty containers: the empty containers tonnage is made up as follows:

1. the weight of new or second-hand containers forwarded from East London;

2. the weight of the tank trucks returned empty from Queenstown and Aliwal North - i.e., the trucks in which the petrol, oil and liquid fuels were forwarded in bulk from East London; and

3.. the weight of petrol and oil drums which, when empty, have to be returned to East London.(25)

The tonnage of forwarded goods is therefore inflated by the tonnage of the empty containers in (2) and (3) above. Unfortunately, it has not been possible to establish the tonnage involved.

iii. Other commodities: in this table the other commodities tonnage is composed of:

1. the weight of those commodities which are not sufficiently important to warrant especial mention; and

2. the weight of a considerable number of commodities which are not recorded individually by the Railways Administration; much of this tonnage is made up by items of general merchandise.

Table 10, on page 143, shows the principal commodities forwarded to the Transvaal and the Orange Free State. Since petrol, oil and liquid fuel is forwarded in bulk to Hamilton and Bloemfontein, the empty containers tonnage also includes the weight of the empty tank trucks returned to East London. In Table 10 the other commodities tonnage is composed of the

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(25) The weight of tank trucks is counted once only, i.e., when returned empty to East London, but the weight of drums and other containers is counted twice: once in the weight of the petrol, oil and liquid fuel, and again when returned empty to East London.

The curious situation of counting returned empty container tonnage in forwarded traffic tonnage arises because the railage on the empty trucks and containers is payable when the commodities in question are forwarded from East London.

same elements as outlined above for Table 9.

TABLE 10 (26)

Summary of the Commercial Traffic Forwarded From East London to the Transvaal and the Orange Free State in the Period from 1st. April, 1953 to 31st March, 1956

Commodity	Average Annual Tonnage	
	Transvaal	Orange Free State
Wheat	33,113	9,704
Timber	30,195	6,389
Paper	15,932	3,560
Machinery	7,484	1,773
Scrap Metal	4,033	-
Iron and Steelware	2,976	539
Motor and other self propelled vehicles, incl. parts	2,911	425
Confectionery	2,168	866
Empty containers	1,443	18,175
Soap	1,119	372
Petrol, oil and liquid fuel	-	65,582
Sugar	-	2,271
Other Commodities	58,941	13,955
TOTAL:	160,315	123,611

Table 31, on page 176, shows the principal commodities forwarded from East London, during the period from 1st April, 1953 to 31st March, 1956, arranged in order of importance and irrespective of destination.

(26) Source: Tables A.31, A.32, and A.33, in Appendix A.

b. King William's Town:

King William's Town, as well as being the military and civil headquarters of the area, was the original commercial centre of the Border Region, being strategically situated to deal with the trade to the Ciskei, the Transkeian Territories and the North-eastern Cape, so long as there were no railways. It was, therefore, natural that the mercantile houses should establish themselves in King William's Town, and this continued even after the mouth of the Buffalo River had been partially developed as a port. The goods were brought to King William's Town from East London and Port Elizabeth and distributed, again by ox-wagon, throughout the above mentioned areas. The construction of the railway line from East London to the north, and particularly the by-passing of King William's Town, marked the beginning of East London's ascendency over King William's Town as the premier distribution centre in the Border Region. At first, the King William's Town merchants established branches in East London, but later many of them made East London their business headquarters. As long as there was no railway communication from East London to the Transkei, the King William's Town merchants were in a position to compete with the East London merchants for the trade with the Native Territories, but the extension of the railway line to Umtata in 1916 dealt the final blow to King William's Town. The few remaining merchant houses in King William's Town, being principally wholesalers of imported consumer goods, have also suffered from the failure of the wholesaler to maintain his former important position in the distributive trade. This has been caused, partly, by the decrease in the quantity of manufactured consumer goods imported, following the development of secondary industry in South Africa; and partly by the

willingness of the manufacturers to deal directly with retailers and the ability of the larger retailers to deal directly with the manufacturers.(27)

The arrested development of King William's Town is attested by various pieces of evidence, not the least important of which is the comparatively stable forwarded goods traffic. Table 11 shows the comparative rates of increase or decrease in the goods traffic forwarded from East London, King William's Town and Queenstown.

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(27) This phenomenon is not confined to South Africa, but is found in many countries. It should not be thought that East London has not had to face this problem also: it has, and some wholesale houses have had to close down while others have been forced to make various adjustments. For example, in 1958, one large wholesale house in East London found it necessary to close down its grocery department, as this was no longer a paying propostion. East London's economy, however, was based on a broader foundation than that of King William's Town, and so the decline in importance of the wholesaler has not affected its commercial development as greatly as has been the case in King William's Town.

There are various reasons why the manufacturer has taken steps to deal directly with the retailer - for much of the initiative has come from the manufacturer - in spite of the additional trouble, risk, and usually, cost involved in this procedure. The main reason is that the function of the wholesaler is to stock a wide variety of goods and not to advocate the goods of any particular manufacturer; in fact, it was not unknown at times for the wholesaler to suppress the identity of the manufacturer and to sell under the wholesaler's own brand. The manufacturer is compensated for the extra trouble, risk and cost involved in direct selling by the fact that he is able to create an intensive demand for his own products. Such a direct relationship is not possible when vast distances and poor communications separate manufacturer and retailer. It should, however, be borne in mind that not all retailers are in a financial position to enable them to deal directly with manufacturers, and so the function of wholesaling in the distributive trade is not entirely a thing of the past.

TABLE 11 (28)

Rate of Increase or Decrease in the Goods Traffic forwarded from East London, King William's Town and Queenstown.

Station	Rate of increase or decrease between		
	1895 and 1905	years ended 31.12.1905 and 31. 3.1928	years ended 31.3.1928 and 31.3.1956
	%	%	%
East London	+45.5	- 31.3	+ 245.2
King William's Town	+45.6	- 8.6	+ 17.3
Queenstown	+19.6	+11.2	+ 609.0

Table 11 deals with neither the traffic forwarded from King William's Town by motor transport nor with the commodities forwarded to various destinations. As far as motor transport is concerned, no figures are available of the quantity of goods taken out of King William's Town by privately owned motor transport. The Motor Carrier Transportation Act,(29) restricts the area of operation of public carriers and in which persons or firms may use their own transport. There have been various relaxations of these restrictions in recent years and the Magisterial Districts of East London, King William's Town and Komgha now form an "exempted area" in terms of the Regulations to the Motor Carrier Transportation Act. One who is in a position to know has stated that "not very much of the goods manufactured in King William's Town is carted outside of the Urban Area by lorry. Some East London wholesalers have lately taken to sending lorries to King William's Town to fetch candles, soap and ... some sweets." One factory sends a

(28) Source: Tables A.19 and A.20 in Appendix A.
(29) The implications of the Motor Carrier Transportation Act and the creation of the "exempted area" are discussed in detail in Appendix E.

lorry and trailer regularly from East London to collect new cardboard boxes. Some wholesalers transport goods into the district, while one transports all goods consigned to the Transkei and the Northern Districts of the Border Region to Peelton by motor transport.(30) Farmers convey their own goods and products from and to town with their own transport. Traders, except those on the Railway Administration's Road Transport routes also use their own motor transport, and on occasion the wholesalers deliver to them by motor transport. The Railway Administration operates Road Transport Services from King William's Town to the Peddie area and to Keiskamma Hoek and St. Matthew's. The average annual tonnage so transported in the period from 1st April, 1951 to 31st March, 1956 was:

To Peddie, Prudhoe and Hamburg	...	7,373 tons
To Keiskamma Hoek and St. Matthew's	.	1,784 tons
TOTAL:		9,157

An analysis has been made, in terms of destinations and commodities, of the goods traffic forwarded from King William's Town in the year ended 31st March, 1956. The destinations are shown in the summary at the head of page 148. The traffic to the Border Region accounted for 59 per cent of King William's Town's forwarded traffic, and the main destinations were the main line stations between Peelton and Queenstown; and, as would be expected, the other stations on the line to Cookhouse, including Seymour and Katberg.

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(30) This practice has been adopted since the abolition of the Railways Administration's distribution rates scheme, the effect of which is discussed in Chapter 5. By sending goods to Peelton a considerable saving in railage is effected and this enables the King William's Town merchants to compete to a certain extent with those located in East London. In what follows, that traffic forwarded from Peelton, which obviously comes from King William's Town, has been added to the latter's tonnage.

The goods traffic forwarded to the Transkei by rail from King William's Town accounted for only a very small part of the total traffic forwarded from King William's Town in the year analysed. The following were the areas to which King William's Town's traffic was forwarded in the year ended 31st March, 1956:

Area	Percentage of Total Traffic	
BORDER REGION:		
Main line, south of Blaney	7.2	
Main line, north of Blaney	20.3	
King William's Town to Cookhouse, including Katberg and Seymour (31)	25.4	
Transkei	6.1	59.0
OTHER AREAS:(32)		
Transvaal	10.5	
Western and South-western Cape	10.1	
Natal	9.5	
Cape Midland Area	7.4	
Remaining areas, including South West Africa	3.5	41.0
TOTAL:		100.0

Table 12, on page 149, shows an analysis of the commodities forwarded from King William's Town in the year ended 31st December, 1905; Table 13, on page 150, shows an analysis, by commodities, of the goods traffic forwarded from King William's Town in the year ended 31st March, 1956. As these statistics were collected by different Railway Administrations, they are not comparable. Table 12 is included as a matter of interest. With regard to Table 13, it should be noted that the Railways Administration does not collect statistics of textile goods or boots and shoes, both of which are manufactured in King William's Town, in addition

(31) For the purpose of this summary, and Table 13, the stations of Bedford and Eastpoort are included in the Border Region.
(32) These Areas are defined in Appendix C.

to candles, confectionery, mineral waters, soap and fertilizer.

TABLE 12 (33)

Analysis, by Commodities, of the Goods Traffic Forwarded from King William's Town in the Year ended 31st December, 1905.

Commodity	Tons	Percentage of Total
General traffic	8,184	29.6
South African wine and spirits	30	0.1
Wool and mohair	3,320	12.0
Imported grains and cereals	989	3.5
S.A. grains and cereals	3,271	11.8
S.A. agricultural produce, not elsewhere enumerated	645	2.4
Imported flour, meal, malt and bran	7,475	27.0
S.A. flour, meal, malt and bran	181	0.7
Imported timber	636	2.4
South African timber	223	0.9
South African bricks and ashes	119	0.4
Imported gravel and minerals	58	0.1
S.A. gravel and minerals	32	0.1
Skins, hides, horns and ivory	789	2.9
Imported coal, coke and patent fuel	27	0.1
S.A. coal, coke and patent fuel	2	-
Military stores	19	0.1
Cape Government Railways construction stores	1,616	5.9
TOTAL:	27,616	100.0

(33) Source: G.18-1906: Report of the General Manager of the Cape Government Railways for 1905.

TABLE 13 (34)

Analysis, by Commodities, of the Goods Traffic Forwarded from King William's Town in the Year ended 31st March, 1956

Commodity	Forwarded to				TOTAL	
	Border Region		Other Areas			
	Tons	%	Tons	%	Tons	%
Agricultural Pdts:						
Flour	42	0.1	5	-	47	0.1
Fresh fruit: citrus	30	0.1	-	-	30	0.1
: other	37	0.1	551	1.8	588	1.9
Ginned cotton	-	-	379	1.3	379	1.3
Grain: maize	3,697	12.5	58	0.2	3,755	12.7
other	270	0.9	-	-	270	0.9
Maize Meal	4,876	16.7	77	0.3	4,953	17.0
Vegetables: dried	70	0.3	-	-	70	0.3
fresh	8	-	-	-	8	-
Wattle bark	-	-	140	0.5	140	0.5
Animal Products:						
Butter	-	-	637	2.1	637	2.1
Eggs	52	0.2	-	-	52	0.2
Hides and skins	127	0.4	176	0.6	303	1.0
Leather	7	-	428	1.4	435	1.4
Wool and mohair	395	1.3	-	-	395	1.3
Construction M'tl:						
Bricks	19	-	-	-	19	-
Cement	478	1.6	-	-	478	1.6
Fencing material, incl. wire	35	0.1	-	-	35	0.1
Sand and stone	2,065	7.0	-	-	2,065	7.0
Timber	48	0.1	57	0.2	105	0.3
Merchandise:						
Candles	356	1.3	141	0.5	497	1.8
Confectionery	282	0.9	9	-	291	0.9
Mineral waters	192	0.6	-	-	192	0.6
Salt	71	0.3	-	-	71	0.3
Soap	869	2.9	76	0.3	945	3.2
Sugar	275	0.9	7	-	282	0.9
Miscellaneous:						
Fertilizer	185	0.6	3,043	10.2	3,228	10.8
Kraal manure	-	-	2,559	8.9	2,559	8.9
Empty containers	177	0.6	370	1.2	547	1.8
Scrap metal	-	-	82	0.3	82	0.3
Other commodities	2,858	9.5	3,342	11.2	6,200	20.7
TOTAL:	17,521	59.0	12,137	41.0	29,658	100.0

(34) Source: Compiled from monthly returns of forwarded commodities sent by the Station Master, King William's Town to the Chief Accountant, South African Railways, Johannesburg.

Five commodities - maize meal, maize, fertilizer, kraal manure and sand and stone - accounted for 55 per cent of the goods traffic forwarded from King William's Town in the year ended 31st March, 1956. Maize meal, maize and sand and stone were sent preponderantly to the Border Region, while Fertilizer was sent mainly, and Kraal Manure entirely, outside the Border Region. The same occurs with other commodities: some are sent mainly or entirely to the Border Region, while others are sent outside it. Only a small number of commodities show significant tonnages being sent to both the Border Region and the remainder of the Union.

Maize meal, the largest identifiable commodity forwarded from King William's Town, was distributed as follows:

Destination	Tons
Stations between King William's Town and Eastpoort(35)	3,065
Stations between Blaney and Queenstown	1,389
Other stations in the Border Region	422
Total: Border Region	4,876
Remainder of Union	77
TOTAL	4,953

Maize was next in order of importance and it too was forwarded mainly to the Border Region as the following summary shows:

Destination	Tons
Stations between King William's Town and Eastpoort	2,307
Stations between Blaney and Queenstown	1,085
Other stations in the Border Region	305
Total: Border Region	3,697
Remainder of the Union	58
TOTAL:	3,755

(35) This includes the stations of Katberg and Seymour. The stations from Blaney to Queenstown include both these stations.

Fertilizer, manufactured in King William's Town, was third in order of importance and was distributed mainly to areas outside the Border Region.(36)

Destination	Tons
Natal	1,479
Western and South-western Cape	531
Cape Midland Region	432
Transvaal	365
Orange Free State	199
Northern and North-western Cape	37
Total: other areas	3,043
Border Region	185
TOTAL:	3,228

Kraal Manure was sent exclusively to parts of the Union outside the Border Region, as the following shows:

Destination	Tons
Western and South-western Cape	1,381
Transvaal	442
Natal	353
Cape Midland Region	280
Orange Free State	103
TOTAL	2,559

Sand and stone, accounting for 2,065 tons, was distributed entirely in the Border Region, approximately 75 per cent being forwarded to the main line stations between Blaney and Queenstown, while the remaining 25 per cent was sent mainly to the stations between King William's Town and Cookhouse.

It will be noted that none of the above commodities can be regarded as general merchandise. The difficulty which arises in regard to this group is that it is impossible, owing to the commodity classification system used by the Railways Administration, to identify many commodities. Of

(36) The firm manufacturing this fertilizer digests organic material in large pressure boilers, using mainly the offal and cuttings from tanneries and boot factories, the main source of supply of the raw material being Port Elizabeth. The result is a nitrogenous organic fertilizer used either in its manufactured form or purchased by other fertilizer factories for mixing with their inorganic products.

the commodities in this group, only the following could be identified, accounting for 2,278 tons and being distributed principally in the Border Region. Of these commodities, candles, confectionery, soap and mineral waters are manufactured in King William's Town, but it should not be assumed that the tonnages shown consist only of the locally produced commodity. The distribution was as follows:

Destination	Commodities						TOTAL
	Candles	Confectionery	Salt	Soap	Mineral Waters	Sugar	
	Tons						
Stations From:							
East London to Berlin	125	25	2	94	-	-	246
Blaney to Queenst'n	58	87	15	152	58	69	439
King W'ms Tn to Eastpoort	19	13	50	125	134	189	530
Komgha to Umtata, and Qamata	99	157	4	449	-	17	726
Northern Districts*	55	-	-	49	-	-	104
TOTAL: BORDER REGION:	356	282	71	869	192	275	2,045
Other areas	141	9	-	76	-	7	233
GRAND TOTAL	497	291	71	945	192	282	2,278

*: The Northern Districts consist of the stations from Bowker's Park to Knapdaar and the Barkly East, Jamestown, Maclear and Tarkastad branch lines.

A certain proportion of the "other commodities" tonnage was undoubtedly composed of general merchandise, but it is not possible to say what proportion. Owing to the inadequacy of data, it is impossible to assess to what extent King William's Town served as a distribution centre for general merchandise in the year ended 31st March, 1956.

Of the commodities forwarded to the Border Region, only two others warrant attention: the 478 tons of cement and the 395 tons of wool. The cement was forwarded mainly to the stations between Blaney and Queenstown; the wool mainly to East London, but some was sent to be washed at Stutterheim, Kubusie and Toise River. Of the commodities forwarded to the remainder of the Union, the following are significant:

a. Butter, distributed as follows:

to Cape Town	440 tons
to Port Elizabeth	144 tons
to Durban	53 tons

accounted for 637 tons, none being sent by rail to the Border Region.

b. Fresh fruit, other than citrus, is largely pineapples and is sent throughout the Union in small quantities, but the principal destinations were:

the Transvaal	223 tons
the Cape Midland Area ...	208 tons.

c. Leather was distributed as follows:

to the Transvaal	241 tons
to Natal	94 tons
to the Western and South-Western Cape ...	62 tons
to the Cape Midland Region	31 tons
to East London	7 tons
	435 tons

(A tanning establishment is situated in King William's Town.)

d. The 379 tons of ginned cotton were forwarded to the Transvaal.

In the year ended 31st March, 1956, a variety of commodities was forwarded from King William's Town. Agricultural or animal products, either in natural or processed form predominated, while fertilizer, kraal manure and sand and stone accounted for an appreciable part of the remaining tonnage.

c. Queenstown:

In 1895, 12,189 tons of goods were forwarded from Queenstown, representing 4.1 per cent of the total forwarded goods traffic of the Cape Eastern System. The average figure for the succeeding ten years was approximately 12,500 tons, and the average percentage was about 4.0 It is not until the year ended 31st March, 1928 that figures are again available, and the average annual figure for the ten year period ended 31st March, 1937 was approximately 19,000 tons, representing, on the average, about 5.0 per cent of the total forwarded goods traffic of the System. Following an increase to 30,000 tons in the year ended 31st March, 1939, and a decrease during the second world war years, there has been a steady increase in the tonnage of goods forwarded from Queenstown. It now occupies the second position among the stations of the Cape Eastern System, as far as forwarded goods traffic is concerned. In the year ended 31st March, 1956, the goods traffic emanating from Queenstown was almost 116,000 tons which represented 11.8 per cent of the total forwarded traffic of the System and an increase of 609 per cent over the tonnage for the year ended 31st March, 1928. During the same period, the goods traffic forwarded from East London increased by 245.2 per cent, while that from King William's Town increased by only 17.3 per cent.

Table 14 (on page 156) and Table 15 (on page 157) show an analysis of the commodities forwarded from Queenstown in the years ended 31st December, 1905, and 31st March, 1956, respectively. These two tables are not directly comparable because the data were collected by different Railway Administrations.

TABLE 14 (37)

Analysis, by Commodities, of the Goods Traffic Forwarded from Queenstown in the Year Ended 31st December, 1905

Commodity	Tons	Percentage of Total
General Traffic	4,927	33.7
Wool and mohair	1,560	10.8
Imported grains and cereals	.784	5.4
South African grains and cereals	1,230	8.5
S.A. Agricultural produce, not specially enumerated	766	5.3
Imported flour, meal, malt and bran	1,499	10.3
Imported timber	141	0.9
South African timber	11	0.1
South African bricks and ashes	5	-
Imported gravel and minerals	118	0.8
S.A. gravel and minerals	339	2.3
Skins, hides, horns and ivory	231	1.6
Cape Government Railway construction material and other railway stores	2,969	20.3
TOTAL	14,580	100.0

It should be noted that, in Table 15, the tonnage of traffic forwarded to the Cape Eastern System stations *includes* that forwarded to Steynsburg, Schoombee and Hofmeyr and also Bedford and Eastpoort, but *excludes* that forwarded to Bethulie, which is included in the Orange Free State area.

(37) Source: G.16-1908: Report of the General Manager of the Cape Government Railways for the year ended 31st December, 1905.
Detailed statistics of the goods traffic forwarded from Queenstown, as far as quantity is concerned, will be found in Table A.19 for the period from 1893 to 1905, and in Table A.20 for the period from 1st April, 1927, to 31st March, 1956. Both these Tables will be found in Appendix A. The fluctuations in the forwarded goods traffic of this station will be found in Figure 23.

TABLE 15 (38)

Analysis, by Commodities, of the Goods Traffic forwarded from Queenstown in the year ended 31st March 1956.

COMMODITY	Forwarded to: Cape Eastern System		Forwarded to: Other Areas		TOTAL	
	Tons	%	Tons	%	Tons	%
Agric. Pdts:						
Flour	8,637	7.4	11,425	9.9	20,062	17.3
Grain: maize	1,253	1.1	117	0.1	1,370	1.2
other	193	0.2	177	0.2	370	0.4
Maize meal	422	0.4	98	0.1	520	0.5
Animal Pdts:						
Butter	109	0.1	1,521	1.4	1,630	1.5
Eggs	55	-	-	-	55	-
Hides and skins	184	0.2	201	0.2	385	0.4
Wool and mohair	1,166	1.0	18	-	1,184	1.0
Construct'n M'tl:						
Bricks	1,734	1.5	-	-	1,734	1.5
Cement	678	0.6	-	-	678	0.6
Fencing mat'l, incl. wire	289	0.3	-	-	289	0.3
Iron and steelware	487	0.4	-	-	487	0.4
Sand and stone	1,779	1.5	-	-	1,779	1.5
Timber	31	-	-	-	31	-
Merchandise:						
Mineral waters	352	0.3	-	-	352	0.3
Salt	135	0.1	13	-	148	0.1
Soap	213	0.2	440	0.4	653	0.6
Sugar	490	0.4	66	-	556	0.4
Metals, metal manufactures and Machinery:						
Agric machinery	179	0.2	-	-	179	0.2
Scrap metal	-	-	86	0.1	86	0.1
Oil and liquid fuel:						
Crude fuel oil	1,911	1.6	719	0.6	2,630	2.2
Lubricating oil and grease	270	0.2	35	-	305	0.2
Paraffin	3,880	3.3	2,761	2.4	6,641	5.7
Petrol	17,105	14.8	10,719	9.2	27,824	24.0
Power Paraffin	5,698	4.9	1,526	1.3	7,224	6.2
Miscellaneous:						
Empty containers	7,782	6.7	3,626	3.1	11,408	9.8
Other commercial tfc	7,480	6.4	3,276	2.8	10,756	9.2
TOTAL COMMERCIAL TFC:	62,512	53.8	36,824	31.8	99,336	85.6
Non-commercial tfc	-	-	-	-	16,467	14.4
TOTAL:	62,512	53.8	36,824	31.8	115,803	100.0

(38) Source: Compiled from the records in the Office of the Chief Accountant, South African Railways.

Of the commodities forwarded from Queenstown in the year ended 31st March, 1956, three - petrol, oil and liquid fuel, flour and empty containers - accounted for 65.4 per cent of the total tonnage. Oil, petrol and liquid fuel, with 44,624 tons, accounted for 38.3 per cent of the total tonnage, but included in this weight is the weight of the drums and other containers in which the various commodities in this group were transported from Queenstown to their destinations. These commodities were forwarded in bulk from East London to the Oil Companies' depôts in Queenstown and distributed as follows:

Destination	Tons
Main line stations north of Queenstown; Tarkastad; Steynsburg, Schoombee and Hofmeyr	9,736
The Maclear branch line and Jamestown	10,017
The Barkly East Branch line	8,910
Stations south of Queenstown	201
Total: Cape Eastern System	28,864
Southern section of the Orange Free State(39)	15,760
TOTAL:	44,624

The southward tonnage was an exceptional procedure as these stations would normally be supplied from East London.

Next in order of importance of the commodities forwarded from Queenstown in the year ended 31st March, 1956, was flour, which accounted for 20,062 tons or 17.3 per cent of the total forwarded goods traffic. This commodity was distributed over a wide area as the summary on page 159 shows.

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(39) The following stations in the Southern section of the Orange Free State are supplied from Queenstown: Bethulie, Springfontein, Lofter, Trompsburg, Krugers, Edenburg, Wurasoord, Kafferrivier, Kaalspruit, Ferreira, Philippolis Road, Jagersfontein, Fauresmith, Koffiefontein, Jammerdrift, Wepener, Rouxville, Zastron and Boesmanskop.

Destination	Tons
Transkei, including Qamata and Komgha	4,611
Main line stations north of Queenstown; Tarkastad; Steynsburg, Schoombee and Hofmeyr	1,549
Maclear branch line and Jamestown	1,265
Other Cape Eastern System stations	1,212
Total: Cape Eastern System, excluding Bethulie	8,637
Orange Free State	8,129
Northern and North-western Cape	1,625
Transvaal	1,101
Other parts of the Union and South West Africa	570
TOTAL:	20,062

Empty containers accounted for 9.8 per cent of the tonnage of goods forwarded from Queenstown in the year ended 31st March, 1956. As in the case of East London, however, part of the tonnage shown under this heading is ficticious, for in addition to the weight of empty containers forwarded from Queenstown, it also included the weight of petrol and oil drums returned to Queenstown, the station from which they has originally been sent. It has been already mentioned that this curious position arises because the return railage on the empty drums is payable at the same time as the forward railage on the petrol, oil and liquid fuel.

Of the remaining commodities forwarded from Queenstown in the year ended 31st March, 1956, only the following warrant attention.

a. Construction Materials: This group accounted for 4,998 tons, which were sent exclusively to the other Cape Eastern System stations, excluding Bethulie, thus:

Destination	Commodity		
	Bricks	Cement	Sand and Stone
	Tons		
Main line, south of Queenstown	276	200	5
Main line, north of Queenstown; Tarkastad; Steynsburg, Schoombee and Hofmeyr	769	232	568
Qamata	9	20	-
Maclear branch and Jamestown	680	208	1,206
Barkly East branch	-	18	-
TOTAL:	1,734	678	1,779

Destination	Commodity		
	Fencing M'tl, inc wire	Iron and Steel	Timber
	Tons		
Main line, south of Queenstown	101	23	-
Main line, north of Queenstown; Tarkastad; Steynsburg, Schoombee and Hofmeyr	86	362	9
Qamata	6	-	-
Maclear branch and Jamestown	53	67	22
Barkly East branch	-	35	-
King W'ms Town branch	43	-	-
TOTAL:	289	487	31

b. Butter, was sent mainly to the large urban areas, thus:

to Port Elizabeth	871 tons
to Cape Town	560 tons
to East London	109 tons
to Johannesburg	72 tons
to Durban	18 tons
	1,630

c. Maize was distributed mainly to the other stations of the Cape Eastern System, excluding Bethulie, as the summary on page 161 shows.

Destination	Tons
Main line, south of Queenstown	492
Main line, north of Queenstown; Tarkastad; Steynsburg, Schoombee and Hofmeyr	384
Qamata	74
King W'ms Town branch line	134
Maclear branch and Jamestown	139
Barkly East branch line	-
Total: Cape Eastern stations, excluding Bethulie	1,253
Other areas	117
TOTAL:	1,370

d. Wool and mohair accounted for 1,184 tons, of which only 18 tons were sent to Port Elizabeth, the remainder being forwarded to East London. This is in marked contrast to the distribution of hides and skins, in which instance 184 tons were sent to East London and 201 tons to Port Elizabeth.

c. Merchandise items again are difficult to enumerate because it is possible to identify so few of them. The following summary shows the distribution of four of these items:

Destination.	Commodity			
	Min. Waters	Salt	Soap	Sugar
	Tons			
Main line, south of Queenstown	8	45	14	18
Main line, north of Q'tn; Tarkastad, Steynsburg, Hofmeyr and Schoombee	34	29	47	224
Qamata	38	20	39	18
Maclear branch, and Jamestown	190	34	84	190
Barkly East Branch	82	7	29	40
Total: Cape Eastern stations, excl. Bethulie	352	135	213	490
North and n.w. Cape	-	-	188	-
Cape Midland Region	-	-	50	-
Orange Free State	-	13	154	66
South West Africa	-	-	48	-
TOTAL	352	148	653	556

Queenstown's forwarded goods traffic was dominated, in the year ended 31st March, 1956, by the petrol, oil and liquid fuel group of commodities and flour. Together, these accounted for 54.6 per cent of the total forwarded traffic. When it is remembered that much of the tonnage in the empty containers group is also due to the petrol, oil and liquid fuel group, it will be appreciated that the increase in forwarded traffic is due mainly to this small number of commodities. There is no reason to think that the position shown in Table 15 is atypical. Owing to the impossibility of identifying the merchandise items in the "other commodities" group, it cannot be determined to what extent Queenstown acted as a redistribution centre for manufactured goods from the Southern Transvaal and other parts of the Union.

The Railway Administration does not operate any Goods traffic Road Transport Services from Queenstown, but the Magisterial Districts of Queenstown, Tarka and Glen Grey form an exempted area in terms of the Regulations to the Motor Carrier Transportation Act.(40)

The following summary shows the distribution of the commercial traffic forwarded from Queenstown in the year ended 31st March, 1956:

Cape Eastern System, excluding Bethulie:		
Main line south of Queenstown	9.2	per cent
King William's Town branch	0.8	per cent
Transkei	5.6	per cent
Main line, north of Queenstown; Tarkastad; Steynsburg, Hofmeyr and Schoombee	17.8	per cent
Maclear branch and Jamestown	17.5	per cent
Barkly East branch	12.1	per cent
Total:	63.0	

(40) See Appendix E.

Brought Forward: Cape Eastern System, excluding Bethulie	63.0 per cent
Orange Free State	28.1 per cent
Other Areas	8.9 per cent
TOTAL:	100.0

d. Other Cape Eastern System Stations:(41)

In 1905, the traffic forwarded from the other Cape Eastern stations amounted to 109,369 tons, or 26.1 per cent of the total forwarded goods traffic of the System. In the year ended 31st March, 1931, these stations accounted for 149,348 tons, or 39.7 per cent, of the total forwarded goods traffic of the System; by 31st March, 1946 the tonnage had risen to 275,746 tons and the percentage to 46.6. By the year ended 31st March, 1956, the relative importance of these stations had declined and they accounted for only 199,132 tons, which represented but 20.4 per cent of the forwarded traffic of the System. In the absence of data, it is impossible to account for the marked rise in the tonnage forwarded from these stations during and immediately after the second world war, and also for the continuous decline in tonnage since the beginning of the 1951-52 financial year. It must be remembered, however, that the tonnage forwarded from these stations includes not only commercial traffic, but railway construction and maintenance traffic as well, and so the extent of the Railways Administration's activities can materially affect the tonnage recorded for these stations. Adverse climatic conditions will also affect the quantity of goods forwarded from these mainly rural stations. Detailed figures of the quantities forwarded

(41) This term includes all the stations of the Cape Eastern System, as defined by the South African Railways, except East London, King William's Town and Queenstown.

from these stations will be found in Tables A.19 and A.20; and the fluctuations are graphically depicted in Figure 23. In the following pages the principal commodities forwarded from these stations will be discussed.

i. Wool and mohair: In the year ended 31st March, 1956, these two commodities, which are not enumerated separately by the Railways Administration, accounted for almost twice the tonnage of the commodity next in order of importance. The following summary shows the quantities forwarded from the various sections of the System:(42)

Origin	Tons
Maclear branch line and Jamestown	6,090
Main line, south of Queenstown; and Tarkastad	4,904
Main line, north of Queenstown	4,634
Barkly East branch line	3,126
The Transkei, incl. Komgha	3,121
The King William's Town branch line	2,589
The Stormberg-Rosmead junction line	1,144
TOTAL:	25,608

This wool and mohair was sent principally to East London, thus:

Destination	Tons
East London	21,545
Port Elizabeth	3,809
Durban	254
TOTAL:	25,608

The wool and mohair forwarded to Natal was almost entirely accounted for by 246 tons from Umtata. Approximately 2,000 tons of wool and mohair were forwarded to Port Elizabeth from the King William's Town branch line; and almost all of this came from the stations of Adelaide, Bedford and Eastpoort.(43) The stations on

(42) This figure also includes a certain quantity of washed wool, returned to East London.

(43) Together these stations accounted for 1,753 tons of wool sent to Port Elizabeth, while they sent only 310 tons to East London. Bedford and Eastpoort are nearer to Port Elizabeth than to East London, while Adelaide looks to both places as its port. The fact that Port Elizabeth is the premier wool port of the Union also serves to attract some wool to it, in preference to East London.

the Stormberg-Rosmead junction line accounted for much of the balance of the wool and mohair sent to Port Elizabeth.(44)

ii. Timber: This, the second commodity in order of importance, consisted mainly of rough timber, but it also includes poles and mine props. This commodity originated mainly in the Southern part of the System, as follows:

Origin	Tons
Main line, south of Queenstown	7,420
The Transkei	1,903
The King William's Town branch line	1,672
Total: Southern section	10,995
The Maclear branch line	1,762
Other sections	1,168
TOTAL:	13,925

The principal station from which this traffic originated was Stutterheim.

The principal destinations were:

Destination	Tons
Other Border Region stations	5,082
The Transvaal	2,746
The Cape Midland Region	1,909
Natal	1,393
Other Areas	2,795
TOTAL:	13,925

iii. Kraal Manure: In the year ended 31st March, 1956, this commodity was third in order of importance. This traffic originated overwhelmingly on the King William's Town branch, particularly the stations of Debe Nek and Middledrift, which section accounted for 12,824 tons.

(44) Together these stations forwarded 865 tons to Port Elizabeth, while only 279 tons were forwarded to East London.

Other Cape Eastern stations accounted for only 956 tons. The bulk of this traffic was sent to the fruit-growing areas of the Cape, thus: (45)

Destination	Tons
Western and South-western Cape	6,109
The Cape Midland Region	5,083
Other stations in the Border Region	1,891
Other areas	697
TOTAL:	13,780

iv. Salt: which accounted for 12,048 tons, came entirely from the salt pans in the Teviot area.(46) It was distributed throughout the whole of the Union, thus:

Destination	Tons
Natal	3,433
Other Border Region stations	3,418
Cape Midland Region	1,832
The Transvaal	1,620
Western and South-western Cape	1,408
Other areas	337
TOTAL:	12,048

v. Flour is the next commodity which has to be discussed. The 11,669 tons of this commodity came entirely from Aliwal North. Three areas received the greater part of this tonnage:

Destination	Tons
The Orange Free State	5,091
Other Border Region stations	3,972
North and North-western Cape	2,007
Other areas	599
TOTAL:	11,669

(45) It is believed that this traffic has now largely ceased.

(46) Although Teviot is outside the Border Region, as defined in the introduction of this thesis, it is a station under the jurisdiction of the Cape Eastern System; therefore the salt forwarded from it must be considered here.

vi. Wheat was almost as important as flour, accounting for 11,643 tons. This commodity originated almost entirely in the Northern Section of the Border Region, thus:

Origin	Tons
The Maclear branch and Jamestown	7,950
The main line, north of Queenstown	1,775
The Barkly East branch line	1,615
Total: Northern Districts	11,340
Other areas	303
TOTAL:	11,643

This commodity was forwarded to the mills at East London, Aliwal North and Queenstown, with only a very small proportion being sent outside the Border Region. The figures are:

Destination	Tons
East London, Queenstown and Aliwal North	11,146
Other	497
TOTAL:	11,643

vii. Export citrus fruit originated entirely from the stations of Alice, Fort Beaufort, Adelaide, Katberg and Seymour. Of the 10,130 tons forwarded, 10,001 tons were sent to East London and only 129 tons to Port Elizabeth.

viii. Maize meal accounted for 8,370 tons, of which 7,104 tons originated at Aliwal North. Small quantities were forwarded from other stations throughout the System. The main destinations were:

Destination	Tons
Other Border Region stations	4,794
The Orange Free State	2,641
Other	935
TOTAL:	8,370

ix. Maize is forwarded from all the stations of the Cape Eastern System; in fact, it is often difficult to see what purpose there is behind the movement of this commodity. There is no definite seasonal pattern and there is no definite movement of the commodity. It originated principally in two areas:

Origin	Tons
The Maclear branch and Jamestown	2,339
The Transkei	2,008
Other areas	1,428
TOTAL:	5,775

This commodity was forwarded mainly to the other stations in the Border Region:

Destination	Tons
Other Border Region stations	5,325
Other areas	450
TOTAL:	5,775

x. Wattle Bark, which accounted for 4,350 tons, came from four main areas of the Border Region:

Origin	Tons
The Transkei	1,910
Main line, south of Queenstown	1,477
Maclear branch and Jamestown	787
The King William's Town branch line	176
TOTAL:	4,350

The destinations of this traffic were:

Destination	Tons
Durban area	2,156
Cape Town area	1,347
Other Border Region stations	640
Port Elizabeth	166
Transvaal	41
TOTAL:	4,350

xi. Firewood originated mainly in the Stutterheim-Kubusie area, thus:

Origin	Tons
Main line, south of Queenstown	3,269
Maclear branch line and Jamestown	465
The King William's Town branch line	120
Transkei	47
TOTAL:	3,901

Three areas received the greater part of this traffic:

Destination	Tons
Other Border Region stations	2,045
Cape Midland Region	974
North and North-western Cape	672
Other areas	210
TOTAL:	3,901

xii. Wooden fencing material, like the previous commodity, also came mainly from the Stutterheim-Kubusie area, thus:

Origin	Tons
Main line, south of Queenstown	2,359
Transkei	541
Barkly East branch line	106
Other sections	136
TOTAL:	3,142

1,982 tons were sent to other Border Region stations, while the remainder was distributed throughout the Union and South West Africa, the Orange Free State (259 tons) and the Cape Midland Region (388 tons) being the more important destinations.

xiii. Hides and skins (2,843 tons) originated throughout the whole of the Cape Eastern System area, but principally in the Transkei, which accounted for 1,275 tons, which is not unexpected in view of the large number of cattle in that area. The distribution of this commodity between East London and Port Elizabeth (the organized market for this commodity is in the major ports) was approximately equal, with Port Elizabeth

receiving 60 tons more than East London. Only 13 tons were sent to the other two ports: 10 tons to Durban and 3 tons to Cape Town.

xiv. The commodity next in order of importance is Montmoralanite - a clay mineral found in the Burgersdorp district. The 2,489 tons were consigned to a single destination: Olifantsfontein, near Pretoria.

xv. Fresh Vegetables accounted for 2,025 tons, which came from all parts of the Cape Eastern System area, but mainly from the stations south of Queenstown (624 tons) and the Maclear branch line which accounted for 541 tons, mainly potatoes. The Border Region was the area principally supplied, receiving 1,453 tons, while 210 tons were forwarded to the Cape Midland Region and 185 tons to the Transvaal. 177 tons were sent to the remainder of the Union.

xvi. Citrus for domestic consumption was forwarded from the same stations as the export fruit. The main destinations were:

Destination	Tons
Other Border Region stations	1,141
The Orange Free State	203
Natal	190
Transvaal	121
The Cape Midland Region	114
Other areas	34
TOTAL:	1,803

The distribution of this commodity is controlled by the Citrus Board constituted in terms of the Marketing Act of 1937. The selling price is also fixed by the Citrus Control Board.

xvii. Cheese came from the following stations:

Origin	Tons
Aliwal North, Lady Grey and Barkly East	930
Dordrecht, Elliot, Ugie, Maclear	480
Kroomie	290
Other stations	97
TOTAL:	1,797

The destinations to which this commodity was sent were:

Destination	Tons
Johannesburg	785
The Border Region	443
Durban	190
Port Elizabeth	163
Cape Town	146
Other	70
TOTAL:	1,797

xviii. Lucerne and Lucerne meal accounted for 1,760 tons, there being three principal supplying areas:

Origin	Tons
Main line, south of Queenstown, and Tarkastad	657
Stormberg-Rosmead line	432
The King William's Town branch line	305
Other areas	366
TOTAL:	1,760

As would be expected with a commodity of low value and large bulk, lucerne and lucerne meal were forwarded mainly to the stations in the Border Region; 1,366 tons being thus accounted for. Approximately 100 tons each were received by the Cape Midland Region, the Orange Free State and Natal. The remaining 67 tons were sent to other areas of the Union.

xix. Fresh fruit, other than citrus, for domestic consumption, is to a considerable extent made up of pineapples. The origins of this traffic are shown in the summary at the head of page 172:

Origin	Tons
Komgha	965
The King William's Town branch line	580
Main line, south of Queenstown	146
TOTAL:	1,691

There were two principal destinations for this commodity:

Destination	Tons
Port Elizabeth	964
The Border Region stations	715
Other	12
TOTAL:	1,691

xx. Shooks were sent from two stations only: Stutterheim (966 tons) and Alice (532 tons). They were sent to the following areas:

Destination	Tons
Other Border Region stations	584
Western and South-western Cape	393
The Cape Midland Region	379
Other areas	142
TOTAL:	1,498

xxi. Next in order of importance, in the year ended 31st March, 1956, was butter, which came from the following stations:

Origin	Tons
Komgha	808
Aliwal North and New England ...	270
Indwe and Elliot	395
Other	3
TOTAL:	1,476

It was sent to:

Destination	Tons
Other Border Region stations	876
Port Elizabeth	524
Other	76
TOTAL:	1,476

xxii. Kaffir corn, the next commodity warranting attention, originated in four main areas, thus:

Origin	Tons
The Transkei	363
The Maclear branch and Jamestown	310
Main line, south of Queenstown; and Tarkastad	195
Main line, north of Queenstown	176
Other	10
TOTAL:	1,054

832 tons of this commodity were sent to other stations in the Border Region and 196 tons to the Cape Midland Region, leaving only 26 tons to be sent to areas other than these.

xxiii. Tinned meat, accounting for 569 tons, was processed in a factory at Aliwal North and distributed throughout the Union, the tonnage varying from 173 to the Border Region to 24 to the North and North-western Cape. The most important destinations, after the Border Region, were the Orange Free State (125 tons) and the Western and South-western Cape (90 tons).

xxiv. Eggs were forwarded from almost every station on the Cape Eastern System, thus:

Origin	Tons
Main line, south of Queenstown; and Tarkastad	215
Maclear branch line and Jamestown	112
The King William's Town branch line	67
Main line, north of Queenstown	64
The Transkei	57
Other	39
TOTAL:	554

507 tons were sent to the stations of the Border Region, mainly to East London, leaving only 47 tons for other areas.

xxv. Oats were forwarded principally from the Northern districts of the Cape Eastern System:

Origin	Tons
Main line, north of Queenstown	229
Maclear branch line and Jamestown	157
Other areas	72
TOTAL:	458

This commodity was forwarded to the whole of the Union, but principally to three areas:

Destination	Tons
Other Border Region stations	301
Cape Midland Region	69
The Orange Free State	56
Other areas	32
TOTAL:	458

xxvi. 456 tons of Biscuits and rusks were forwarded from Molteno and were forwarded throughout the Union, varying from 109 tons to the Western and South-western Cape to 8 tons to South West Africa. Apart from the Western and South-western Cape, other important destinations were the Transvaal (108 tons), the Border Region (108 tons) and the Cape Midland Region (72 tons).

xxvii. 399 tons of Crude Treacle were forwarded from Burgersdorp to two destinations: 299 tons to other stations in the Border Region and 100 tons to the Cape Midland Region.

xxviii. Tobacco Leaf came mainly from Seymour (240 tons), but the Transkei contributed 42 tons to the total. This commodity was sent to the following destinations:

Destination	Tons
Natal	133
The Transvaal	68
Western and South-western Cape	42
Other Border Region stations	39
TOTAL:	282

The above commodities accounted for 145,495 tons, or 73.0 per cent of the goods traffic forwarded from the other Cape Eastern Stations. The various sections, in order of importance were:

Origin	Tons	Percentage of Total
The King William's Town branch	31,963	21.9
The Barkly East branch line	26,620	18.3
The main line south of Queenstown, including Tarkastad	22,916	15.8
The Maclear branch line and Jamestown	22,665	15.6
The Stormberg-Rosmead line	14,852	10.2
The Transkei, incl. Komgha	13,565	9.3
The main line, north of Queenstown	12,914	8.9
TOTAL	145,495	100.0

This traffic was distributed as follows:

Destination	Tons	Percentage of Total
The Border Region	82,038	56.1
The Cape Midland Region	20,483	14.2
The Western and South-western Cape	10,853	7.5
The Orange Free State	10,303	7.3
The Transvaal	8,972	6.2
Natal	8,733	6.0
The North and North-western Cape	3,988	2.6
South West Africa	125	0.1
TOTAL	145,495	100.0

Table 16 shows the tonnages of the principal commodities forwarded from all Cape Eastern System stations in the year ended 31st March, 1956.

To conclude this section on the forwarded goods traffic of the Cape Eastern System, two comparisons will be made between the development of the forwarded goods traffic of the System and that of the South African Railways as a whole. These comparisons will be found in Tables 17 and 18, on page 177.

TABLE 16 (47)

Principal Commodities Forwarded from the Stations of the Cape Eastern System in the Year ended 31st March, 1956

Commodity	Forwarded From				TOTAL
	East London	King W'ms' Town	Queens-town	Other Stations	
	tons				
Lub'g oil & grease	7,083		305		7,388
Crude fuel oil	22,909		2,630		25,539
Paraffin	19,941		6,641		26,582
Power paraffin	31,594		7,224		38,818
Petrol	80,604		27,824		108,428
Total: oil and liquid fuel	162,131		44,624		206,755
Wheat, imported	64,574				64,574
Empty cont'nrs	51,867	547	11,408		63,822
Timber	44,903	105	31	13,925	58,964
Flour	8,243	47	20,062	11,669	40,021
Sugar	28,373	282	556		29,211
Animal foodstuffs	25,437			1,760	27,197
Wool and mohair: for sale		395	1,184	25,608	27,187
Wool and mohair: to woolwasheries and factories	5,790				5,790
Fertilizer and manure	825	5,784		13,780	20,389
Maize meal	4,276	4,953	520	8,370	18,119
Paper	17,568				17,568
Fresh fruit	13,714	588		1,691	15,993
Maize	3,446	3,755	1,370	5,775	14,346
Salt	441	71	148	12,048	12,708
Wheat, S.A.				11,643	11,643
Citrus, for export				10,130	10,130
Iron and steelware	9,577		487		10,064
Motor and other self-propelled vehicles, incl. parts	8,324				8,324
Fencing material, incl. wire	4,283	35	289	3,142	7,749
Bricks, sand and stone	1,527	2,084	3,513		7,124
Confectionery	6,602	291			6,893
Butter, eggs and cheese	428	689	1,685	3,809	6,611
Soap	4,538	945	653		6,136
Alcoholic Beverages	5,564				5,564
Agricultural and General Machinery	5,134		179		5,313
Carried Forward	477,565	20,571	86,709	123,350	708,195

(47) Source: Tables A.31 , 13 and 15 and unpublished station returns submitted monthly to the Chief Accountant, South African Railways, Johannesburg.

TABLE 16 (CONT'D)

Principal Commodities Forwarded from the Stations of the Cape Eastern System in the Year ended 31st March, 1956

Commodity	Forwarded from				TOTAL
	East London	King W'm Town	Queens-town	Other Stations	
	tons				
Brought forward	477,565	20,571	86,709	123,350	708,195
Wattle bark	145	140		4,350	4,635
Fresh Vegetables	2,206	8		2,025	4,239
Firewood				3,901	3,901
Hides and skins	324	303	385	2,843	3,855
Scrap Metal	3,614	82	86		3,782
Fresh fish	2,681				2,681
Cement	1,496	478	678		2,652
Montmoralanite (Clay)				2,489	2,489
Shooks	789			1,489	2,278
Other grain		270	370	1,567	2,207
Citrus: local c'spn		30		1,830	1,860
Road making material	1,675				1,675
Batteries	1,448				1,448
Cotton	691	379			1,070
Paint and Distemper	888				888
Cooked and tinned meat				569	569
Candles		497			497
Biscuits and rusks				456	456
Leather	19	435			454
Tobacco leaf				399	399
Other commodities	142,676	6,483	27,616	53,864	230,639
TOTAL:	636,217	29,676	115,844	199,132	980,869

TABLE 17 (48)

Comparison of the Increase in the Forwarded Goods, Coal and Mineral Traffic of the Cape Eastern System and of the South African Railways in the Period from 1st April, 1927 to 31st March, 1956

Traffic	Percentage Increase
Cape Eastern System	163
South African Railways	205

TABLE 18 (49)

Forwarded Goods Traffic of the Cape Eastern System as a Percentage of that of the South African Railways.

Year ended	Goods, coal and mineral traffic of the Cape Eastern System as a percentage of that of the South African Railways
	%
31st March, 1928	1.8
31st March, 1956	1.5

(48) Calculated from data appearing in the Reports of the General Manager of Railways and Harbours for the years ended 31st March, 1928, (U.G.54-1928) and 31st March, 1956 (U.G.36-1956), respectively; and in Table A.20

(49) Source as for Table 17.

5. Passenger Traffic.

Figure 24, based on Tables A.21 and A.22, in Appendix A, shows the fluctuations in passenger ticket issues between 1887 and 1909, for the years 1910 to 1913, and for the period from 1st April, 1923 to 31st March, 1956. Owing to the different methods used at various times to record passenger ticket issues, it is not possible to compare directly the figures for the Cape Government Railways before 1910 with the figures for the South African Railways after that date. It can be seen, however, that there has been a notable increase in the number of tickets issued since the 1st April, 1923, but this is not the most interesting feature of the passenger traffic of the Cape Eastern System. It is undoubtedly the distribution of the ticket issues among the several classes of passengers which is of greatest interest. Table 19, on page 179, shows this distribution in certain selected years between 1st January 1885, and 31st March, 1956. Third class passengers are exclusively Non-European; first and second class passengers are predominantly European, but many Non-Europeans travel in these classes in the coaches specially reserved for their use. There is a further class of ticket issued: "Native" tickets. These are issued to Native males, over 18 years of age, proceeding to employment in the several urban areas of the Union or on the Gold Mines. These tickets are cheaper than the ordinary third class single fare, and the holder is normally required to travel by a special train, but in exceptional cases he may travel by ordinary train.

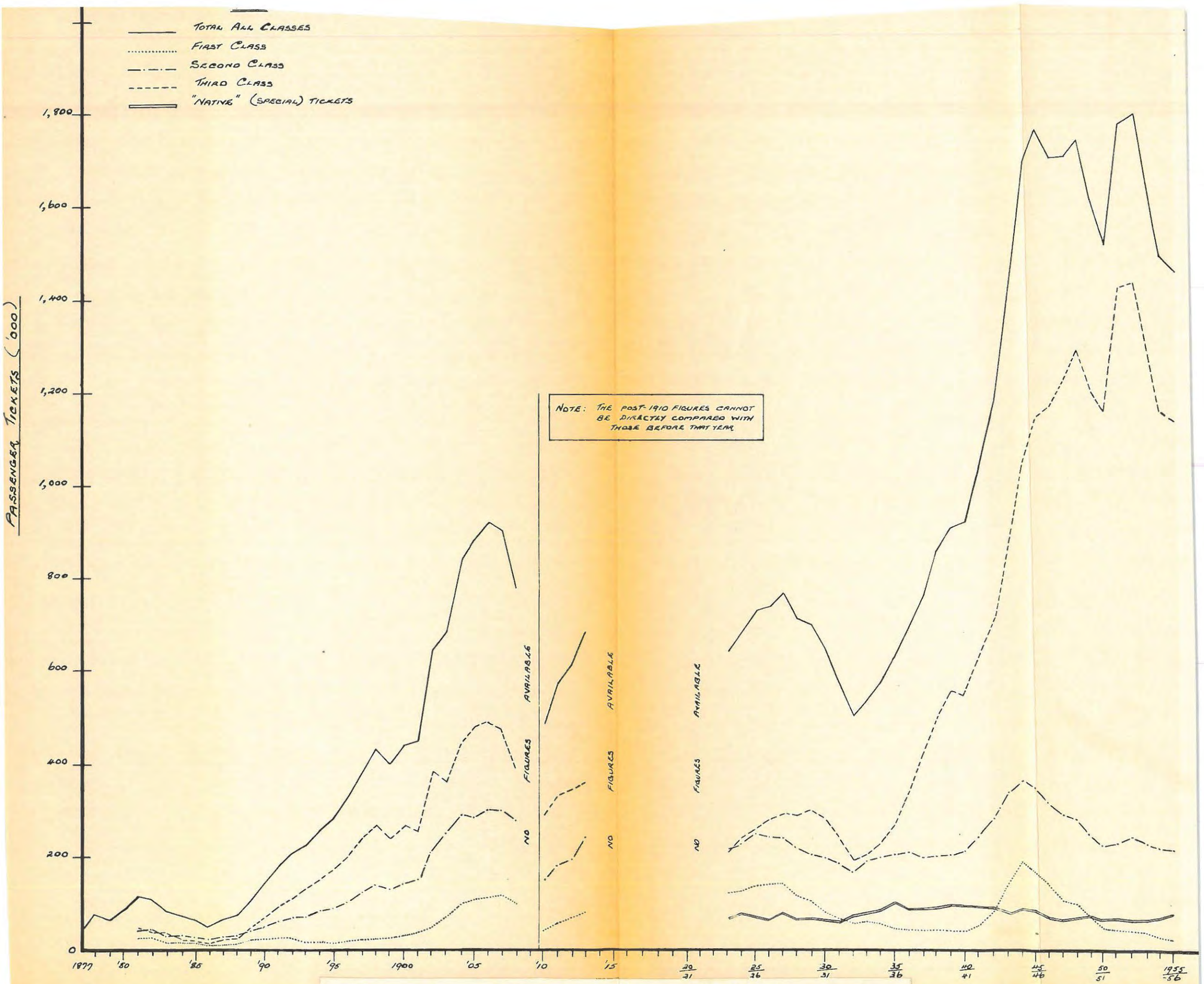

Fig. 24 Passenger Traffic of the Cape Eastern System from 1st January, 1877 to 31st March, 1956

TABLE 19 (50)

First, Second and Third Class Tickets as a Percentage of Total Tickets Issued in Certain Selected Years Between 1.1.1885 and 31. 3. 1956.

Year ended	Class			TOTAL
	First	Second	Third	
	%	%	%	%
31.12.1885	26.1	44.7	29.2	100.0
31.12.1890	16.5	35.6	47.9	100.0
31.12.1895	6.6	32.3	61.1	100.0
31.12.1900	7.2	32.0	60.8	100.0
31.12.1905	12.5	33.3	54.2	100.0
31.12.1910	9.2	30.8	60.0	100.0
*	*	*	*	*
31. 3.1926	19.4	34.6	46.0	100.0
31. 3.1931	13.7	31.0	55.3	100.0
31. 3.1936	8.3	32.7	59.0	100.0
31. 3.1941	5.3	23.7	71.0	100.0
31. 3.1946	10.0	20.0	70.0	100.0
31. 3.1951	3.7	15.0	81.3	100.0
31. 3.1956	2.3	14.4	83.3	100.0

*: No figures available.

The most significant feature of this table is the decline in first and second class passengers, particularly the former. The abnormal figure of 10.0 per cent for first class passengers in the year ended 31st March, 1946, is the result of conditions prevailing during the second world war, when restrictions upon the sale of petrol, motor tyres and tubes led to an increase in the number of persons using the railways. Table 20 compares the distribution of passengers among the three classes in the case of the Cape Eastern System with that for the South African Railways as a whole.

(50) Source: Tables A.21 and A.22, in Appendix A.
In Table 19, third class passenger ticket issues include those issued to persons travelling in the special "Native " class.

This comparison is complicated by the fact that the Railways Administration records its passenger statistics for the South African Railways as a whole in terms of "journeys". There is no method of ascertaining with how many journeys the Cape Eastern System should be credited and so the number of tickets issued has had to be used, each ticket counting as a unit.(51)

TABLE 20 (52)

Distribution of Passengers among the Three Classes in the Year ended 31st March, 1926 Compared with the Year Ended 31st March, 1956

Class	Cape Eastern System			South African Railways		
	Year ended		Increase or Decrease	Year ended		Increase or Decrease
	31.3.26	31.3.56		31.3.26	31.3.56	
	%	%	%	%	%	%
First	19.4	2.3	- 17.1	33.2	16.4	-16.8
Second	34.6	14.4	- 20.2	30.5	22.6	- 7.9
Third	46.0	83.3	+ 37.3	36.3	61.0	+24.7

Note: Season tickets are excluded from the computations in this table.
Native and third class ticket issues, or journeys, have been added together.

It would appear from Table 20 that the primary purpose of the South African Railways - as far as the passenger traffic of the Cape Eastern System is concerned - is the conveyance of Non-European persons. The conveyance, during the holiday season of a considerable number of visitors from other systems to East London, and back to their homes, modifies this

(51) It is possible that a slight distortion might have been introduced in this comparison, because there is likely to be a higher proportion of return journeys in the case of first and second class passengers, than in the third class, thus inflating the percentages in the first two classes for the South African Railways as a whole.

(52) Source: Calculated from data appearing in the Reports of the General Manager of Railways for the years ended 31st March, 1926 (U.G.42-1926) and 31st March, 1956 (U.G.36-1956), respectively; and Table A.22 in Appendix A to this thesis.

to a certain extent.

Table 21 shows the origin of the passenger traffic of the Cape Eastern System, according to tickets issued, the figures given beingthe average annual figure for the period from 1st April, 1951 to 31st March, 1956.

TABLE 21 (53)

Origin of the Passenger Traffic of the Cape Eastern System in the Period from 1st April 1951 to 31st March 1956

Section of System	Class				
	First	Second	Third	Native	All Classes
	%	%	%	%	%
Main line:					
East London to Fort Jackson	82.5	60.7	69.2	2.2	65.6
Berlin northwards	9.7	18.8	12.3	10.1	12.9
Total:	92.2	79.5	81.9	12.3	78.5
King William's Town branch line	4.3	12.1	8.8	6.7	9.2
Transkei, including Komgha	0.9	2.7	4.5	59.3	6.5
Maclear branch line	0.9	2.6	2.5	20.9	3.3
Barkly East branch line	1.5	2.4	1.9	0.8	2.0
Stormberg-Rosmead line	0.2	0.7	0.4	-	0.5
TOTAL:	100.0	100.0	100.0	100.0	100.0

Note: Tarkastad and Jamestown are included in the main line figures.

The figures for the Native special tickets are interesting because they give some indication of the extent to which Native Males leave their homes to work either in the urban areas or on the Gold Mines. The main areas from which such labour comes are clearly shown in Table 21. When it is

(53) Source: Calculated from data in the unpublished annual reports of the System Manager, Cape Eastern System of the South African Railways; East London.

remembered that a great many ordinary third class tickets were also issued in respect of persons seeking work outside the reserves, the significance of these areas as resevoirs of unskilled labour becomes apparent.

A comparison of the passenger traffic development of the Cape Eastern System with that of the South African Railways is complicated, as has been mentioned, by the Administration's policy of recording passenger traffic in terms of journeys. By doubling the return tickets issued and adding this figure to the single tickets, it is possible to arrive at an approximate number of journeys with which to credit the Cape Eastern System.(54) Using these figures as a basis it has been possible to make certain comparisons, as shown in Tables 22 and 23.

TABLE 22 (55)

Cape Eastern System Journeys as a Percentage of the Journeys made over the South African Railways as a Whole in the Years Ended 31st March, 1928 and 31st March, 1956.

Class	Year ended 31st March 1928	Year ended 31st March 1956
	%	%
All classes	2.6	2.0
First	1.9	0.3
Second	3.1	1.4
Third	2.5	2.6
Native	11.3	9.9

Note: Season tickets are excluded from the computations in this table.

(54) This procedure assumes that the persons purchasing return tickets make the double journey. Also, this procedure excludes persons travelling over Cape Eastern lines on tickets purchased at stations outside the Cape Eastern System.

(55) Source: Calculated from data appearing in the unpublished annual report of the System Manager, Cape Eastern System of the South African Railways, for the years ended 31st March, 1928 and 31st March, 1956; and in the reports of the General Manager of Railways for the years ended 31st March, 1928 (U.G.54-1928) and 31st March, 1956, (U.G.36-1956).
The Year ended 31st March, 1928 was the earliest year for which suitable System data were available.

TABLE 23 (56)

Comparison of the Increase or Decrease in the Passenger Traffic of the Cape Eastern System with that of the South African Railways in the Period between 1st April, 1927 and 31st March, 1956.

Class	Cape Eastern System		South African Railways	
	Increase	Decrease	Increase	Decrease
	%	%	%	%
All classes	73.0	-	132.0	-
First	-	79.5	11.9	-
Second	-	21.4	74.0	-
Third	296.1	-	287.2	-
Native	-	0.5	13.5	-

Note: Season tickets are excluded from the computations in this table.

The preponderance of Non-European passengers in the traffic of the Cape Eastern System is not surprising when it is remembered that the population of the Border Region - the area principally served by the System - consists of only 119,452 Europeans, representing 8.2 per cent of the total population, and 1,305,134 Non-Europeans, representing 91.8 per cent of the total.(57)

6. Train Mileage

While each of the three foregoing indices of the traffic development of the Cape Eastern System measures only the traffic originating on the System, train mileage is an index of all the traffic conveyed. The fluctuations in train mileage between 1877 and the year ended 31st March, 1956 are shown in Figure 26, which is based on Tables A.23 and A.24

(56) Source: As Table 23.
(57) These were the figures at the 1951 census.

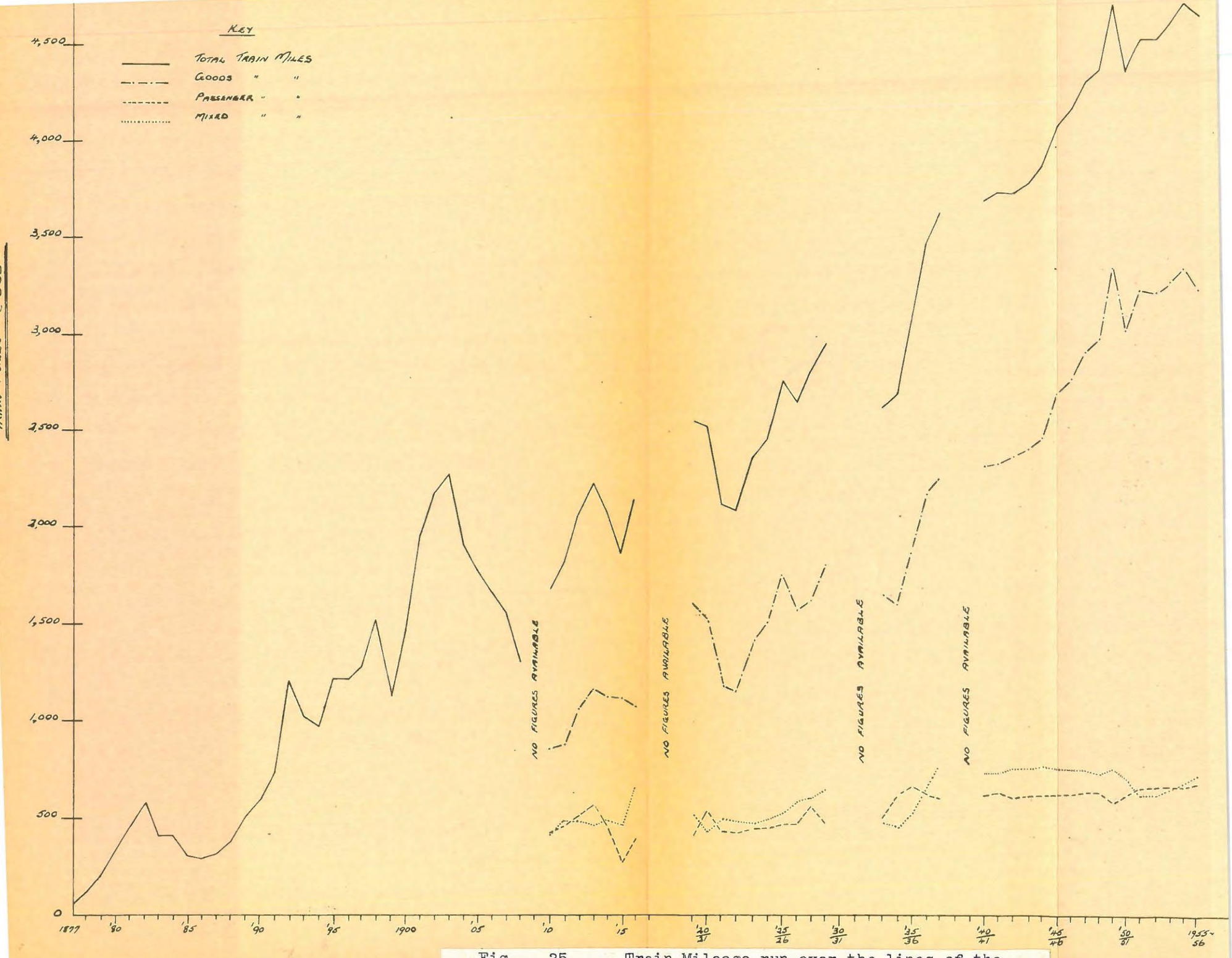

Fig. 25 Train Mileage run over the lines of the Cape Eastern System from 1st January, 1877 to 31st March, 1956.

in Appendix A to this thesis. The increased train mileage must be ascribed partly to the increased open route mileage, and partly to the increasing economic and commercial development of the Border Region, as well as of the Union as a whole. Since 1931, there has been no increase in the route mileage of the Cape Eastern System and the increase in train mileage, together with the increase in the goods and the passenger traffic conveyed over the System, would seem to confirm the propositions of those railway economists who contend that, in the short run, there exists a considerable degree of unused capacity in a railway undertaking, thus enabling it to increase the scope of its operations without an appreciable increase in capacity.(58) In the case of the Cape Eastern System, indeed, there have been two factors which should have operated towards a reduction in train mileage: the reconstruction of the main line south of Queenstown as a result of which the distance between that town and East London was reduced by 16 miles; and the use of locomotives with a greater tractive power than those used, say, twenty-five years ago. The fact that, on the contrary, train mileage has increased indicates an increase in activity and is prima facie evidence of an increase in traffic. It has been shown earlier in this chapter that there has been a marked increase in the traffic - both goods and passenger - originating from the stations of the Cape Eastern System.

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(58) This point is of considerable importance in the theory underlying railway rating. It is dealt with in detail in chapter 5. The [Newton] Committee appointed to Inquire into Railway Rating Policy in South Africa remarked in its report (U.G.32-1950) in regard to the South African Railways as a whole that "the Union Railways in 1947 succeeded in handling 48 per cent more ton-miles of goods per annum and 112 per cent more passengers, without any comparable expansion of physical facilities."

It is reasonable to assume that the traffic to the System from other parts of the Union has also increased in the same period, though it has not been possible to obtain statistical confirmation of this, except in the case of goods traffic received at East London. (See Table A.42)

It must not be assumed that an increase in train mileage is necessarily an indication of greater efficiency in the operation of a railway undertaking. Greater efficiency is only indicated when the train mileage increases at a lesser rate than the increase in the particular traffic. As there is no way of ascertaining the total traffic conveyed over the Cape Eastern System, there is thus no way of assessing the efficiency of the operation of the System in relation to the increase in train mileage.

Table 24 shows the mileage run in certain years since 1910 by goods, mixed and passenger trains, as a percentage of the total train mileage of the Cape Eastern System. The mileage run by goods trains far outweighs, in each selected year, the combined mileage of passenger and mixed trains. If it were possible to allocate mixed train mileage between goods and passenger traffic, it would be found that a considerable portion of this mileage should be added to goods train mileage.

Although the train mileage run by all types of trains on the Cape Eastern System has increased since 1910, the increase has been less than that of the goods train, and passenger train, mileage of the South African Railways as a whole. This is shown in Table 25, while Table 26 shows the same position in another way, by comparing the System's train mileages with those of the South African Railways as

a whole in the years ended 31st December, 1910 and 31st March, 1956.

TABLE 24 (59)

Goods, Mixed and Passenger Train Mileage as a Percentage of Total Train Mileage in Certain Years.

Year ended	Type of train			TOTAL
	Passenger	Mixed	Goods	
	%	%	%	%
31.12.1910	25.3	24.3	50.4	100.0
31.12.1915	15.2	24.8	60.0	100.0
31. 3.1921	21.4	17.5	61.1	100.0
31. 3.1926	17.1	19.2	63.7	100.0
31. 3.1931	*	*	*	*
31. 3.1936	21.7	17.0	61.3	100.0
31. 3.1941	17.0	20.1	62.9	100.0
31. 3.1946	15.3	18.6	66.1	100.0
31. 3.1951	13.8	16.3	69.9	100.0
31. 3.1956	14.7	15.7	69.6	100.0

*: Figures not available.

Note: Before 1910 only total train mileage was recorded.

TABLE 25 (60)

Increase in the Train Mileage of the Cape Eastern System compared with that of the South African Railways as a whole between 1st January, 1910 and 31st March, 1956

Type of Train	Increase	
	Cape Eastern System	South African Railways
	%	%
All trains	174.0	294.0
Passenger trains	57.5	261.5
Mixed trains	76.6	58.5
Goods trains	278.5	394.5

(59) Source: Calculated from Table A.24 in Appendix A.
(60) Source: Calculated from Table A.24 in Appendix A; and the data appearing in the Reports of the General Manager of Railways for the years ended 31st December, 1910 (U.G.39-1911) and 31st March, 1956 (U.G.36-1956), respectively.

TABLE 26 (61)

Cape Eastern System Train Mileage as a Percentage of the Train Mileage of the South African Railways as a whole in the Years ended 31st January, 1910 and 31st March, 1956.

Type of Train	Year ended	
	31st December 1910	31st March 1956
	%	%
All trains	7.2	5.0
Passenger trains	6.8	3.1
Mixed trains	9.2	10.1
Goods trains	6.7	5.1

7. Summary.

In an attempt to gauge the traffic development of the Cape Eastern System between 1st January, 1877 and 31st March, 1956, four sets of statistical data have been examined:

a. the revenue of the System;
b. forwarded goods traffic;
c. passenger tickets issued; and
d. train mileage.

There are other indices which should have been examined, but statistics were not available for the Cape Eastern System in isolation. From the examination of the above statistics, the following conclusions emerge.

1. Each index examined indicates a marked increase in the traffic of the System between 1st January, 1877 and 31st December, 1910 and between this date and 31st March, 1956. The expansion in forwarded goods traffic has been particularly marked

(61) Source: Calculated from the data in Table A.24 in Appendix A; and in the Reports of the General Manager of Railways for the years ended 31st December, 1910 (U.G.39-1911) and 31st March, 1956 (U.G.36-1956), respectively.

since the end of the second world war.

2. The goods traffic forwarded from East London and Queenstown has increased steadily, especially since the end of the second world war.
3. There has been only a slight increase in the goods traffic forwarded from King William's Town in the period from 1st April, 1927 to 31st March, 1956.
4. The goods traffic forwarded from the Cape Eastern System stations, other than East London, Queenstown, and King William's Town, rose to a peak in the year ended 31st March, 1946; from that time there has been a steady decline in this traffic.
5. The number of passenger tickets issued in the year ended 31st March, 1956, was considerably greater than those issued in 1910. There has, however, been a significant decrease in the number issued to first class passengers and a less marked decrease in the number issued to second class passengers. There has been a very significant increase in the number of tickets issued to third class passengers.
6. There has been a very marked increase in the number of train miles run over the Cape Eastern System lines, particularly in goods train mileage. This increase in train mileage has been particularly marked since the end of the second world war.
7. Accompanying the above increases in forwarded goods traffic, the number of passenger tickets issued, and train mileage of the System, there has been a marked increase in the revenue of the System, again particularly since the end of the second world war.

The examination of these indices shows that the goods

traffic forwarded from the stations of the Cape Eastern System is the most important revenue producing item of the System's traffic, and the increase in this traffic accounts for much of the increased activity of the System.

8. Although in each case there has been an increase in the activity of the System, the revenue, the forwarded goods traffic, the passenger traffic and the train mileage of the Cape Eastern System have each increased at a lesser rate than in the case of the South African Railways as a whole.