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CITY OF JOHANNESBURG.

TOWN CLERK'S DEPARTMENT,

25th August 1967.

TO ALL MEMBERS OF THE COUNCIL.

FORWARD PLANNING : INTERIM REPORT
NO. 5 JOHANNESBURG EDUCATIONAL
FACILITIES.

... The Interim Report No. 5 of the City Engineer, referred to in the agenda for the meetings of the Works and Traffic, Health and Amenities and Management Committees to be held on the 6th and 12th September 1967 respectively, is attached for the information of members of the Committees.

A.P. BURGER,
CLERK OF THE COUNCIL.

CITY OF JOHANNESBURG.

C I T Y E N G I N E E R ' S D E P A R T M E N T .

FORWARD PLANNING INTERIM REPORT NO. 5.

JOHANNESBURG EDUCATIONAL FACILITIES

MARCH 1967

FOREWORD.

The report on educational facilities is one of a series of studies being carried out by the City Engineer's Department.

Each study represents an investigation of a particular function of the city.

In order to ensure the balanced development of residential areas it is not only necessary to provide the essential services such as light, water and sewerage but also amenities such as schools and parks.

When a new town is planned it is possible to provide services and amenities according to the population to be housed. In a rapidly growing city one finds that adequate amenities provided at one period in time may be either totally inadequate or else superfluous at a later period. These studies enable the planner to determine standards which are used to ensure the adequate distribution of the facilities as the city develops.

As the City Council may not provide educational facilities itself it has been necessary to obtain the basic statistical information from the various education bodies mentioned whose willing assistance is greatly appreciated. The greater part of this report deals with the facilities provided by the Provincial Administration and a special note of thanks is expressed to the Secretary and Staff of the Witwatersrand Central School Board for their valuable assistance and co-operation.

B.L. LOFFELL.

CITY ENGINEER.

S U M M A R Y O F F A C T S .

Note: All Figures Stated Refer to January 1966.

1. The educational facilities of Johannesburg are without equal in the Republic. There are 57 approved Nursery Schools, 93 Primary Schools, 28 High Schools, 32 Private Schools, 3 existing Commercial High Schools and two more being planned, 2 existing Technical High Schools and a third being planned, a School of Arts, a Trade Apprentice School, a Home Economics Teacher's Training College, a Nursery School Teacher's Training College, a Technical College, 7 Private Business Colleges, 2 Colleges of Education (Teacher's Training Colleges) and 2 Universities. (The establishment of an Afrikaans University was announced in Parliament in 1966).
2. The State, through the Department of Education, Arts and Science provides Commercial High Schools, Technical Colleges, Training Colleges for Nursery School Teachers and Domestic Science Teachers, Apprentice Schools and Trade Testing Centres, Adult Education, Special Schools (for the handicapped) and Reformatories. State Aid is provided for State-aided Special Schools and Vocational Schools.
3. The Education Department of the Provincial Administration is responsible for all nursery, primary and high school education and the training of teachers.
4. The City Council controls the establishment of Nursery Schools and other pre-school institutions.
5. The majority of private schools in the city are administered and financed by religious bodies.
6. There is an alarming shortage of nursery schools in the city. There are 3,450 children at 57 approved nursery schools and 3,000 on waiting lists.
7. The ideal land requirement for a primary school is 4 morgen and enrolment varies from 450 to 750 pupils.
8. There is an increase of 1,500 primary school children per annum.
9. There is a need to provide additional primary schools in high density residential areas as increasing numbers of families are living in flats.

10. In/...

10. In Johannesburg the number of primary school pupils per family is:-

Average for all types of dwellings 0.57
single houses 0.71
flats in low density
residential areas 0.38
flats in high density
residential areas 0.15

11. The 34 Afrikaans medium primary schools have an enrolment of 16,608 pupils and the 59 English medium schools an enrolment of 29,734.
12. It is desirable to provide 532 square feet of primary school site area per single family dwelling unit and 228 square feet per unit of a multi-family building in a suburban housing estate.
13. In suburbs where flats have replaced dwelling houses the most serious shortage of primary school space is found.
14. Afrikaans medium high schools predominate in the north-western part of the city, English medium high schools predominate in the north and north-east and the distribution is equal in the south.
15. The 9 Afrikaans medium high schools have an enrolment of 7,169 pupils and the 19 English medium schools an enrolment of 15,547.
16. The ideal land requirement for a high school site is 10 morgen and enrolment is between 720 and 1,200 pupils.
17. Differentiated education at high schools divides pupils into three streams; those intending to pass a university entrance examination, those who intend taking a school leaving examination and those who do not intend proceeding beyond Standard VIII.
18. The increasing number of high school pupils appears to be due to two factors; the natural increase in population and the increased standard of living. In 1947 there were 20,100 boys in Standard VII and 6,321 had continued to Standard X by 1951 representing 31.7% of the original group. In 1960 there were 31,760 boys in Standard VII and 14,000 had reached Standard X by 1964 representing 44.1% of the original group.

19. In/...

19. In Johannesburg there is an average of 0.29 high school pupils per family.
20. The 32 Private Schools in the city have an enrolment of 12,703 pupils.
21. The 3 Commercial High Schools have an enrolment of 1,354 pupils.
22. The 2 Technical High Schools in the city have an enrolment of 993 pupils.
23. The School of Arts has an enrolment of 132 students.
24. The Johannesburg Apprentice School has an enrolment of 3,000 trade apprentices.
25. The Johannesburg Teacher's Training College for Home Economics has an enrolment of 111 women students.
26. The Training College for Nursery School Teachers has an enrolment of 92 women students.
27. The Witwatersrand Technical College has an enrolment of 1,153 full time students, 4,600 part time students and 8,250 correspondence students.
28. There are 7 privately owned business colleges in Johannesburg having an enrolment of 1,236 pupils.
29. Student enrolment at the Johannesburg College of Education has increased from 238 in 1935 to 1,545 in 1966.
30. Die Goudstadse Onderwyskollege has been established for 5 years during which enrolment has increased from 155 to 805.
31. The growing student enrolment at the University of the Witwatersrand, together with increased motor car ownership, is resulting in traffic and parking problems in and about the University.

32. The/...

32. The establishment of the Rand Afrikaans University was announced in Parliament in 1966.
33. The serious lack of Nursery School facilities in the city requires the urgent attention of the Provincial Administration.
34. Increasing numbers of high school pupils indicate that the present policy of providing one high school for every three primary schools will require revision to provide additional high schools.
35. In high density residential areas high land costs will make the joint use of open space by schools and local authorities necessary.

C I T Y O F J O H A N N E S B U R G .

C I T Y E N G I N E E R ' S D E P A R T M E N T .

FORWARD PLANNING INTERIM REPORT NO. 5.

JOHANNESBURG EDUCATIONAL FACILITIES.

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EDUCATION.

1. INTRODUCTION:

Johannesburg's fame as the financial and commercial centre of the Republic tends to overshadow the city's importance as an educational centre. The early pioneers were well aware of the importance of providing good educational facilities and excellent private schools are evidence of their foresight. Various public schools in the city are well known throughout the Republic and their former pupils have made valuable contributions towards the growth and wealth of Johannesburg and the Republic.

In 1966 the Witwatersrand University celebrated the 70th anniversary of the founding of the South African School of Mines at Kimberley, which was the predecessor of the University. The creation of a new Afrikaans university in Auckland Park was announced during the 1966 parliamentary session. There are two teachers' training colleges, one to serve each language group, a technical college, arts school and a number of technical and commercial schools which, together with the other facilities, provide for the educational needs of the residents of the city, as well as those from further afield.

The object of this report is to study the existing facilities and to highlight trends and deficiencies. Fundamental town planning issues are considered, such as the health and safety of small children attending schools, and the generation of traffic and the provision of adequate parking by the universities.

Although education is not a local government responsibility provision for adequate educational facilities is an essential planning requirement. In order to plan the future development of the city, which means increasing the residential densities in many areas, complete details of existing schools must be known and analysed.

The Witwatersrand Central School Board furnished comprehensive details of all public and private schools in the city, and the Secretary indicated his Board's proposals to improve facilities where there were insufficient schools or where existing facilities were inadequate. Close co-operation between city planners and the education authorities will become increasingly important when the future development of the city is considered.

This study embraces facilities provided for the white group only and details of educational facilities for the other races will be embodied in the reports dealing with these groups.

All white children are compelled to attend school from the beginning of the year in which they become 7 years of age to the end of the year in which they become 16 years of age.

Figure 1.1 indicates the distribution of all primary and high schools, commercial and technical colleges, teachers training colleges and universities in the city.

2. ADMINISTRATION/...

* The meaning of these terms emerges from Paragraphs 2.1.2 and 2.2 below.

2. ADMINISTRATION AND FINANCE:

2.1 Public Authorities:

2.1.1 The State:

Through the Central Government Department of Education, Arts and Science the State provides for each university an annual grant based on student enrolment. The State, however, does not have any direct control over the activities of the universities.

The Central Government Department of Education, Arts and Science controls:-

Commercial High Schools; Technical Colleges; Training Colleges for Nursery School Teachers and Domestic Science Teachers; Apprentice Schools and Trade Testing Centres; Adult Education; Special Schools (for the handicapped); and Reformatories. Financial aid is provided for State-aided Special Schools and Vocational Schools.

2.1.2 The Province:

The Provincial Administration through its Education Department administers and finances all public schooling, which includes primary, high and special schools. It also finances the Teachers Training Colleges and controls private schools. Private schools which received grants prior to January 1954 retain this assistance, but schools registered after this date receive no financial assistance.

School Boards, which are elected by the parents, are the Education Department's representatives in the areas over which they have jurisdiction, and may make proposals to the Administrator for the improvement of schools and their siting.

The Education Department employs inspectors who are responsible for the internal administration of schools and the maintenance of adequate standards by the schools and their professional staff.

At present the greater part of Johannesburg lies within the Witwatersrand Central School Board's area of control. The Witwatersrand West School Board controls schools in some of the western suburbs. Because of the large number of schools in the Central School Board's area the Transvaal Education Department has decided to establish a Southern School Board area in the south, which will extend from the mineral railway line southwards to include schools in Albertyn and the Vereeniging district. Later, the northern area could be further divided into a Central and Northern School Board Area.

Approved/...

Approved nursery schools receive a subsidy from the Province and most are administered by private bodies on a non-profit basis. Possible control by the Province over all nursery schools is under consideration.

2.1.3 The City Council:

The City Council, through the Medical Officer of Health, inspects all nursery schools for the purpose of safeguarding the health and physical welfare of the children attending and medical supervision of these children is regularly undertaken.

Five nursery schools are at present administered by the Council in lower income residential areas, but this service is undetermined with regard to future control.

The Council also provides building grants up to R1,000 and a token grant-in-aid of R20 per annum per school and leases land to approved nursery schools.

The establishment of nursery schools is controlled under the Town Planning Scheme and regulated by requirements of the Medical Officer of Health.

2.2 Private Bodies:

The majority of the private schools in the city are administered and financed by religious bodies. A few, as stated, receive grants from the Province.

In the central area, located in office buildings, are several privately owned schools providing intensive secondary as well as commercial and other courses.

3. NURSERY SCHOOLS:

3.1 Historical:

The City Council was instrumental in establishing the first nursery schools in the city in 1932. At the time they were known as nursery health classes and were administered by the Public Health Department as an extension of the clinic services.

Miss Emma Brosius, who qualified in Germany, supervised the Council's first nursery health class in Vrededorp, and later initiated a training scheme for personnel employed in the nursery health classes. The care provided by the health classes included medical supervision by a pediatrician, dental care, psychiatric advice and I.Q. testing by a psychiatrist. Liaison with welfare organisations channelled children in need of specific care to these organisations. The whole programme was designed to meet the childrens emotional, physical and intellectual needs with the accent on creativity and self-expression.

The first school to be administered by a private body on a non-profit basis was opened in 1936.

In 1939 the Technical College initiated a three year post-matriculation course for training nursery school teachers. In the same year the Nursery School Association of South Africa was formed and the Johannesburg Medical Officer of Health was elected as the first chairman of the Witwatersrand Branch of the Association.

In 1940 the Transvaal Education Department initiated a subsidy to nursery schools run on a non-profit basis and a grant-in-aid to these schools was made available by the City Council. The City Council then changed the designation of the nursery health classes administered by the Council, to nursery schools.

During and after World War II, there was a great demand for pre-school care by working mothers. The development of private enterprise resulted and creches and day nurseries were opened which operated on a profit-making basis.

In 1960 the Childrens' Act was amended to include a section whereby any place where more than six children are accommodated, apart from their parents, for full or part-day care, for profit or otherwise is defined as a "Place of Care", and has to be registered with the Department of Social Welfare and Pensions. Nursery schools are exempt from this registration, as they are subsidised and inspected by the Transvaal Education Department.

The establishment of places of care is controlled by the Town Planning Scheme and regulated by requirements defined by the Medical Officer of Health. The City Council, through the Medical Officer of Health inspects all places of care for the purpose of safeguarding the health and physical welfare of the children attending.

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In 1962 the Council was advised by the Administrator that in terms of the Local Government Ordinance, local authorities may not establish and administer nursery schools. Since then the City Council has been required to obtain an annual consent from the Province to continue to administer its five (5) schools in the poorer suburbs.

3.2 Siting and Demand for Nursery School Facilities:

Nursery schools and places of care cater for pupils below the compulsory school going age. Places of care include creches, day nurseries and play centres, all of which must be registered with the Department of Social Welfare and are administered by private individuals or organisations.

Figure 3.1 indicates the siting of these facilities and also features the boundaries of the traffic districts and the income classification of the various suburbs.

In 1966 there were 3,450 children at the 57 nursery schools in the city and 1,310 at 39 places of care. There were 3,000 children on the waiting lists, the large majority of whom have no hope of being accommodated.

Five nursery schools were administered by the City Council and 52 by voluntary parent associations on a non-profit basis.

The 39 places of care were administered by private individuals on a profit making basis.

From Figure 3.1 it can be seen that there is a great lack of pre-school facilities in the poorer areas of the city, where the need is most probably greatest.

Presumably for economic reasons mothers are forced to work and while the number of working mothers is not known, a calculation based on census figures shows that there are 1.5 working people per family in the Johannesburg Municipal Area, indicating that in all probability approximately one quarter of the mothers of families do work.

3.3 Inhibiting Factors Affecting the Establishment of Nursery Schools:

There are a number of reasons for the lack of nursery school facilities. These include high building costs, increased running costs, teachers' salaries and the lack of voluntary workers.

It/...

* The city has been divided into several numbered traffic districts to facilitate the collection of data, which is related to each district.

It is estimated that it costs R20,000 to build a nursery school to accommodate 50 children today. The City Council assists parent bodies where it can by providing land as well as a building grant of up to R1,000. Running expenses are subsidised partly by the Province which pays a subsidy of R40 per child per annum. The parent bodies are required to stand security for the building costs before a loan will be granted by a Building Society. Difficulties are experienced in obtaining persons on parent bodies prepared or able to stand as guarantors, particularly in the lower income group suburbs. Probably for this reason the only nursery schools built during the past five years are found in the wealthier suburbs of the city. There has been no approved development in the less wealthy suburbs.

Figure 3.1 emphasises the importance the Jewish community place on pre-school care. In the north-eastern suburbs practically all nursery schools are Jewish. The places of care which do not as a rule meet with the high standards required for recognition as nursery schools, seldom serve the areas in which they are located but provide transport for children collected from the centre of the city.

3.4 Need for Policy Changes:

The Education Department has recently announced that a study of nursery school requirements will be made and the Council should grasp this opportunity to make recommendations for the future administration of nursery schools in the city. Local authorities should play an important role in the provision of pre-school facilities as this is basically a health consideration and not an educational matter. It appears that the adoption of the name "nursery school" in 1940 has led to much of the confusion which exists at present.

4. PRIMARY SCHOOLS:

4.1 Basic Principles of Location and Size:

From a town planning aspect the location of primary schools is more important than any other educational facility. The age range of 6 - 12 years requires the schools to be sited within walking distances of homes and away from heavy traffic flows which endanger the safety of the children. In a city, children should not walk more than a half a mile to a primary school. In a growing city this is rarely practical. In Figure 4.1 the shaded areas are more than half a mile from a public primary school. The intrusion of industries and businesses into residential areas can cause schools to become misplaced and eventually abandoned, as has occurred in Braamfontein and Booysens Reserve and is about to take place in Jeppe. The development of flats in former low density areas creates a greater demand for primary school education. Existing buildings and school grounds prove inadequate and schooling facilities have to be sought further afield. Higher densities coupled with increased car ownership have caused many residential streets to become busy traffic carriers.

The Education Department considers 4 morgen to be the ideal land requirement for a primary school on which can be provided all the necessary buildings and playing fields for between 450 and 750 pupils. This works out at between 760 and 460 square feet of site area per child.

4.2 Growth Trends:

Over the last few years there has been an increase of 1,500 children a year requiring primary school education. The increase is, in general, city wide although new townships and flat development in formerly low density areas pinpoint certain pressure areas. The Education Department has considerable difficulty in catering for the demand and overcrowding occurs in a number of schools. There is a need for complete co-operation between the Department and the Council's planners. The study that is being conducted by the Council to determine population projections and the growth rate in residential suburbs should prove of inestimable value to the Department.

An interim estimate has been made of the population increase for the next twenty years in respect of the traffic districts and these are featured in the population column of Annexure 1. This is also featured diagrammatically for each traffic district in Figure 4.2. Three categories of population growth are shown: the first being up to 20%; the second from 20% to 60%; and the third above 60%. The factor for traffic district 00 which is 1.0 indicates that there will be no increase, for traffic district 03 a factor of 1.6 indicates that there will be a 60% increase and for traffic district 51, 1.5 indicates a 50% increase.

There/...

There are certain growth and decline patterns to which reference must be made in order to indicate the complexity of providing adequate facilities. Newly established suburbs generally attract young couples with primary school age children. In time, as the suburb becomes fully developed and the children grow up the number of primary school children decreases. This development results in movement between areas where schooling is insufficient and those where there is an excess.

Approximately one third of the families in Johannesburg now live in flats. The flat, once used as a transit media, is now becoming the home of an increasing number of families and a certain measure of permanency is being established particularly in areas where there is a pleasant environment and public amenities are readily available. With this trend becoming stronger the present average size of family of 2.3 persons per flat could well increase in the future. In the Reef towns figures of 2.5 up to 3.0 are prevalent.

Finally, modern and adequate schooling facilities are an essential part of urban renewal projects. Annexure 1 shows the proposals of the Education Department to alter and extend schools. These are clearly farsighted and most encouraging. In planning urban renewal projects the Council's officials must consult with the Education Department to ensure that adequate ground is made available and where necessary, to obtain the rehabilitation and renewal of existing buildings and facilities.

4.3 Primary School Children per Family:
Flats and Dwelling Houses:

It is clear from the preceding subsection that owing to the fluctuations that are occurring in the living habits of our society it will be difficult to apply accurate norms that can be applied for flats and dwelling houses. Recently a number of studies have been conducted in this connection and different assessments have been derived.

Various studies reveal that the number of primary school pupils per family in flats varies from 0.15 in the high density areas of Hillbrow and Bellevue to 0.38 in flats set in their own gardens in the northern suburbs.

It has been calculated that there is an average of 0.71 primary school pupils per house in the municipality and that there are 0.57 primary school pupils per dwelling unit i.e. houses and flats in the municipality. This figure of 0.57 agrees with the figure obtained from the 1960* Census for the Johannesburg Metropolitan Area.

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* Bureau of Statistics News Release 1st July 1966.

In newer residential areas where the form of development is predominantly single dwelling houses the number of primary school children per dwelling will be near the figure of 0.71, whereas in the more established areas nearer the centre of the city the figure will be less because of the larger number of flats.¹

It is interesting to note that in Metropolitan Denver in the United States of America it was found that there were 0.85 elementary school children per dwelling unit in new townships and 0.52 in the well established townships⁺.

Figure 4.3 shows the number of primary school pupils per family in each district. The number includes pupils attending private schools.

In view of the difficulty that has been experienced in obtaining suitable figures the Department of Education should be approached to request the Bureau of Statistics to extract figures from the 1960 census returns, of the age groups of children living in flats and houses and that a similar extraction be made from the 1970 and subsequent census surveys in order that primary schooling trends can be properly assessed.

4.4 Existing Facilities:

Figure 1.1 shows the distribution of schools throughout the city and Annexure 1 shows details of the schools which have been grouped into the traffic district in which they fall.

According to the 1966 figures supplied by the School Board there were 34 Afrikaans medium schools in the municipal area with an enrolment of 16,608 pupils and 59 English medium schools with an enrolment of 29,734, an average of 488 and 504 pupils per school respectively.

Several schools have special classes to assist retarded children and these are indicated on the schedule by the letters "SC" next to the name of the school. Five special schools are indicated by the letters "SS" and they include the Hope Training Home and the Children's Memorial Hospital.

The policy of providing separate schools for the two language groups complicates the provision of adequate and well sited schools. In the north-western sector of the city the Afrikaans medium schools predominate, the English medium schools predominate in the northern and north-eastern suburbs and in the south the distribution is almost equal.

The/...

+ Urban Land May 1961. "Standards for New Urban Development - The Denver Background" by George Nez.

¹ See Table on Page 13.

The primary schools are mostly co-educational, although some attached to old-established high schools, such as the Johannesburg Girls High (Barnato Park) and King Edward VII, are mono-sex. Although several mono-sex schools are still in existence the present policy of the Education Department is to provide for co-educational schools only. This policy is desirable from the town planner's point of view as co-educational schools enable children to attend schools nearest their homes.

4.5 Assessment of Adequacy of Existing Facilities:

In 4.1 it was stated that the advocated ideal land requirements of a primary school is 4 morgen and that between 450 and 750 pupils can be accommodated. In 4.3 the distribution of primary school children per family in various types of residential areas according to the type of dwelling unit is discussed.

The number of square feet of site area per primary school pupil will vary between 460 square feet, when there is a maximum of 750 pupils, and 760 square feet when there is a minimum of 450 pupils.

If it is assumed that schools should not have less than 500 square feet per pupil¹, it is necessary to determine the area to be provided for a primary school in terms of families served by that school. Using the figures quoted in 4.2.2 it is found that in special residential areas 350 square feet per family is required. In general residential areas where flats are set in gardens, a minimum of 150 square feet per dwelling unit must be provided and in the high density areas such as the Hillbrow - Bellevue East area 75 square feet per dwelling unit should be provided as a minimum. It is desirable, however, to examine continually the family structure according to dwelling unit type and adjust these minimum figures when necessary. In a developed city one must attempt to provide these minimum areas, but in the newer townships being developed beyond the city's boundary, the maximum figures should be aimed at. These would be 532 square feet and 228 square feet in terms of the abovementioned figures. High density residential areas can be excluded.

In Annexure 2 Column 4 is listed the amount of primary school space per family in each traffic district, and in Column 5 is listed the average area of primary school space per pupil in each traffic district.

The figures in Column 4 should be compared with the minimum standards described above. As a guide, Figure 4.2 shows districts having less than 150 square feet per family, those with between 151 and 300 square feet per family, and districts which have more than 300 square feet per family.

Generally the figures in Column 5 may be compared with the minimum area of 500 square feet per pupil to locate those districts which have too little school space for the number of enrolled pupils. These

general/...

1 See Table on Page 13.

general indicators should, however, be checked by consulting Column 5 in Annexure 1 which gives figures for individual schools. For instance in District 11 the aggregate amount of space per pupil and per family exceeds the minimum according to Annexure 2 but when the schools are considered individually it will be seen from Annexure 1 that two of the schools have less than the recommended minimum and should be extended.

It is interesting to note that at Parkview Senior School the area per pupil is 464 square feet, which is close to the recommended minimum size, but as the site itself is so small (2.4725 morgen) adequate recreation facilities cannot be provided. In District 83 the Theo Wassenaar School is 4.3167 morgen in extent and is able to provide adequate recreational facilities notwithstanding that the site area per pupil is only 454 square feet.

It is difficult to determine satisfactory figures for all districts because of the need to provide separate schools for each language medium. The Jan Celliers Afrikaans Medium School in District 11 has a relatively small enrolment because it is located in a predominantly English speaking area. The Dirkie Uys School in Orchards contributes to the larger area per pupil in District 21 for the same reason.

4.6 Deficiencies:

An analysis of the shaded areas in Figure 4.1 gives an indication of where school facilities are lacking.

Starting with the shaded area in the west, which includes the south-east portion of Claremont not yet developed, an additional school would be unnecessary as the areas to the east are industrial and Coloured residential areas for which separate facilities are provided. Should the southern portion of Claremont later be developed for housing purposes, an additional school site will be included in the scheme if necessary.

Large sections of Northcliff and Montgomery Park lie in the shaded areas. In the population column of Annexure 1 there is a potential increase of 70% in the population of District 03 during the next twenty years. It can also be seen that the only existing primary school in the district is overloaded, and although the new Risidale School will draw off many pupils, another school will have to be built in this district.

In Districts 01 and 04 there is a strip of about one half-mile wide covered by the shaded area. According to Annexure 1, the schools in District 01 are adequate. Both the English and Afrikaans medium schools in District 04 are overcrowded, but as a new Afrikaans medium school is to be built in Northcliff Extension a new English medium school will be necessary in the southern part of Victory Park.

The/...

The central section of Districts 11 and 12 is shaded, and as it is proposed to move the Rosebank School from its present position, the shaded area will extend over the greater part of Parkwood. The growth rate for this area is expected to be about 20%. The Saxonwold School could accept more pupils from eastern Parkwood and possibly a new English medium school should be established in the northern portion of the Parkview Golf Course to relieve the apparent pressure on the Parkhurst School and serve the western section of Parkwood.

The new school opening in Fairway Township in 1967 will relieve the pressure on schools in District 23, and as Waverley is a low density township, it is not considered necessary to provide an additional school in this area.

The shaded area in the east covers the eastern part of District 22 and the northern part of District 53. According to the figures in Annexure 1 the Linksfield and Orange Grove Schools are below standard, and as it is considered that the population of this district can grow by 50%, a new school should be provided in the vicinity of Mountain View. The eastern area appears to be adequately served by the Cyrildene School.

In traffic district 10 there is a large shaded area which includes Westcliff, Forest Town and parts of Parktown and Parkview but because of the present low densities in this area an additional school is not considered necessary.

The southern suburbs appear to be adequately served with schools.

From Figure 4.1 it must not be assumed that all primary schools offer the same facilities and that adequate schooling exists in the unshaded areas. Figures in Annexure 1 indicate that many primary schools in the city do not meet with the minimum space requirements of 500 square feet per pupil. The problem of providing additional space is greatest in the older suburbs where schools are built on sites having very little play space. In order to extend the schools it is necessary to displace families living on adjoining land, thereby aggravating the shortage of housing which is most serious in the lower income areas. The solution in these areas will be for urban renewal schemes to be implemented in which adequate schools and open spaces can be provided without forcing the present inhabitants to move.

In traffic district 51, which is the Yeoville - Bellevue area it will be seen from Annexure 2 that there is 35 square feet of school space per family and 233 square feet of school space per child attending the existing schools. The provision of an additional Afrikaans medium school and the conversion of existing mono-sex schools to co-educational schools will relieve the present lack of facilities.

In Parkview, District 11, it is considered that in view of the Education Department's recommendation that the senior and junior schools should be completely rebuilt, these schools should be combined by extending the one and disposing of the other. A more detailed investigation

would/...

would be necessary, but it would appear that by extending the junior school in Ennis Road northwards, a reasonably shaped site would be obtained without unduly interfering with the traffic circulation of the area. The junior and senior sections could remain separated but the one consolidated site would enable the Department to provide better recreation facilities than is possible on these smaller sites which may add up to the same area.

Taking further the study aimed at determining areas deficient in schools, use was made of a home interview survey made in 1965 in which all trips, including school trips of more than half a mile, were recorded. As most primary school trips are less than half a mile it is obvious that where the number of recorded trips exceeds enrolment at all schools, the school facilities are inadequate and pupils are travelling to schools in other districts. The figures used to prepare Figure 4.3 which indicates this movement, appear in Annexure 2.

ALLOCATION OF PRIMARY SCHOOL AREA ACCORDING
TO FAMILY COMPOSITION:

Primary School Pupils per Family	School Area per Family	School Area per Pupil
<u>Flats:</u>		
0.15	75 square feet	500 square feet
0.30	150 square feet	500 square feet
0.45	228 square feet	500 square feet
<u>Houses:</u>		
0.71	355 square feet	500 square feet
1.0	500 square feet	500 square feet
1.07	532 square feet	500 square feet
<u>Mixed - Flats and Houses:</u>		
0.57	285 square feet	500 square feet

5. HIGH SCHOOLS:

5.1 Location and Size:

At present the Education Department considers that high school facilities are adequate when there is a ratio of one high school to three primary schools. High schools are consequently much further apart than primary schools and the majority of the pupils travel by bicycle, bus or motor car. High schools should, therefore, be located near the main bus routes to improve accessibility. Pupils enter high school after completing primary school at about the age of thirteen. There are five "forms" or "standards" in the high schools which pupils should complete by the age of 17. Pupils in this age group can be expected to travel considerable distances to their schools and it is essential that adequate traffic control is provided in the vicinity of the schools.

From Figure 1.1 it is possible to see the distribution of high schools throughout the city, and details of each school are given in Annexure 1.

Afrikaans medium high schools predominate in the north-western portion of the city, English medium high schools predominate in the north-east and in the south the distribution is even.

The Education Department considers that the ideal area of a high school site is 10 morgen. High schools are built to accommodate 750 pupils, and where the increased demand does not warrant another school these schools are extended to accommodate 1,200 pupils so that site area varies between 720 and 1,150 square feet per pupil. In 1966 Roosevelt Park High School and Die Fakkel High School had more than 1,200 pupils, but new schools being planned will reduce these figures. The present site areas per pupil at public schools are tabulated in Column 5 of Annexure 1.

5.2 Facilities:

There are 28 high schools in the city and two new high schools are being built. Separate facilities are provided for each language group so that there are 9 Afrikaans medium high schools having an enrolment of 7,169 pupils and 19 English medium high schools with an enrolment of 15,547 pupils.

Some of the older schools provided separate facilities for boys and girls, whereas most of the newer schools are co-educational. The Education Department consider that co-educational schools are much more satisfactory than the mono-sex schools and the trend in this direction is more in keeping with development overseas. The Department's present policy in regard to co-education schools is more satisfactory from a planning point of view in that schools serve a more homogeneous group because the catchment area is not as great as that of mono-sex schools and travelling can be reduced considerably.

Should/...

Should the age at which persons can obtain driving licences be lowered to sixteen, the high schools in the Transvaal may experience the same problems for the parking of cars as in the United States of America where large numbers of high school children drive their own cars to and from school.

At high schools differentiated education provides for the division of pupils into three streams according to their capabilities. The A and B stream pupils are expected to proceed to Standard X. The A stream write matriculation (university entrance examination), the B stream a school leaving examination (Transvaal Secondary School Certificate) and C stream pupils do not proceed beyond Standard VIII. Some pupils leave school after having reached the upper limit of compulsory education and a few obtain special permission from the School Board to leave school before reaching the upper age limit. There is a considerable wastage of high school pupils between Standards VI to X.

Hostel accommodation is provided at a number of high schools in the city. King Edward VII High School and Jeppe Boys High School provide boarding facilities for English speaking boys, but there is no hostel accommodation for English speaking girls at present. It is proposed to provide hostel accommodation for boys and girls at the new Queens High School to be built in Dewetshof.

The Hoër Meisieskool and Hoër Seunskool Helpmekaar both provide hostel accommodation for Afrikaans speaking pupils.

5.3 Growth Trends and Assessment
 of Number of High School
 Pupils per Family:

There has been a steady increase in the number of pupils enrolled at high schools each year, and in 1966 this increase rose very sharply, as can be seen from the following table:-

Year	Number of High Schools	Enrolment	Increase
1961	29	22,463	
1962	29	22,666	203
1963	29	22,744	78
1964	29	23,045	301
1965	29	23,143	98
1966	30	23,841	698

It/...

It is not certain whether the annual increase will remain as high as for 1966. In the United States of America it was found that the number of high school pupils increased as the standard of living improved and it was no longer necessary for children to contribute towards the family income as soon as they were able to. The large increase in pupils in 1966 seems to indicate that a similar trend is taking place in South Africa as a result of the recent upswing in the economy. The gradual increase in the percentage of pupils completing their high school education, shown by figures in Annexure 3, confirms that this trend is in fact taking place.

In 1947 there were 20,100 boys in Standard VII but by 1951 only 6,321 had reached Standard X, representing 31.7% of the original group. By 1960 31,760 boys entered Standard VII and 14,000 had reached Standard X by 1964 representing 44.1% of the original group. Similar increases can be seen in the enrolment of girls.

As high school enrolment is increasing as a result of the combined effect of increasing population and less wastage, it may become necessary to review the present formula for providing high schools.

5.3.1 High School Pupils per Family:

An attempt has been made to determine the number of high school pupils per family in the city. The total number of families was compared with the total number of high school pupils at public and private schools in the city, and a figure of 0.29 was obtained. This figure compared well with the figure for the Johannesburg Metropolitan Area. Using the 1960 census figure of 96,000 families in the area, and the School Board's figure of 27,000 high school pupils in 1960, a figure of 0.28 pupils per family was obtained.

In Denver, United States of America, it was determined that in a family of 4.4 persons there would be 0.48 high school pupils. This figure applies to the newer residential areas and it reduces to 0.39 pupils per family in the more established communities*. The figure for Johannesburg is considerably less than that for Denver, although the figures for primary schools are much closer, which may indicate that the number of high school pupils will increase in the future.

From these figures it would appear more desirable to provide high schools in terms of pupils per family and the number of families served instead of the ratio of one per three primary schools. By applying figures quoted in this report one primary school should serve approximately 1,050 families, and a high school 3,150 families. Accepting the figure of 0.29 high school pupils per family, a high school will have an enrolment of 913 pupils (compared with the existing average enrolment of 810). However, should this figure rise to between 0.39 and 0.48 then the number of high school pupils will be between 1,228 and 1,512.

6. PRIVATE/...

* "Urban Land" May 1961. "Standards for New Urban Development - The Denver Background" by George Nez.

6. PRIVATE SCHOOLS:

Of the 32 private schools in the city, 6 which received a grant from the Province before 1954 retain this assistance, but the remaining 26 receive no financial assistance. The majority of the private schools are administered by religious bodies. The tradition associated with the older schools makes them an attraction to aspiring scholars from far afield. Many are located in spacious grounds with ample space for a wide variety of sporting activities.

Both primary and high school tuition is provided at 22 of the schools, while there are 8 which provide primary tuition only and 2 high school tuition only.

The total enrolment at all private schools in the city in 1966 was 12,703. The figures for individual schools are given in Annexure 1. The language medium at the private schools is English with the exception of the Deutsche Schule where instruction is given in German up to Standard V and thereafter in English to Standard X.

The fees paid at the private schools are high and generally their pupils are from the wealthier families in the city and a large number are from beyond the borders of the Province. Public school education up to and including Standard X is free. Parents contribute voluntarily towards a school fund which is used for additional amenities.

Several private schools provide boarding facilities and in 1966 there were 768 girls and 810 boys living in hostels at private schools in the city.

7. TECHNICAL/...

7. TECHNICAL AND COMMERCIAL EDUCATION:

7.1 Schools Administered and Financed
by the State:

Commercial and Technical High Schools are controlled by the Department of Education, Arts and Science but legislation is to be considered in 1967 which will transfer control to the Provinces.

7.1.1 Commercial High Schools:

The three commercial high schools in the city are co-educational and have an enrolment of 1,354 pupils. The Afrikaans Commercial High School in Parktown provides boarding facilities for 73 girls. The schools in Belgravia and de Villiers Street provide parallel medium teaching facilities but have no hostel accommodation.

A new school building providing teaching facilities for 500 pupils is to be built at the Afrikaans Commercial High School. Hostel accommodation will be extended to provide for an additional 120 boarders.

As the Belgravia and de Villiers Street schools are located on inadequate sites they will have to be replaced in the future. The present facilities will be improved by the establishment of a new English commercial high school in Parktown which will accommodate 750 pupils.

A site of approximately 10 morgen is to be acquired in the Crosby - Auckland Park area in the west (Districts 35 and 36) to accommodate approximately 750 pupils, and in the south a school of the same size and a new technical high school are to be built upon a 20 morgen site near the Rifle Range Road in District 82.

7.1.2 Technical High Schools:

The two technical high schools in the city have an enrolment of 993 pupils. Parallel medium teaching facilities are provided at both schools although the pupils at the John Orr School in District 40 are predominantly English speaking and those attending the Langlaagte School in District 31 are predominantly Afrikaans speaking.

The John Orr School is built upon a site which is large enough to provide for any increase in facilities which may be required in the foreseeable future.

The Langlaagte School is to be extended by approximately 6 morgen to provide additional sports fields.

A new technical high school is to be built south of Haddon in District 82 adjoining the new commercial high school mentioned in 7.1.1.

7.1.3 The/...

7.1.3 The School of Arts provides parallel medium, co-educational facilities, and has an enrolment of 132 students. It shares a site in Hillbrow with the Teachers Training College for Home Economics. In order to provide more space, consideration is being given to the removal of the training college to a new site and extending the School of Arts into the space vacated by the college.

7.1.4 The Johannesburg Apprentice School has an enrolment of 3,000 trade apprentices at its building in Smit Street, District 41. Only indentured apprentices are admitted to the school where instruction is given in both languages. Consideration is being given to the acquisition of a new site, which should preferably be located near a main suburban railway line.

7.2 Training Colleges Administered
and Financed by the State:

7.2.1 The Johannesburg Teachers Training College for Home Economics has an enrolment of 111 women students and is located in Hillbrow, District 42. A hostel providing accommodation for 32 students is located in Berea to the east and this is to be rebuilt to accommodate 103 students.

7.2.2 The Training College for Nursery School Teachers has an enrolment of 92 women students and is located in the south-western corner of Houghton, District 20. The site is inadequate, but there are no proposals to improve the facilities at present.

The tuition in these colleges is in English.

7.3 The Witwatersrand Technical
College:

The Technical College is situated in the central area at the corner of de Villiers and Eloff Streets, opposite the main entrance to the Johannesburg Railway Station.

The first part of the building was built in 1906 and by 1939 a second section was added, larger than the original building. The rapid increase in the number of students has made it necessary for the college to hire floor space in adjacent buildings.

In 1966 there were 1,153 full time students, 4,600 part time students and 8,250 correspondence students enrolled at the Technical College.

The College formerly controlled the Apprentice School which was taken over by the State on the 1st April 1966.

The/...

The administration of the College is in the hands of a College Council formed of representatives of the various employing bodies such as the City Council, the Chamber of Mines, the Chamber of Industries, etc.

The State provides a grant which is based on the annual income from fees, and in addition funds for capital development are granted by the State in a ratio of three times the amount obtained from public donations, all investments being owned by the College Council.

Recently the function of the Technical Colleges has changed to provide post matriculation training only in technical, commercial, scientific and mining subjects. Emphasis is laid on a practical training which is not offered at the universities.

Because of the difficulty of extending the present site of the College, recommendations have been made to the Department of Education, Arts and Science for the acquisition of a larger site of approximately 15 morgen, upon which sports facilities and a parking area will be provided.

7.4 Private Business Colleges:

A business college is a privately owned school which normally occupies office space in the business section of the city. These schools provide tuition in high school subjects as well as commercial subjects. Classes are held during the day and in the evenings so that all ages can be provided for. The teaching is often more intensive and more individual than that given at public schools. There are seven business colleges in Johannesburg having a total enrolment of 1,236 pupils. Five of the colleges are located in the central area of the city.

8. COLLEGES OF EDUCATION:

The Province is responsible for the administration and financing of colleges of education. There are two colleges in Johannesburg which train teachers through English and Afrikaans media respectively.

8.1 The Johannesburg College of Education:

The College of Education, which is located in traffic district 41, has been established for over 30 years and provides tuition for English speaking students.

Students wishing to become primary school teachers receive all of their tuition at the College (a three year course) and those wishing to become high school teachers are encouraged to obtain a degree at the University of the Witwatersrand in addition to their college training (4 year combined course). Tuition is free on condition that on completion of training teachers serve the Education Department for a period equal to the length of their training period. In addition liberal loans are available for books and boarding at student residences.

The student enrolment at the College has increased from 238 in 1935 to 1,545 in 1966, and during 1966 nearly 600 students were reading for degrees at the University. There has been a similar increase in the demand for hostel accommodation. In 1966 accommodation was available for 150 men and 450 women students in the College hostels.

As a result of the rapid increase in the number of students at the College the present site has become too small to provide the necessary facilities, and it has become necessary for the Education Department to acquire land elsewhere. Two sites have been acquired in Parktown. The smaller site, "Northwards" situated on the west of Oxford Road, will be developed to provide hostel accommodation for approximately 400 men students. The larger site is situated on the south of Jubilee Road where the new campus is to be developed. Hostel accommodation for 1,000 women students will be provided on this site.

8.1.1 Planning Implications:

It is difficult to foresee what effect the move from Braamfontein to Parktown will have upon these two areas as it is expected that the campus will be completed some time between 1970 and 1975.

In Braamfontein the College has very little parking space available and the students who travel to the College by motor car contribute to the parking problem in the area. The majority of the students, however, live in the hostel or use public transport to travel to the College.

As/...

As soon as the new campus can be occupied the Province will wish to dispose of the Braamfontein site, and it is essential that the Provincial Authorities and the City Council co-operate in deciding upon the future use of this property so that it does not harm the civic complex being developed in Braamfontein.

The new Parktown site will help to define the educational belt which has been developing along the Witwatersrand ridge, extending from the Marist Brothers College, Observatory, in the east to the new Afrikaans University in the west. The new site is conveniently situated to the main public transportation routes to the north-east where the majority of the families are English speaking. It is not expected that any serious planning problems will arise resulting from the development of the Parktown site as a college for the training of teachers.

8.2 Die Goudstadse Onderwyskollege:

This College was established in Cottessloe, traffic district 33, in 1961 to provide tuition for Afrikaans student teachers. During the first five years the student enrolment has increased rapidly from 155 to 805.

The construction of buildings on the campus is still in progress and when complete will provide facilities for 1,200 students. Hostel accommodation for 600 women and 300 men students will be available from 1967.

The College forms part of the educational belt and is located on the main bus route to the north-western suburbs where the families are predominantly Afrikaans speaking. From a town planning point of view the location is good, and no planning problems are expected.

9. UNIVERSITIES:

The Universities are financed by means of an annual grant from the State which is based on student enrolment as well as funds raised privately, and donations received. The Universities are administered independently and plan their own development according to their resources. At present the only university is the University of the Witwatersrand, which provides instruction in English. During the 1966 parliamentary session, however, the Government announced that an Afrikaans University would be established in Johannesburg.

9.1 The University of
the Witwatersrand:

The University will provide details of the development of the University and proposals for the future will be included in this report when received.

A traffic and parking survey carried out by the City Engineer's Department in collaboration with the University authorities revealed that the flow of motor cars to and from the University commenced from 7 a.m. and was continuous throughout the day. The majority of the motor cars entered the University between 7 a.m. and 9 a.m. resulting in a maximum accumulation of 870 cars by 9.30 a.m. This figure dropped to 800 by noon and remained almost constant until 4.30 p.m. when the number of motor cars leaving the University increased rapidly.

The peak traffic to and from the University coincides with the morning and afternoon peaks to and from the city. The University adjoins the main traffic routes from the north and north-western suburbs and unless the Council and University authorities plan for the increased flow of traffic which will occur, problems will arise in this area.

9.2 Rand Afrikaans University:

The establishment of the Rand Afrikaans University in Johannesburg was announced in the 1966 parliamentary session. It will form the western portion of the educational belt and is to be sited in the township of Auckland Park, traffic district 36, on a site presently occupied by the exclusive Johannesburg Country Club.

The site will abut onto Die Goudstadse Onderwyskollege on the east, and a new hospital complex on the west. The main bus route to the north-western suburbs passes through the proposed site.

10. CONCLUDING/...

10. CONCLUDING OBSERVATIONS:

Johannesburg is well endowed with a variety of excellent educational facilities. It is the only city in the Republic to have two teachers training colleges, and will be the only city to have two universities offering full time tuition. When the proposed programme for the extension of technical and commercial education has been completed it can be claimed with confidence that the educational facilities available in Johannesburg are without equal in the Republic.

In the near future the city's planners will be required to plan new high density residential areas to accommodate the rapidly growing population. The studies of family composition and school requirements in areas of varying density will be of great value to the planners. When land is redeveloped for higher densities the land costs are high and it is essential that the various forms of land use are distributed according to the assessed requirements of the population.

This study has revealed that the School Board's task to provide adequate primary and secondary schooling in a rapidly growing city is not an easy one, and it is hoped that the additional information and analyses contained herein will assist the Board in that task.

The most serious deficiency in educational facilities encountered during the preparation of this report, is the lack of pre-school care. Officials of the City Health Department are most concerned by the lack of development of pre-school facilities in the city during the past five years. Because of long waiting lists many children are left in the care of persons who are not qualified to care for the young. Day nurseries for profit are being established beyond the city's boundaries for the care of the young children of working mothers. These children are collected in the city in the morning and returned to their mothers in the evenings, after having spent long periods waiting and travelling in motor vehicles.

The greatest need for pre-school care exists in the lower income areas, although the Health Department consider that the shortage of pre-school facilities is city wide.

Following on the lack of pre-school facilities, there appears to be a lack of extra-school care for primary school children. The only boarding facilities available for primary school children are provided at a hostel attached to the Jeppe Boys High School. Many of the private schools provide boarding facilities, but only the wealthier families can take advantage of these facilities. Many young school children are, however, cared for by the Council's recreation centres in the afternoons.

From the above it appears that while the Province and the State are spending vast sums of money on higher education, very little is being spent on the care of children during the formative years of their lives.

This/...

This study indicates that while the number of primary school children per family will remain constant, the figure for high school pupils will increase. This may well lead to a shortage of site area in the built up areas and the Education Department will have to consider the provision of joint recreation areas with the City Council or else establish sports fields away from the schools in low density areas, green belts or on mining land.

Further investigations will be necessary to determine the effect of increased motor car ownership by university students upon the traffic flow to and from the city.

11. RECOMMENDED ACTION:

- (a) Liaison between the Education Department and the City Council is essential for the future planning of schools to be effective and it is recommended that a copy of this report be forwarded to the Witwatersrand Central School Board and Witwatersrand West School Board.
- (b) Through the Transvaal Education Department the Department of Census and Statistics should be requested to ensure that in any future census details will be obtained regarding the numbers of school going children in each family.
- (c) That the Education Department and the City Council consider the action necessary to acquire land for joint use as recreation area and sports fields in the high density residential areas and urban renewal areas.

/HB.

ANNEXURE 1.

1 Traffic District	2 1965 Population and Growth Factor	3 Family Size	4 Name of School	5 Present Site Area per Pupil (Sq. Ft.)	6 Medium	7 8 No. of Pupils		9 Area of Site (Morgen)	10 Proposed Alterations and Extensions	11 Remarks
						Primary	High			
00	10,180 + 1.0	4.13	Gen. Christiaan de Wet	316	A(SC)	632		2.31	New administration block	
			Melville	318	E	294		1.08		
			Orban	429	A	452		2.24		
01	9,240 + 1.1	4.12	Emmarentia	569	E(SC)	461		3.04	Improvements to buildings Site to be extended by 0.12 morgen and buildings extended for 1,200 pupils	
			Greenside Extension	605	E	571		4.00		
			Greenside	956	E		792	8.77		
02	15,460 + 1.6	5.23	Albertskroon	519	A	665		4.00	To move to larger site Site to be extended New school to be built	
			Greymont	371	A	613		2.63		
			Newlands	280	A	925		3.00		
			Triomf		A	126		2.00		
			Claremont		A			3.80		
03	7,230 + 1.7	4.06	Franklin D. Roosevelt	253	E	1,029		3.02	Extensions to administration block. New Risidale School will draw off pupils School building to be extended	New school in Northcliff Extension will draw off pupils
			Roosevelt	645	E		1,277	9.55		

ANNEXURE 1 (CONTINUED)

- 2 -

1 Traffic District	2 1965 Population and Growth Factor	3 Family Size	4 Name of School	5 Present Site Area per Pupil (Sq. Ft.)	6 Medium	7 8 No. of Pupils		9 Area of Site (Morgen)	10 Proposed Alterations and Extensions	11 Remarks
						Primary	High			
04	9,470 + 1.3	4.05	Blairgowrie	278	E	993		3.20		New school in Northcliff will bring relief
			Louw Geldenhuys	394	A	816		3.72		
			Linden	732	A		837	7.09		
			Holy Cross Convent		P/E	414	151	2.36		
			King David		P/E	444	139	9.45		
			De La Salle College		P/E	170	166	9.40		
10	6,750 + 1.3	2.6	Hope Homes		A/E(SS)	188		+ 0.13 morgen	Proposed additions to buildings Site to be extended by 6.22 morgen and school extended for 1,200 pupils	
			Roseneath	365	E(SC)	668		2.83		
			Parktown Boys	744	E		1,026	8.84		
			Holy Family Convent		P/E	266	166	4.33		
			Convent of Mercy		P/E	191	56	1.63		
			* Ridge		P/E	133	22	5.53		
			St. Catherines Trust		P/E	126		0.53		
			Waldorf Primary		P/E	108				

ANNEXURE 1 (CONTINUED)

- 3 -

1 Traffic District	2 1965 Population and Growth Factor	3 Family Size	4 Name of School	5 Present Site Area per Pupil (Sq. Ft.)	6 Medium	7 8 No. of Pupils		9 Area of Site (Morgen)	10 Proposed Alterations and Extensions	11 Remarks
						Primary	High			
11	8,400 + 1.2	3.7	Jan Celliers	751	A	435		3.78		
			Park View Junior	386	E	353		1.58	School to be rebuilt	
			Park View Senior	464	E	460		2.47	Site to be extended by 0.54 morgen and school rebuilt	
			Saxonwold	565	E(SC)	583		3.82	School to be modernised	
			Parktown Girls	652	E		937	7.07	School to be modernised	
12	18,900 + 1.1	3.4	Craighall	480	E	644		3.58		
			Parkhurst	261	E	727		2.20	Site to be extended by 0.58 morgen and additions to buildings	
			Rosebank	295	E	763		2.61	New school to be built on new site. 3.8 morgen	
			Our Lady of Mercy		P/E	271		1.16		
			St. Theresa's Convent		P/E	390	274	.83		
			Dunkeld Tutorial College		P/E		31			
13	6,500 + 1.2	2.8	Fridwin		P/E	141		1.39		
			* Kingsmead		P/E	159	248	6.67		
			Fairway		E			3.86		Will open January 1967

ANNEXURE 1 (CONTINUED)

- 4 -

1 Traffic District	2 1965 Population and Growth Factor	3 Family Size	4 Name of School	5 Present Site Area per Pupil (Sq. Ft.)	6 Medium	7 8 No. of Pupils		9 Area of Site (Morgen)	10 Proposed Alterations and Extensions	11 Remarks
						Primary	High			
20	8,700 + 1.2	3.2	King Edward VII Preparatory	116	E	602		.82	New school to be erected on new site in existing complex with High School	The Fairway Primary School will relieve this school of approximately 200 pupils
			Houghton	406	E	491		2.31	To be extended by 0.46 morgen	
			St. John's		P/E	302	390	18.28		
			* Roedean		P/E	143	231	9.49		
			Grantley		P/E		42		Moving to new site in 1967	
			King Edward VII High	1,242	E		939	13.51	Additions and improvements	
21	9,300 + 1.5	3.7	Norwood	508	E(SC)	458		2.01	Site to be extended by 0.69 morgen	
			Dirkie Uys	833	A(SC)	288		2.78		
			St. Paul's Parochial		P/E	313				

5/...

1	2	3	4	5	6	7	8	9	10	11
Traffic District	1965 Population and Growth Factor	Family Size	Name of School	Present Site Area per Pupil (Sq. Ft.)	Medium	No. of Pupils		Area of Site (Morgen)	Proposed Alterations and Extensions	Remarks
						Primary	High			
22	13,100 + 1.5	3.8	Linksfeld	314	E	605		2.20	Building to be modernised Site to be extended	
			Orange Grove	234	E	643		1.75		
			Assumption Convent		P/E	367	129	2.09		
			King David		P/E	1,116	676	12.95		
			Paterson Park		P/E	134	36			
23	12,000 + 1.2	4.1	Northview	789	E		1,040	9.50	To be extended to accommodate 1,200 pupils	Sportsfields outside Municipal Area
			Highlands North	1,057	E		680	8.32	Site to be extended by 2 morgen and additions to buildings	
			Waverley Girls	419	E		947	4.60		
			St. Marys		P/E	249	307	8.48	Building to be extended and modernised	
			Bramley	358	E	742		3.08		
			Fairmount	350	E	732		2.97	School to be rebuilt	
			Gresswold Senior		A/E(SS)	109		2.22	Site to be extended by 0.75 morgen	
			H.A. Jack	386	E	658		2.94		
24	1,839 1.0	4.0	Sandringham	281	E	513		1.67	Ready for occupation January 1967.	
			Sandringham High		E			17.65		

ANNEXURE 1 (CONTINUED)

- 6 -

1 Traffic District	2 1965 Population and Growth Factor	3 Family Size	4 Name of School	5 Present Site Area per Pupil (Sq. Ft.)	6 Medium	7 8 No. of Pupils		9 Area of Site (Morgen)	10 Proposed Alterations and Extensions	11 Remarks
						Primary	High			
31	8,860 + 1.0	3.9	Crown Reef Junior	243	E	219		.62	Site to be extended by 1.75 morgen Additions to building New school building New school to be built on new site	Separate sportsfields
			John Ware	217	E	286		.72		
			Langlaagte	666	A	345		2.66		
			Mayfair	238	A	219		.60		
			Mayfair Goedehoop	525	A	400		2.43		
			Mayfair Convent		P/E	300	116	.69		
			Mayfair	480	E		437	1.58		
			Die Goudveld	1,204	A		537	7.49		
32	15,600 + 1.5	4.5	Trap-der-jeugd Junior	339	A	303		1.19	Proposed additions Site to be enlarged to 2.9 morgen. School to be modernised Will close approximately 1969	
			E.P. Baumann	156	E	560		1.01		
			Mayfair North	288	E	213		.71		
			Cottesloe	367	A(SC)	342		1.45		
33	840 + 2.1	1.6	Richmond	815	A	251		2.37	New administration block	

ANNEXURE 1 (CONTINUED)

- 7 -

1	2	3	4	5	6	7	8	9	10	11
Traffic District	1965 Population and Growth Factor	Family Size	Name of School	Present Site Area per Pupil (Sq. Ft.)	Medium	No. of Pupils		Area of Site (Morgen)	Proposed Alterations and Extensions	Remarks
						Primary	High			
35	13,160	4.0	Brixton	313	A(SC)	526		1.91	School to be rebuilt	Sportsfields apart from school site
			Brixton	171	E	311		.62	School to be rebuilt on new site	
			Crosby	234	A	736		2.00	Additions to building	
			Hugenoot	196	A	540		1.23	Site to be extended by 1.75 morgen and buildings modernised	
			Jubileum	379	A	498		2.19	Site to be extended by new administration block and additions	
	+ 1.0	D.F. Malan	713	A		882	7.28			
36	4,210	4.0	Auckland Park	256	A	580		1.72	Site to be extended by 0.6 morgen and additions to building	
	1,052		Rossmore	276	E	296		.95	Site to be extended by 0.95 morgen and additions to building	
	+ 1.6		* Auckland Park Preparatory		P/E	174		.23		
			Vorentoe	738	A		689	5.89		

ANNEXURE 1 (CONTINUED)

- 8 -

1 Traffic District	2 1965 Population and Growth Factor	3 Family Size	4 Name of School	5 Present Site Area per Pupil (Sq. Ft.)	6 Medium	7 8 No. of Pupils		9 Area of Site (Morgen)	10 Proposed Alterations and Extensions	11 Remarks
						Primary	High			
41	3,870	1.6	Johannesburg Hospital		E/A(SS)	73				Accommodated in Transvaal Memorial Hospital for children
			Helpmekaar Meisie	991	A		813	9.33	Extensions and modernisation	
			Helpmekaar Seun	1,243	A		795	11.44	Modernisation of school and extensions to hostel	
42	27,250	1.9	Joubert Park	113	A	361		.47		
			* Deutsche Schule		P/G	464	91	.51		
43			Damelin College		P/B		909			
			Harvard		P/B		18			
			Individual Teaching Courses		P/B		34			
			Modern Methods		P/B		100			
			Yale		P/B		83			

ANNEXURE 1 (CONTINUED)

- 9 -

1 Traffic District	2 1965 Population and Growth Factor	3 Family Size	4 Name of School	5 Present Site Area per Pupil (Sq. Ft.)	6 Medium	7 8 No. of Pupils		9 Area of Site (Morgen)	10 Proposed Alterations and Extensions	11 Remarks
						Primary	High			
44	9,630	1.6	Holy Family Convent		P/E	228	87	.87		
51	33,120 + 1.5	2.5	Johannesburg Girls	277	E	676		2.17	School to be rebuilt	Conversion to a co- educational primary school under considera- tion
			Yeoville Boys	188	E	828		1.80	Site to be extended by 0.89 morgen	
			Bernard Patley		P/E	131		0.23		
			Holy Family Convent		P/E	272	105	0.88		
			Nazareth House		P/E	112				
			Yeoville		A				Site of 1.16 morgen to be acquired for new school	
			Johannesburg Girls	610	E		759	5.36	School to be modernised and site extended	

1 Traffic District	2 1965 Population and Growth Factor	3 Family Size	4 Name of School	5 Present Site Area per Pupil (Sq. Ft.)	6 Medium	7 8 No. of Pupils		9 Area of Site (Morgen)	10 Proposed Alterations and Extensions	11 Remarks
						Primary	High			
52	16,130 + 1.1	4.0	Bertrams Junior	196	E	237		.54	School to be amalgamated with Bezuidenhout Valley Junior and Doornfontein Primary on new site	
			Doornfontein	308	E(SC)	232		.83	School to be amalgamated with Bertrams and Bezuidenhout Valley Junior Schools on new site	
			Jewish (I.H. Harris)	112	E	572		.75	Site to be extended by 0.36 morgen and school to be rebuilt three stories to take up less ground	
			Johan Rissik	327	A(SC)	425		1.61	Site to be extended by 0.06 morgen and new school to be built	
			Johan Rissik Junior	194	A	378		.85	Site to be extended by 0.2 morgen	
			Troyeville	276	E(SC)	273		.87	Site to be extended by 0.24 morgen and school to be rebuilt	
53	7,720 + 1.2	4.0	Cyrildene	700	E	529		4.29		
			Observatory East	233	E	427		1.16	Site to be extended by 0.25 morgen	
			Observatory Girls	281	E	477		1.55	Grounds to be extended by 2.67 morgen and conversion to co-educational school under consideration	
			Marist Brothers		P/E	233	458	12.99		
			Athlone Girls	1,220	E		490	6.92		

1 Traffic District	2 1965 Population and Growth Factor	3 Family Size	4 Name of School	5 Present Site Area per Pupil (Sq. Ft.)	6 Medium	7 8 No. of Pupils		9 Area of Site (Morgen)	10 Proposed Alterations and Extensions	11 Remarks
						Primary	High			
54	23,000 + 1.04	3.8	Bezuidenhout Valley Junior	204	E	318		.75	To be amalgamated with Bertrams Junior and Doornfontein Schools on new site of 3.79 morgen	
			Kensington	292	A	578		1.96	Site to be extended by 0.69 morgen and new administration block to be built	
			Kensington Ridge	439	E(SC)	457		2.32	Site to be extended by 0.76 morgen	
			Kensington South	690	E	350		2.80	Site to be extended by 1.4 morgen and additions to building	
			Leicester Road	314	E	535		1.95	Site to be extended by 0.46 morgen	
			St. Angela's Ursuline Convent		P/E	414	118	1.85		
			Sir Edmund Hillary	349	E	436		1.76	Site to be extended by 1.16 morgen and school to be rebuilt	
			Athlone Boys	710	E		856	7.04		
			Jeppe Girls	1,225	E		560	7.94		
			Jeppe Boys	958	E		820	9.10	Extensions to school and hostel	
			Kensington	1,242	A		701	10.08	New school building on new school site	
			Queens	1,268	E		584	8.58	New school and hostel to be built on sports site to be extended to - 15 morgen	

1 Traffic District	2 1965 Population and Growth Factor	3 Family Size	4 Name of School	5 Present Site Area per Pupil (Sq. Ft.)	6 Medium	7 8 No. of Pupils		9 Area of Site (Morgen)	10 Proposed Alterations and Extensions	11 Remarks
						Primary	High			
61	11,900 + 1.1	4.1	Edith Hinds		A/E(SS)	214		2.25	Old buildings to be re- placed	
			Fairview Junior	62	E	328		.24	Site to be extended by 0.36 morgen and additions to building	
			John Mitchell	580	E(SC)	335		2.25	School to be rebuilt	
			Lena van Velden	556	A(SC)	354		2.28	New site to be 3.65 morgen School to be moved to fit in with Urban Renewal Scheme for Jeppe	
			Malvern West	225	E	423		1.11	School to be rebuilt	
			Jeppe High Preparatory	539	E	544		3.40	Site to be extended by 0.46 morgen and new school buildings erected	
			Sacred Heart Convent		P/E	378	163	1.51		
63	9,290 + 1.2	4.0	Cleveland Junior	279	E	183		.59		
			Hillcrest	263	E	491		1.50	Site to be extended by 0.54 morgen and additions to building	
			Malvern	392	A	547		2.49	Site to be extended by 0.58 morgen	
			Malvern	833	E		588	5.67	Site to be extended by 4 morgen	
			Belgravia Business College		P/B		61			

1 Traffic District	2 1965 Population and Growth Factor	3 Family Size	4 Name of School	5 Present Site Area per Pupil (Sq. Ft.)	6 Medium	7 8 No. of Pupils		9 Area of Site (Morgen)	10 Proposed Alterations and Extensions	11 Remarks
						Primary	High			
82	18,300 + 1.6	4.0	Forest Hill	265	E	616		1.89	New school to be built on new site	
			Park Junior	149	E	434		.75	School to be rebuilt	
			Park Senior	558	E(SC)	409		2.65	Additions to building	
			Turffontein	229	A(SC)	462		1.23	Additions to building	
			Turffontein Junior	378	A	437		1.91	Additions to building	
			Voorbrand	509	A	678		4.00		
			Rotunda Park	393	E/A(SS)	268		1.22	Site to be extended by 1.0 morgen and buildings extended	
			Forest	1,070	E		925	12.54	School to be extended for 1,200 pupils	
			Die Fakkel	631	A		1,433	10.50		
83	6,900 + 2.1	4.2	Robertsham	433	E	957		4.80	Additions to buildings	New school will open January 1967
			Theo Wassenaar	454	A	821		4.32		
			Ridgeway Laer		A			4.00	New school	
			Sir John Adamson	720	E		837	10.00	School to be extended for 1,200 pupils	
			Ridgeway Hoër		A			10.63		

1 Traffic District	2 1965 Population and Growth Factor	3 Family Size	4 Name of School	5 Present Site Area per Pupil (Sq. Ft.)	6 Medium	7 8 No. of Pupils		9 Area of Site (Morgen)	10 Proposed Alterations and Extensions	11 Remarks
						Primary	High			
84	21,000 + 1.1	3.5	Kenilworth Junior	221	E	370		.95	Site to be extended by 0.5 morgen and school rebuilt	
			La Rochelle	198	A	377		.87	Site to be extended by 0.8 morgen - school to be modernised	
			Rosettenville Central	275	E(SC)	551		1.76	Buildings being modernised	
			Rosettenville Junior	145	E	281		.47	Site to be extended by 1.04 morgen and school to be rebuilt	
			St. Mary's Orphanage		E	69				
			St. Roses Convent		P/E	345	165	0.69		
			Townsvlew	269	E	530		1.65	Site to be extended by 0.89 morgen and additions to buildings	
			St. Martins		P/E		193	6.37		
93	9,380 + 1.1	4.5	Rewlatch	238	E	329		.91	Site to be extended by 1.1 morgen and additions to buildings	
			South Hills	371	E	460		1.98	Additions to buildings	
			Suidheuwels	648	A(SC)	573		4.30	Additions to buildings	
			Suidrand	482	A	429		2.40		
			J.G. Strijdom	1,155	A		482	6.44		
94	9,730 + 1.5	4.0	Hill Extension	242	E	712		2.00		
			Regents Park	553	E	490		3.14	Site to be extended by 0.41 morgen	
			W.H. Coetzer	846	A	496		4.86	Site to be extended by 0.08 morgen and improvements to main block	
			The Hill	814	E		1,053	9.92	Site to be extended by 1.57 morgen	

	H I G H		P R I M A R Y	
	Pupils	Schools	Pupils	Schools
A	7,169	9	16,608	34
E	15,547	19	29,734	59
P/E	4,469	24	7,679	
SS			852	5
PG	91		464	
PB	1,236	7		
	27,276		55,337	

* Denotes grant aided private school

NOTE:

The letters (SC) indicate that the school has a special class.

The letters (SS) indicate a special school.

P/E indicates a private school, language medium English.

P/G indicates a German private school, language medium English.

P/B indicates a private school teaching Commercial and High School subjects.

Figures +1.2, +1.5, etc., in "population" column indicates estimated increase in population over 20 years.

/HB.

ANNEXURE 2.

ANALYSIS OF PRIMARY SCHOOL SITE AREA PER PUPIL AND NUMBER OF PUPILS PER FAMILY						ANALYSIS OF SCHOOL TRAVEL			
1 Traffic District	2 No. of Families	3 Family Size	4 School Area per Family Public Schools	5 School Area per Pupil Public Schools	6 Primary School Children per Family All Schools	7 No. of School Trips more than $\frac{1}{2}$ mile	8 Total No. of Pupils High and Primary	9 Private Schools	10 Public Schools
00	2,464	4.13	Square Feet 200	Square Feet 357	0.56	672	1,378		1,378
01	2,242	4.12	270	587	0.46	1,668	1,824		1,824
02	2,956	5.23	450	569	0.79	2,032	2,329		2,329
03	1,780	4.06	150	259	0.58	1,876	2,306		2,306
04	2,338	4.05	260	385	1.21	2,099	4,130	1,484	2,746
10	2,596	2.60	100	319	0.65	1,215	3,887	1,068	2,819
11	2,270	3.70	440	543	0.81	1,102	2,768		2,768
12	5,558	3.40	150	388	0.50	2,772	3,100	966	2,134
13	2,321	2.80	150	New School will open January 1967	0.13	935	548	548	0
20	2,719	3.20	100	247	0.57	1,755	3,140	1,108	2,032
21	2,514	3.70	160	554	0.42	1,153	1,059	313	746
22	3,447	3.80	100	273	0.84	2,310	3,725	2,477	1,248
23	2,926	4.10	330	431	0.85	2,450	5,464	556	4,908
24						996	513		0
31	2,272	3.9	270	413	0.78	437	2,859	416	2,443
32	3,467	4.5	110	266	0.41	1,176	1,418		1,413
33	525	1.6	390	815	0.48	14	251		251
35	3,290	4.0	210	262	0.79	734	3,493		3,493
36	1,052	4.0	220	262	1.00	669	1,739	174	1,565
41						150	1,681		1,681
42	14,342	1.9		113	0.06	1,108	916	555	361

ANNEXURE 2 (CONTINUED)

ANALYSIS OF PRIMARY SCHOOL SITE AREA PER PUPIL AND NUMBER OF PUPILS PER FAMILY						ANALYSIS OF SCHOOL TRAVEL			
1 Traffic District	2 No. of Families	3 Family Size	4 School Area per Family Public Schools	5 School Area per Pupil Public Schools	6 Primary School Children per Family All Schools	7 No. of School Trips more than ½ mile	8 Total No. of Pupils High and Primary	9 Private Schools	10 Public Schools
43			Square Feet	Square Feet		127	1,144	1,144	0
44						276	315	315	0
51	13,248	2.5	35	233	0.15	2,945	2,883	620	2,263
52	4,032	4.0	110	222	0.53	1,561	2,117		2,117
53	1,930	4.0	310	421	0.86	1,343	2,614	691	1,923
54	6,053	3.8	164	373	0.51	3,323	6,727	532	6,195
61	2,902	4.1	350	454	0.89	1,080	2,739	541	2,198
63	2,322	4.0	170	323	0.53	1,160	1,870	61	1,809
82	4,575	4.0	260	357	0.72	2,333	5,662		5,662
83	1,643	4.2	480	442	1.08	853	2,615		2,615
84	6,000	3.5	90	227	0.42	2,231	2,881	703	2,178
92						62			
93	2,084	4.5	400	462	0.86	856	2,273		2,273
94	2,432	4.0	350	508	0.70	957	2,751		2,751

/HB.

ANNEXURE 3

ONDERWYS

Uitsakking van leerlinge, St. VI tot St. X, Blankes

Getal en persent 1947—1964

Openbare en private skole

EDUCATION

Drop-out of pupils, St. VI to St. X, Whites

Number and per cent 1947—1964

Public and private schools

Seuns—Boys

Jaar Year	Getal - Number					Persent - Per cent				
	St. VI	St. VII	St. VIII	St. IX	St. X	St. VI	St. VII	St. VIII	St. IX	St. X
	356	357	358	359	360	361	362	363	364	365
1947	20,100	16,146	11,909	7,250	5,489	100.0
1948	20,212	15,924	11,636	7,143	5,364	100.0	79.2
1949	21,743	16,189	11,631	6,898	5,082	100.0	80.1	57.9
1950	22,699	17,948	12,182	7,187	5,026	100.0	82.5	60.3	35.8	..
1951	24,596	18,943	13,256	7,526	5,321	100.0	83.5	61.0	37.2	31.4
1952	24,919	20,866	13,806	8,177	5,405	100.0	84.9	60.6	37.5	31.7
1953	25,047	21,580	14,949	8,729	5,879	100.0	86.5	60.8	38.5	31.6
1954	25,860	22,183	15,715	9,436	7,147	100.0	88.6	63.1	38.4	31.5
1955	26,286	23,170	16,563	10,202	7,823	100.0	89.6	66.1	40.9	31.8
1956	26,925	23,252	17,625	10,743	8,303	100.0	88.5	68.2	42.9	33.3
1957	28,076	24,523	18,140	11,842	8,906	100.0	91.1	69.0	45.6	35.6
1958	30,124	25,831	19,365	12,687	9,365	100.0	92.0	71.9	48.3	36.2
1959	29,945	27,636	21,042	13,952	10,042	100.0	91.7	74.9	51.8	38.2
1960	31,751	27,898	23,130	15,777	10,916	100.0	93.2	76.8	56.2	40.5
1961	31,284	29,540	23,215	17,490	11,854	100.0	93.0	77.5	58.1	42.2
1962	31,658	29,600	24,843	17,841	12,685	100.0	94.6	78.2	59.6	42.1
1963	30,823	29,544	25,433	19,101	13,451	100.0	93.3	81.3	60.2	44.9
1964	30,374	29,000	24,969	19,849	14,000	100.0	94.1	78.9	63.4	44.1

Meisies—Girls

Jaar Year	Getal - Number					Persent - Per cent				
	St. VI	St. VII	St. VIII	St. IX	St. X	St. VI	St. VII	St. VIII	St. IX	St. X
	366	367	368	369	370	371	372	373	374	375
1947	19,035	14,853	11,219	5,247	4,734	100.0
1948	19,402	15,269	11,257	5,187	4,519	100.0	80.7
1949	20,588	15,903	11,253	5,299	4,361	100.0	82.0	59.1
1950	21,536	17,128	11,969	5,391	4,485	100.0	83.2	61.7	28.3	..
1951	24,879	18,506	12,922	5,914	4,572	100.0	85.9	62.8	30.5	24.0
1952	24,673	21,684	13,737	6,217	4,968	100.0	87.2	63.8	30.2	25.6
1953	24,771	22,638	15,658	6,511	5,193	100.0	91.8	62.9	30.2	25.2
1954	25,718	23,184	16,614	7,219	5,629	100.0	93.6	67.3	32.0	26.1
1955	26,527	23,886	17,080	7,906	6,017	100.0	92.9	69.0	32.0	24.2
1956	27,827	24,521	17,558	8,294	6,653	100.0	92.1	68.3	33.5	27.0
1957	29,111	25,805	18,214	9,063	6,980	100.0	92.7	68.4	35.2	28.2
1958	31,462	27,297	19,230	9,898	7,568	100.0	93.8	69.1	37.2	29.4
1959	31,096	29,432	20,368	10,807	8,164	100.0	93.5	70.0	38.8	30.7
1960	32,861	29,139	22,208	12,354	9,041	100.0	93.7	70.6	42.4	32.9
1961	32,977	30,878	21,761	13,595	10,043	100.0	94.0	70.0	43.2	34.5
1962	32,812	31,295	23,162	13,698	10,892	100.0	95.1	70.5	44.1	34.6
1963	32,222	30,933	23,521	14,816	11,024	100.0	94.3	71.3	45.1	35.5
1964	32,710	30,558	23,557	15,728	12,097	100.0	94.8	71.8	47.7	36.8

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