9/22

CHANGING JOHANNESBURG:

Deal with the sort of things that are happening in Johannesburg at the moment, and the problems created by the changes.

Carlton Centre - problems created

Amount of electricity consumed in those four blocks - as much as the whole town of Harrismith.

Lead pipes - by-law changed

Expressways

Marketing of produce - 5 acres of refrigerated space

Development of blighted areas

Deal briefly with cattle farms of City of Johannesburg

Short review of Indian Bazaar.

CHANGING JAB 6

JOHANNESBURG MUNICIPAL AREA - 90.33 SQ. MILES PLUS 4.15 AT KLIPSPRUIT PLUS NEW AREAS 11 SQ. MILES = 105 SQ. MILES.

AREA OF MINING GROUND 23 SQ. MILES.

AREA TO THE SOUTH WHICH IS TO BE INCORPORATED 93 SQ. MILES, OF WHICH SOWETO 21.17.

DEVELOPMENT OF MINING GROUND - GOLD PRODUCTION DURING THE LIVES OF THE MINES IN THE JOHANNESBURG MUNICIPAL AREA AT PRESENT VALUES R3,000-MILLION.

IN AREA PREVIOUSLY OCCUPIED BY CROWN MINES IT APPEARS POSSIBLE TO DEVELOP TO ACCOMMODATE 45,000 EUROPEANS.

LAST CENSUS SPRINGS EUROPEAN POPULATION 47,500.

NECESSITY THE BUILDING OF 10 PRIMARY AND 4 HIGH SCHOOLS.

PLANNED TO HAVE GOLF COURSE 200 ACRES.

TOTAL OF 327 ACRES TO BE INTEGRATED OPEN SPACE.

PLANS TO REVITALISE THIS AREA OF JOHANNESBURG AND TO MAKE THE SOUTH THE FUTURE GARDEN OF THE CITY.

LARGE AREAS OTHER THAN CROWN MINES, SUCH AS ROBINSON, PORTIONS OF CITY DEEP, PORTIONS OF NOURSE AVAILABLE FOR DEVELOPMENT.

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LARGE NUMBER OF NEW PARKING GARAGES PLANNED.

FINANCIAL IMPPICATIONS

BORCKENHAGEN COMMITTEE REPORT AWAITED

NON-REMUNERATIVE EXPENDITURE

TRAFFIC CAN CHOKE CITIES

MORE SYMPATHY REQUIRED FROM CENTRAL GOVERNMENT FOR PROBLEMS OF LOCAL AUTHORITIES.

ENDING.

DECLARE CONFERENCE OPENED.

JOHANNESBURG: 8 May, 1969.

A 6/22 CHANGING JOHANNESBURG BY HIS WORSHIP THE MAYOR OF JOHANNESBURG COUNCILLOR PATRICK LEWIS. AREA AND DEVELOPMENT OF MINING GROUND: Johannesburg, until recently, covered an area of 94.48 sq. miles, but a short time ago additions were made totalling an area of approx.14 sq.miles. Of the 94.48 sq. miles, however, some 23 sq. miles was proclaimed mining ground, and was, therefore, not available for development purposes. mines which originally occupied that ground are now coming to the end of their lives, and the development of this ground for other purposes, is now being considered. Johannesburg's development has been lopsided. The business area has largely been built immediately north of the proclaimed mining area. The residential development is mainly to the north and east, with limited development to the south of the mining area. Now that the mining ground is to become available for other purposes it is going to knit the centre to the south by the use of the ground, and on one mine alone, namely, part of Crown Mines, it is anticipated that it will be possible to house residentially, a population equal to that of the town of Springs, some 40,000 to 45,000 people. In addition a golf course is to be built covering 200 acres. In all there will be 327 acres of open space. The developers

hope to revitalise this area to make it the future "garden" of the City.

In addition to this, a Commission of Inquiry was appointed some time ago to consider the incorporation into Johannesburg of an area to the south.

The Administrator of the Transvaal has now announced that as from the 1st of January 1970 an area of some 93 sq. miles will be incorporated into the City's boundaries. this area 21.17 sq. miles is portion of Soweto, another portion is Lenasia (the Indian Group area) and Nancefield and adjoining areas which are Coloured Group areas. Portions of the Klip River will now be the southern boundary of Johannesburg. This will help to rectify the imbalance of the City and give opportunity for the development to the south comparable to that in the north.

An interesting statistic is that the Mines in the Johannesburg Municipal area - the Village Deep, the City Deep, the Crown Mines, the Robinson Deep, the Robinson, Village Main Reef, New Heriot Nourse, New Goch, Jubilee, Salisbury Jumpers, City & Suburban, Wolhuter, Meyer & Charlton, Jupiter, Ferreira Deep produced 117,653,555 ounces of gold which at 35 Dollars an ounce is valued at R3,000,000,000.

/RECREATIONAL AREA: ...

RECREATIONAL AREA:

A short time ago quite an imaginative scheme was passed by the Council, namely to acquire ground on what will now be our Southern Boundary, the Klip River. A large portion of this ground is already owned by the City Council and, by building a wall at the eastern boundary of the ground, it is hoped to be able to create a lake covering some 650 acres, which will provide a recreational region for the people of Johannesburg. In addition, as was reported in the Press recently, the Minister of Planning has agreed to a scheme to reserve as a recreational area, some 18,000 morgen at a place called Suikerbosrand, which starts near Heidelberg and continues along a range of hills in a westerly direction towards Johannesburg, and it is hoped to make this an open recreational area for the population of the Reef. The length of this area is approximately 11 miles and, at places, is 5 miles wide.

Various Municipalities on the Reef have had preliminary discussions, and have agreed that they will make a contribution to the capital cost and to the financing of such a scheme, to give the people of the Witwatersrand a recreational area very near to where they live. These changes are taking place, and are going to make a vast difference to the facilities of Johannesburg.

POPULATION EXPLOSION:

I would like to quote a few figures of the anticipated population explosion in Johannesburg, to give you an idea of the number of people for whom we will have to plan. In 1920 the population of Johannesburg of all races was 286,000. In 18 years it increased to half a million. In 1967 it was 1,300,000 and - by 1985 - that is in 16 years time, it is anticipated that the population will be 2,000,000. That is the human population.

VEHICLE POPULATION:

Now I would like to deal with the motor car population. In 1948 it was 71,000. Twelve years later, in 1960, it had doubled to 158,000. In the next 8 years there were another 100,000 cars, and by 1985 it is anticipated that there will be 400,000 vehicles on the roads. We will have more people; we will have more cars, but the street areas remain the same.

FREEWAYS AND EXPRESSWAYS:

Johannesburg has embarked on a very large "freeways" system - portion of this is already in use and the remainder of the system should be open within the next two years. This project is to cost R64,000,000. I know unfavourable comparisons have been made between the road system of Johannesburg and that of Cape Town, and I want to congratulate Cape Town on what they have done. However, they have had to deal with a more sympathetic Provincial Council, which agreed to assist them some 4 or 5 years before the Transvaal Province agreed to assist Johannesburg. In addition, the contribution was at a higher percentage of the total cost, and in the total cost Cape Town was allowed to include the cost of the land, whereas in Johannesburg we have had to exclude in our claim for contribution any costs in connection with the acquisition of land.

When we commenced the expressway system, we were thought to be very lucky in that we could take some of the expressways over old mining ground, but what a snare and a delusion that was, because a lot of this mining ground was mined in the very early days of Johannesburg. There are no diagrams now of some of the underground workings. In some In some cases it has been necessary to sink supports 150 feet before reaching solid ground. Another interesting fact is that in some of the pillars supporting the roads the engineers made provision for the insertion of hydraulic "jacks" - so that, if subsequently there is subsidence, the pillars can be adjusted to height, and this has been a very costly part of the roadway scheme. I think the total cost will be something like R64,000,000, of which we are receiving a contribution from the Province and the National Transport Commission of only R21,000,000, which was calculated on the original cost of R45.5 million. When the costs were subsequently increased, we were advised that the cost to be borne by the Government authorities would have to based on the original estimate of cost.

AIR TRAVEL:

Another means of travel that is changing Johannesburg is the use of light aircraft. We have an airport - the Rand Airport - and I would like to give you some figures regarding the number of take-offs and landings. Just going back to 1962, the total for that year was 28,000 take-offs and landings. By 1965 the number had increased to 80,000 and last year, for the first time, we topped the 100,000 number of planes alighting and taking off. That compares with something like 27,000 from Jan Smuts Airport.

Jan Smuts Airport is now not just a terminal airport it used to be the end of the run from overseas, but with the
opening of the airways to Australia and to South America,
Jan Smuts Airport is becoming a "through" airport. Tremendous
numbers of businessmen who wish to visit Australia, come to
South Africa first, and then go on. Also, people in Africa
who want to get to South America will now come south instead of
going north. The number of passengers carried on S.A.Airways a great number of whom start from Jan Smuts Airport - has
increased fourfold in the last ten years, and the number of
passengers carried last year was close on 1 million mark.

In 1963 the average number of local flights per week were 95,in 1968,288. International flights were 58 per week - in 1963 and 102 in 1968. It is anticipated that by 1980 - 11 years hence the number of passengers carried from Jan Smuts airport will increase from 1,198,297 in 1968 to 2,920,000 in 1980. The increase in freight carried is still more staggering from 4358318 kilograms carried outwards in 1963 to 11,386,823 in 1968 with a projection to 36,000,000 in 1980.

BUILDING:

When thinking of the changes taking place in Johannesburg, one realizes that a totally different form of building is being erected - great tower blocks are going up,

and there is a reason for this. Until a few years ago, we had Town Planning regulations which zoned the various areas of the city into height and use zones. There was another governing factor, and that was that the height of a building could not exceed a line drawn at a 590 angle from the other side of the street, so that the width of the street was a determining factor as to how high one could build and, as a result, most of our buildings were fairly squat. However, some years ago that regulation was changed, and the 59 factor was altered in cases where a half or whole block is developed. In order to get people to set their buildings back from the immediate street boundary, it was agreed that if the building was set back by 5 feet, the ground floor area sacrificed could be built at a higher level. Naturally, as more rental is paid for ground floor space in a shopping area than for space on a higher level, it is necessary to be compensated to a greater extent for the square footage lost on the ground, thus, in certain areas, if a developer sacrifices one square foot on the ground, he can, build 6 sq. feet on ar upper floor. In certain streets developers are obliged to set back their buildings by a minimum of 5 feet with a maximum of 10 they then get this bonus bulk on upper floors. The more the buildings are set back from the street the higher the buildings can be built. There is also the wish to encourage developers to build residential accommodation in the centre of the city, and here again, if residential accommodation is built instead of office accommodation, in an area zoned for offices, the developer can get additional bulk bonus. This has had a fundamental effect on the type of building that is being erected today. If you examine many of the buildings under construction, you will find they are prestige blocks where the ground floor area contains fountains and gardens, with the result that there is more air and light around the buildings. The whole pattern is changing.

The Carlton Centre will occupy 31% of the ground floor area - the Trust Bank 18.5% and the Standard Bank 27%. This will create open spaces in the heart of the City.

CARLTON CENTRE:

I want to deal in some detail with just one project the Carlton Centre - to show you what is happening. On an
average, between the Carlton Centre, the new Standard Bank
building and the Trust Bank building, only 28% of the ground
floor area will be occupied by the buildings. The remainder
will be open space, so you will realize what an effect this is
having on opening up our city.

Let me speak about the Carlton Centre for a few minutes.

The Centre is being erected on what previously was five city blocks, the intervening streets having been closed, and the site will actually occupy six acres. This has meant a change in the services which previously went through those streets. The basements of the Centre go down a total of 95 feet. When it was

decided to punch this project, the owners realized there might be claims from the surrounding owners, because owing to the excavations the foundations of their buildings might be affected, so that before a cubic yard of earth was removed from the site, the owners called in a firm of consulting engineers and they surveyed the buildings in 14 blocks in the immediate vicinity. photographed the cracks, they recorded the cracks so that they could get a factual position of the state of the buildings in the surrounding area before commencing excava-This was an extremely costly precaution, but they wanted to avoid claims being lodged against them for which they were not really responsible. Now, when you dig a hole of 95 ft. you draw off the water from the surrounding area, the water table in the area being at 40 feet, and this will affect the soil volume of that earth, because with this drainage taking place the Carlton Centre, naturally, will have to pump out the water that resulted from digging this huge basement.

On the Carlton Centre site they are building a huge office block, 50 storeys in height the maximum depth of the foundations below the office block is 200 feet. Many of you know the Hertzog Tower - but the highest point of the Carlton office block will be level with the observation area at the Hertzog Tower. The Office block being 660 feet high and the observation tower at Hertzog 570 feet. As high as the Hertzog Tower, although it starts from a lower level site. The Carlton Centre will have provision for the parking of 2,000 cars : the office area will be over 1,000,000 sq. ft., the rentable area being 714872 sq.ft. and it is anticipated that the employees in the office block will number between 6,000 and 7,000 persons There is to be an observation tower on top of the office block, and it is anticipated that, as this will be a much better, vantage point than the Hertzog Tower observation room, there will be 300,000 visitors per annum. The Hertzog Tower has 300,000 visitors per year at the moment.

I have spoken of the office block. In addition, there will be the shopping centre, which will cover 14 acres and having a letting area of 430780 sq. ft. - approximately equal to Rosebank shopping area, and be on a number of levels, and there will be a new hotel of 30 storeys in height, which will have 600 double bedrooms. It is anticipated that there will be 900 employees in this hotel, so that with guests and employees, there could be approximately 2,000 people in that building at one time. It is impossible to predict the number of employees in the shops, or the customers there will be there at any one time during the day, but on this six-acre block there will be at any one time, approximately 10,000 people.

This project has created immense problems for the city. Take the sewers for instance. It was never anticipated that there would be such a large congregation of people on one site, and the Council has been put to tremendous expense in providing additional sewerage facilities. It is expected that the site will use some 300,000 gallons of water a day, and over the day it will be necessary to accept a sewer effluent of some 300,000 gallons. However, there are peak hours and valleys, and the Council has had to increase facilities so that at any one time in the peak hours, sewerage effluent at the rate of 875,000 gallons per day can be accepted. There will be 1,600 lavatory

points. The gas consumption on the site is expected to be equivalent to that normally used by 7,000 domestic ranges. This is the type of problem we have had to provide for, which was not anticipated years ago when the mains were laid down

The total cost of the Carlton Centre will be in the region of R67,000,000, of which R7.9 million was paid for the land. Construction costs will be something like R46,000,000: but what I know will really interest you, is the figure which I have been given for interest, which has to be paid out during the construction period, before income starts - and that is a mere R3.2 million!

In addition to the shopping centre, the office block and the hotel, there is to be a very large exhibition hall, which will occupy 57,000 sq.feet. The speed of the lifts in the various blocks will be from 500 ft. to 1,400 ft. per minute. Electricity - what could the maximum demand be at any one time? This had to be calculated, for in the Electricity Department we have to cater for the peak demand. With all the offices, shops, hotel, air-conditioning plants, etc., the maximum demand for electricity, at any one time, is expected to exceed the peak demand for a city like Kimberley, and all concentrated on this six-acre block.

Twenty five new projects such as the Carlton Centre, Trust Bank, Standard Bank, S.A.B.C. and Civic Centre will create a peak demand for electricity equal to the peak demand for the whole of the City - only 25 years ago.

The problem of rubbish removal is another factor. How is it possible to dispose of all the rubbish accumulated in an office block and shopping centre and hotel of this size? The normal method of rubbish removal is by bin, but how many bins would be required to take off the rubbish from the Carlton Centre, and they would take up valuable space. The Centre will have to install a machine to enable them to compact rubbish. They anticipate that this machine can compact 600 cub.yds.of rubbish into 150 cubic yards of Dry refuse, and the Council, with the use of special vehicles with special containers, will remove the compacted rubbish during the night. It was anticipated that the parking area and retail levels will be completed in 1970 and the office tower and hotel and exhibition halls in 1971.

THE STANDARD BANK BUILDING.

One of the most interesting buildings to be erected in Johannesburg in recent years is the new headquarters of the Standard Bank which occupies the 40,000 square feet block opposite the Stock Exchange. The construction of this building is unique in South Africa in that instead of the conventional method of building foundations to support the outer walls a central core was built into which cantilever beams or crossbars were constructed and the floors are suspended from these beams or 'arms'.

The basement is 64'6" below pavement level, Below this are built the four pile caps which vary in depth from 45' to 145' and are each 16'6" in diameter. On top of these four piles is a slab of concrete 46'6" square and 9' thick. On top of this foundation the central core is built. The central core is 458' above pavement level. There are 3 sets of cantilever beams and from each set of beams 10 floors are suspended. The floor slabs were constructed off site and were lifted into position by a giant 65 ton twin boom crane which had been erected on the top of the centre core.

At ground level there is no support for the offices above - only the core taking up ground floor area. I understand that this method of construction, although expensive, should enable the completion of the building in a shorter time than the erection of a similar building of conventional design.

There has been great public interest in the construction of this building particularly during the placing of the floor slabs in position by the giant crane. On at least one occasion the crane lifted the lorry containing the ready mixed concrete to the top of the building - 458 feet above street level.

MARKET:

In talking about the changes that are taking place, I must make mention of the Market. The present market was erected in 1913, and with the parking space it occupies some 16 acres. The railway trucks that feed the market use the main West Rand and Soweto railway line, and the Railways advised the Council some years ago that, with the increase in passenger traffic, they could no longer undertake to continue to bring the railway trucks to the market, and that we must find a new site. For a long time the argument raged as to whether marketing was the function of the local authority, or whether it was a national responsibility, but eventually it was decided that we, as a City, should build the new market. The Council acquired a site on the old City Deep Mine, some 243 acres in extent, and plans are already well under way, and a start has been made on the levelling of the site for a market which will now occupy 160 acres when the buildings, sidings, etc., have been laid out. 16 acres originally, and 160 acres now:

One of the difficulties of a Market is that in the summer one has a surplus of produce, and in the winter produce is scarce. In order to even this out, it is planned that the new Market will eventually have 5 acres of refrigerated space and cool chambers, and space for the ripening of fruit, so that in times of plenty the surplus produce can be placed in cold storage and made available in times of scarcity.

A fundamental change has taken place in the method of marketing. Some years ago producers consigned their goods to the Market Master: it was then sorted into commodities, and municipal auctioneers offered the goods for sale. The

City sent a mission overseas to study markets throughout the Western world, and it was found that today the auctioneer system is regarded as hopelessly out of date, as being too time consuming and it was decided to change. The producer consigns his goods to a Market Agent, and that Market Agent then negotiates the sale. It is only when goods are in short supply and supplies are insufficient to satisfy all the buyers that goods will be auctioned. This is how we will operate in the new Market. There will be 9 halls, 8 of which will be 1,000 feet long by 80 feet wide, and one 1,500 feet by 100 feet, and it is planned that at any one time it will be possible to offload some 300 railway trucks. Provision is also being made for a wholesale flower market. At the moment the flowers are mainly distributed by the Multiflora Market. A 13-acre site is being reserved in the new Market, and Multiflora will be establishing its headquarters there

JOHANNESBURG PRODUCE MARKET A WHOLESALE MARKET:

People from the country may not know that the Johannesburg Produce Market is the central market which serves a tremendously wide area. Produce is consigned here, bought by wholesalers, and then transferred all over the Transvaal and into the Free State. The new Market is going to be very different from the old, and on a very much bigger scale. It is felt that, with the change in marketing methods that is taking place, the refrigeration area is very, very essential, and will have the effect of helping the producer, in that prices will be more evenly maintained throughout the year.

As I have already said, the Railways informed us that we had to make a move, but when it came to the point of moving the Market, the Council has to meet the cost of building the railway line, although the Railways will get all the revenue from the produce carried. We have to pay the bill for marshalling yards, and for the line to the Market, and that will cost us Rl,000,000, of the total R8,000,000 which will have to be spent on the Market. In addition, it is necessary for us to plan a new Abattoir, which will be adjacent to the new Produce Market, and will occupy some 230 acres. It is anticipated that this will cost around Ri4,000,000.

SEWERAGE SERVICES:

For some years Johannesburg has provided a metropolitan sewerage service. Johannesburg built large works, and has accepted the flow from surrounding areas rather than have a number of small works. Some of the areas to the north of Johannesburg have grown at a phenomenal and unanticipated rate, and when we laid down our sewerage mains, the areas to the north anticipated that the flow we would have to accept by 1985 would be 5,000,000 gallons per day. By 1960 they revised their estimate - after we had built the pipes - from 5,000,000 to 8,000,000 being the anticipated flow by 1985, but it is already 6.7 million, and this is creating great problems for us because the quantity of water used in sewers doubles every 11 years, so that at our sewerage farms we have this mass of water. What do

you do with water that has come from sewers? Before it can be put back in a stream it must be purified according to standards laid down under the Water Act. The Council is faced with this problem - to install very costly machinery to purify the water, or to try and use it. have tried to use it. Portion of the water is used in our cooling towers at our Power Stations at Kelvin, but we have also developed the most intensive cattle breeding scheme in the Republic. That sounds a strong statement. We speak not of how many morgen per animal, but of how many animals per morgen. The sewage effluent is good for agriculture: the solids are good for manure and we have developed these farms on what was very poor agricultural ground. In so far as we can we grow our own fodder. of the purposes of cattle breeding is to improve the quality of beef on the Johannesburg Market. We have two farms, one to the south and one to the north. The total area of the farms is nearly 7,000 acres, but only a limited portion is used for agricultural purposes. We now talk of four head per morgen, and slaughter animals are sold at approximately 15 months, and at that age they weigh about 800 lbs. The stock used for the cattle breeding schemes are Angus, Hereford, Brown Swiss, Simmentaler, Charolais bulls, with a predominance of Africander, Hereford and Angus blood in the females.

REDEVELOPMENT OF BLIGHTED AREAS:

Some of the oldest established suburbs in Johannesburg are Jeppestown, Fairview and Troyeville, and they are now some 80 years old. In conjunction with the Department of Community Development, development of this area has now been frozen, and no further development can take place without permission of the Department of Community Development. These areas occupy roughly 176 acres, and it is anticipated that the whole of the three areas will be rebuilt. Portion of it will be a Municipal Housing Scheme, but for a portion it is expected that we will want to call in the assistance of private developers, who will have a predetermined plan in general principle of how the development is to take place, and private developers will be asked to take over portions of that ground for development, within the predetermined plan, as they feel will be advanta-This is an area not far from the city. Its redevelopment will have the effect of bringing people within easy reach of the centre of the city, and it will be able to house a much larger population than it does today. It will be a good development, with people living under decent conditions.

Some of you may know the areas which we call Vrededorp and Pageview. They have been declared white group areas, although part of these areas have been occupied by Indians since the early days of Johannesburg. The residential area for Indians is Lenasia, some 18 miles to the south-west of the city. We have, in conjunction with the Department of Community Development, agreed that it would be grossly unfair to move the Indian traders from Vrededorp and Pageview without providing alternative facilities, so it has been agreed to establish a large Indian Bazaar in the vicinity of the

Newtown market. The ground has been expropriated, and the City, in conjunction with the Department of Community Development, is going to build a huge Asiatic Bazaar, which it is hoped will house the traders who will be displaced from Vrededorp, Pageview and Newclare areas. This is to be a very ambitious scheme, and it will also act as an Urban Renewal Scheme in the Fordsburg area, and there will be a measure of equity for the Indian traders, who would otherwise have lost their trading opportunities.

BUSWAYS:

Another great problem in cities is getting the buses moving. They get bogged down in busy periods, and we have embarked on an experiment which we believe is unique, in that we are establishing a route which may only be used by buses. Our most congested area is Hillbrow. We have started this first bus scheme to serve the suburbs to the North/East (including Hillbrow). One of our streets, Joubert Street, is one-way and is largely used by buses, and we have carved a section off one of our Parks to form a road where buses only may travel. Previously the travelling time taken to get to Hillbrow was 30 minutes, but since the inauguration of the scheme the time has been cut by half, and now a bus, which previously was held up by traffic, by taking this "bus only" road, can do the distance in 15 minutes, and that is proving of great advantage.

We have also introduced buses where there is a driver only, as our difficulty in Johannesburg is that we cannot get white crews for our Transport Department. We know the solution to our transport problem is to have more buses, but we cannot recruit the crews, and that is why we have bus cancellations and cannot provide the service. However, it is hoped that with the new "bus only"road, and with having buses where there is no conductor, the problem will be eased. We have introduced a coupon system whereby, if people purchase coupons, they get a large discount on their fares. This is to encourage the use of coupons, so that when they enter they they just have to put the ticket in the machine for cancellation and the driver is not involved in giving change. So far the system seems to be working very, very successfully.

NEW CIVIC CENTRE:

Another big change is taking place in Johannesburg. We are establishing a new Civic Centre in Braamfontein, where some 25 acres was acquired some time ago for this purpose. Some of the office blocks are now under construction, but it is something of a long-term project, depending on capital availability. We are also planning for a large number of additional parking garages to take the cars that come into town.

/Johannesburg ...

Johannesburg, as with all other cities throughout the world, is finding the financial implications of running a city more and more heavy. For instance, the money borrowed to build its expressways will have to be paid off, and interest will have to be paid on it, with no revenue coming in at all from this expenditure. I think towns throughout South Africa are eagerly awaiting the Government's reaction to the Borckenhagen Committee Report. This Committee was appointed some 11 years ago, and its report is now in the hands of the Government. All cities are wondering what relief will be given to them, when the State studies the recommendations of this Commission.

We also have a difficulty in that our capital expenditure programmes are controlled by the Central Treasury. They advise us of the amount they will allow us to raise by way of loans each year, and this is having a crippling effect on the necessary expansions that have to take place. To give you an indication of one costly undertaking - that of providing for the extension of sewerage works. The extension which will have to take place within the next 7 years will cost R59,000,000. This service is to cater, not only for Johannesburg, but also the surrounding areas from which we accept sewage.

Another factor which will have a fundamental influence on the city is the development of the big property promoting companies. They want to develop, not on a stand or two, but on a whole block, and this is going to change the pattern of the city, for the good, I am sure, because the development of blocks gives us these island sites, more room and more street room, and will, in the long-term, be of great benefit to the city.

In giving you these facts - a lot of them may be, and I hope a lot of them will be, meaningful. I have tried not to be boastful, for I do not want to create an impression that Johannesburg is bigger and better - I am just trying to get across the things I know are taking place, the problems they are creating, and the scale on which change is taking place.

Recently we had an exhibition at the Rand Show by our Forward Planning Department. Some five years ago the Council appointed its Chief Town Planner to establish a Forward Planning Section in the City Engineer's Department. His instructions were, not to worry about what is happening today, but to have his eye on what we must do today for what will take place in 10,15 cr 20 years' time. Before the section could really get to grips with the job, a mass of surveys had to be undertaken to provide the basic information. They are now tyring to project and plan for what will take place in years to come.

In 1967 I was in the fortunate position of being able to attend a Conference in Toronto - a Conference called by the Municipal Research Bureau of Toronto. Canada was then celebrating its 100th birthday, and Toronto had asked 40 cities, with populations of over 1,000,000, to send six delegates to the Conference, and we discussed the development of metropolitan areas. It was brought home forcibly to us that no city can plan in isolation - that one must plan with one's neighbours - that planning must be a joint effort, and that one must try and co-ordinate the developments in various areas. This is one of the things that is so necessary in

South Africa - to plan, not in isolation, but on a regional basis. Where metropolitan facilities are necessary, the local authorities should get together. The tendency overseas is to form regional planning authorities and for city units to become larger and larger.

We in Johannesburg feel the great need for planning, not only for ourselves, but for the areas surrounding Johannesburg to plan in conjunction with us, so that we can take a far-sighted view. At our recent Forward Planning Exhibition at the Rand Show, one of the walls carried a quotation from a Town Planner as follows:-

"A PLANNER'S PHILOSOPHY

"Make no little plans.
They have no magic to stir men's blood,
And probably themselves will not be realised.

Make big plans.
Aim high, in hope and work,
Remembering that a noble, logical diagram,
Once recorded, will never die
But long after we are gone will be a living thing
Asserting itself with ever-growing insistency.
Remember that our sons and grandsons
Are going to do things that will stagger us,
And let your watchword be Order and your beacon Beauty.

I would like to leave this thought with you, that we must plan on a big scale, we must be imaginative, and we must try to plan for our sons and grandsons.

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CHANGING JOHANNESBURG

BY HIS WORSHIP THE MAYOR OF JOHANNESBURG COUNCILLOR PATRICK LEWIS.

AREA AND DEVELOPMENT OF MINING GROUND:

Johannesburg, until recently, covered an area of 94.48 sq. miles, but a short time ago additions were made totalling an area of approx.14 sq.miles. Of the 94.48 sq. miles, however, some 23 sq. miles was proclaimed mining ground, and was, therefore, not available for development purposes. The mines which originally occupied that ground are now coming to the end of their lives, and the development of this ground for other purposes, is now being considered.

Johannesburg's development has been lopsided. The business area has largely been built immediately north of the proclaimed mining area. The residential development is mainly to the north and east, with limited development to the south of the mining area. Now that the mining ground is to become available for other purposes it is going to knit the centre to the south by the use of the ground, and on one mine alone, namely, part of Crown Mines, it is anticipated that it will be possible to house residentially, a population equal to that of the town of Springs, some 40,000 to 45,000 people. In addition a golf course is to be built covering 200 acres. In all there will be 327 acres of open space. The developers hope to revitalise this area to make it the future "garden" of the City.

In addition to this, a Commission of Inquiry was appointed some time ago to consider the incorporation into Johannesburg of an area to the south.

The Administrator of the Transvaal has now announced that as from the 1st of January 1970 an area of some 93 sq. was miles will be incorporated into the City's boundaries. Of this area 21.17 sq. miles is portion of Soweto, another portion is Lenasia (the Indian Group area) and Nancefield and adjoining areas which are Coloured Group areas. Portions of the Klip River will now be the southern boundary of Johannesburg. This will help to rectify the imbalance of the City and give opportunity for the development to the south comparable to that in the north.

An interesting statistic is that the Mines in the Johannesburg Municipal area - the Village Deep, the City Deep, the Crown Mines, the Robinson Deep, the Robinson, Village Main Reef, New Heriot Nourse, New Goch, Jubilee, Salisbury Jumpers, City & Suburban, Wolhuter, Meyer & Charlton, Jupiter, Ferreira Deep produced 117,653,555 ounces of gold which at 35 Dollars an ounce is valued at R3,000,000,000.

/ RECREATIONAL AREA: ...

RECREATIONAL AREA:

A short time ago quite an imaginative scheme was passed by the Council, namely to acquire ground on what will now be our Southern Boundary, the Klip River. A large portion of this ground is already owned by the City Council and, by building a wall at the eastern boundary of the ground, it is hoped to be able to create a lake covering some 650 acres, which will provide a recreational region for the people of Johannesburg. In addition, as was reported in the Press recently, the Minister of Planning has agreed to a scheme to reserve as a recreational area, some 18,000 morgen at a place called Suikerbosrand, which starts near Heidelberg and continues along a range of hills in a westerly direction towards Johannesburg, and it is hoped to make this an open recreational area for the population of the Reef. The length of this area is approximately 11 miles and, at places, is 5 miles wide.

Various Municipalities on the Reef have had preliminary discussions, and have agreed that they will make a contribution to the capital cost and to the financing of such a scheme, to give the people of the Witwatersrand a recreational area very near to where they live. These changes are taking place, and are going to make a vast difference to the facilities of Johannesburg.

POPULATION EXPLOSION:

I would like to quote a few figures of the anticipated population explosion in Johannesburg, to give you an idea of the number of people for whom we will have to plan. In 1920 the population of Johannesburg of all races was 286,000. In 18 years it increased to half a million. In 1967 it was 1,300,000 and - by 1985 - that is in 14 years time, it is anticipated that the population will be 2,000,000. That is the human population.

VEHICLE POPULATION:

Now I would like to deal with the motor car population. In 1948 it was 71,000. Twelve years later, in 1960, it had doubled to 158,000. In the next 8 years there were another 100,000 cars, and by 1985 it is anticipated that there will be 400,000 vehicles on the roads. We will have more people; we will have more cars, but the street areas remain the same.

FREEWAYS AND EXPRESSWAYS:

Johannesburg has embarked on a very large "freeways" system - portion of this is already in use and the remainder of the system should be open within the next two years. This project is to cost R. OOC, OOC. I know unfavourable comparisons have been made between the road system of Johannesburg and that of Cape Town, and I want to congratulate Cape Town on what they have done. However, they have had to deal with a more sympathetic Provincial Council, which agreed to assist them some 4 or 5 years before the Transvaal Province agreed to assist Johannesburg. In addition, the contribution was at a higher percentage of the total cost, and in the total cost Cape Town was allowed to include the cost of the land, whereas in Johannesburg we have had to exclude in our claim for contribution any costs in connection with the acquisition of land.

When we commenced the expressway system, we were thought to be very lucky in that we could take some of the expressways over old mining ground, but what a snare and a delusion that was, because a lot of this mining ground was mined in the very early days of Johannesburg. There are no diagrams now of some of the underground workings. In some cases it has been necessary to sink supports 150 feet before reaching solid ground. Another interesting fact is that in some of the pillars supporting the roads the engineers made provision for the insertion of hydraulic "jacks" - so that, if subsequently there is subsidence, the pillars can be adjusted to height, and this has been a very costly part of the roadway scheme. I think the total cost will be something like Rie.000,000, of which we are receiving a contribution from the Province and the National Transport Commission of only R21,000,000, which was calculated on the original cost of R45.5 million. When the costs were subsequently increased, we were advised that the cost to be borne by the Government authorities would have to based on the original estimate of cost.

AIR TRAVEL:

Another means of travel that is changing Johannesburg is the use of light aircraft. We have an airport - the Rand Airport - and I would like to give you some figures regarding the number of take-offs and landings. Just going back to 1962, the total for that year was 28,000 take-offs and landings. By 1965 the number had increased to 80,000 and Aast year, for the first time, we topped the 100,000 number of planes alighting and taking off. That compares with something like 27,000 from Jan Smuts Airport. Excepted 105,000.

101, 827. 129 568 108. 829.

Jan Smuts Airport is now not just a terminal airport it used to be the end of the run from overseas, but with the
opening of the airways to Australia and to South America,
Jan Smuts Airport is becoming a "through" airport. Tremendous
numbers of businessmen who wish to visit Australia, come to
South Africa first, and then go on. Also, people in Africa
who want to get to South America will now come south instead of
going north. The number of passengers carried on S.A.Airways a great number of whom start from Jan Smuts Airport - has
increased fourfold in the last ten years, and the number of
passengers carried last year was a l million mark.

In 1963 the average number of local flights per week

326 were 95, in 1976, 28326 International flights were 58 per week in 1963 and 102 in 1978. It is anticipated that by 1980 - 1979

years hence the number of passengers carried from Jan Smuts
airport will increase from 1,198,297 in 1978 to 2,920,000 in
1980. The increase in freight carried is still more staggering

16,745,19/16 from 4,358,318 kilograms carried outwards in 1963 to 11,386,823 in
1970 1968 with a projection to 36,000,000 in 1980.

BUILDING:

When thinking of the changes taking place in Johannesburg, one realizes that a totally different form of building is being erected - great tower blocks are going up,

and there is a reason for this. Until a few years ago, we had Town Planning regulations which zoned the various areas of the city into height and use zones. There was another governing factor, and that was that the height of a building could not exceed a line drawn at a 590 angle from the other side of the street, so that the width of the street was a determining factor as to how high one could build and, as a result, most of our buildings were fairly squat. However, some years ago that regulation was changed, and the 59 factor was altered in cases where a half or whole block is developed. In order to get people to set their buildings back from the immediate street boundary, it was agreed that if the building was set back by 5 feet, the ground floor area sacrificed could be built at a higher level. Naturally, as more rental is paid for ground floor space in a shopping area than for space on a higher level, it is necessary to be compensated to a greater extent for the square footage lost on the ground, thus, in certain areas, if a developer sacrifices one square foot on the ground, he can, build 6 sq. feet on ar upper floor. In certain streets developers are obliged to set back their buildings by a minimum of 5 feet with a maximum of 10 they then get this bonus bulk on upper floors. The more the buildings are set back from the street the higher the buildings can be built. There is also the wish to encourage developers to build residential accommodation in the centre of the city, and here again, if residential accommodation is built instead of office accommodation, in an area zoned for offices, the developer can get additional bulk bonus. This has had a fundamental effect on the type of building that is being erected today. If you examine many of the buildings under construction, you will find they are prestige blocks where the ground floor area contains fountains and gardens, with the result that there is more air and light around the buildings. The whole pattern is changing.

The Carlton Centre will occupy 31% of the ground floor area - the Trust Bank 18.5% and the Standard Bank 27%. This will create open spaces in the heart of the City.

CARLTON CENTRE:

I want to deal in some detail with just one project - the Carlton Centre - to show you what is happening. On an average, between the Carlton Centre, the new Standard Bank building and the Trust Bank building, only 28% of the ground floor area will be occupied by the buildings. The remainder will be open space, so you will realize what an effect this is having on opening up our city.

Let me speak about the Carlton Centre for a few minutes.

The Centre is being erected on what previously was five city blocks, the intervening streets having been closed, and the site will actually occupy six acres. This has meant a change in the services which previously went through those streets. The basements of the Centre go down a total of 95 feet. When it was

decided to punch this project, the owners realized there might be claims from the surrounding owners, because owing to the excavations the foundations of their buildings might be affected, so that before a cubic yard of earth was removed from the site, the owners called in a firm of consulting engineers and they surveyed the buildings in 14 blocks in the immediate vicinity. photographed the cracks, they recorded the cracks so that they could get a factual position of the state of the buildings in the surrounding area before commencing excava-This was an extremely costly precaution, but they wanted to avoid claims being lodged against them for which they were not really responsible. Now, when you dig a hole of 95 ft. you draw off the water from the surrounding area. the water table in the area being at 40 feet, and this will affect the soil volume of that earth, because with this drainage taking place the Carlton Centre, naturally, will have to pump out the water that resulted from digging this huge basement.

On the Carlton Centre site they are building a huge office block, 50 storeys in height the maximum depth of the foundations below the office block is 200 feet. Many of you know the Hertzog Tower - but the highest point of the Carlton office block will be level with the observation area at the Hertzog Tower. The Office block being 660 feet high and the observation tower at Hertzog 570 feet. As high as the Hertzog Tower, although it starts from a lower level site. The Carlton Centre will have provision for the parking of 2,000 cars : the office area will be over 1,000,000 sq. ft., the rentable area being 714872 sq.ft. and it is anticipated that the employees in the office block will number between 6,000 and 7,000 persons There is to be an observation tower on top of the office block, and it is anticipated that, as this will be a much better, vantage point than the Hertzog Tower observation room, there will be 300,000 visitors per annum. The Hertzog Tower has 300,000 visitors per year at the moment.

I have spoken of the office block. In addition, there will be the shopping centre, which will cover 14 acres and having a letting area of 430780 sq. ft. - approximately equal to Rosebank shopping area, and be on a number of levels, and there will be a new hotel of 30 storeys in height, which will have 600 double bedrooms. It is anticipated that there will be 900 employees in this hotel, so that with guests and employees, there could be approximately 2,000 people in that building at one time. It is impossible to predict the number of employees in the shops, or the customers there will be there at any one time during the day, but on this six-acre block there will be at any one time, approximately 10,000 people.

This project has created immense problems for the city. Take the sewers for instance. It was never anticipated that there would be such a large congregation of people on one site, and the Council has been put to tremendous expense in providing additional sewerage facilities. It is expected that the site will use some 300,000 gallons of water a day, and over the day it will be necessary to accept a sewer effluent of some 300,000 gallons. However, there are peak hours and valleys, and the Council has had to increase facilities so that at any one time in the peak hours, sewerage effluent at the rate of 875,000 gallons per day can be accepted. There will be 1,600 lavatory

points. The gas consumption on the site is expected to be equivalent to that normally used by 7,000 domestic ranges. This is the type of problem we have had to provide for, which was not anticipated years ago when the mains were laid down

R75M.

The total cost of the Carlton Centre will be in the region of R75,000,000, of which R7.9 million was paid for the land. Construction costs will be something like R46,000,000: but what I know will really interest you, is the figure which I have been given for interest, which has to be paid out during the construction period, before income starts - and that is a mere R3.2 million! (No Commentary Carlton Nutrice)

In addition to the shopping centre, the office block and the hotel, there is to be a very large exhibition hall, which will occupy 57,000 sq.feet. The speed of the lifts in the various blocks will be from 500 ft. to 1,400 ft. per minute. Electricity - what could the maximum demand be at any one time? This had to be calculated, for in the Electricity Department we have to cater for the peak demand. With all the offices, shops, hotel, air-conditioning plants, etc., the maximum demand for electricity, at any one time, is expected to exceed the peak demand for a city like Kimberley, and all concentrated on this six-acre block

Twenty five new projects such as the Carlton Centre, Trust Bank, Standard Bank, S.A.B.C. and Civic Centre will create a peak demand for electricity equal to the peak demand for the whole of the City - only 25 years ago.

The problem of rubbish removal is another factor. How is it possible to dispose of all the rubbish accumulated in an office block and shopping centre and hotel of this size? The normal method of rubbish removal is by bin, but how many bins would be required to take off the rubbish from the Carlton Centre, and they would take up valuable space. The Centre will have to install a machine to enable them to compact rubbish. They anticipate that this machine can compact 600 cub.yds.of rubbish into 150 cubic yards of Dry refuse, and the Council, with the use of special vehicles with special containers, will remove the compacted rubbish during the night. It was anticipated that the parking area and retail levels will be completed in 1970 and the office tower and hotel and exhibition halls in 1971.

THE STANDARD BANK BUILDING.

One of the most interesting buildings to be erected in Johannesburg in recent years is the new headquarters of the Standard Bank which occupies the 40,000 square feet block opposite the Stock Exchange. The construction of this building is unique in South Africa in that instead of the conventional method of building foundations to support the outer walls a central core was built into which cantilever beams or crossbars were constructed and the floors are suspended from these beams or 'arms'.

/The basement ...

The basement is 64'6" below pavement level. Below this are built the four pile caps which vary in depth from 45' to 145' and are each 16'6" in diameter. On top of these four piles is a slab of concrete 46'6" square and 9' thick. On top of this foundation the central core is built. The central core is 458' above pavement level. There are 3 sets of cantilever beams and from each set of beams 10 floors are suspended. The floor slabs were constructed off site and were lifted into position by a giant 65 ton twin boom crane which had been erected on the top of the centre core.

At ground level there is no support for the offices above - only the core taking up ground floor area. I understand that this method of construction, although expensive, should enable the completion of the building in a shorter time than the erection of a similar building of conventional design.

There has been great public interest in the construction of this building particularly during the placing of the floor slabs in position by the giant crane. On at least one occasion the crane lifted the lorry containing the ready mixed concrete to the top of the building - 458 feet above street level.

MARKET:

In talking about the changes that are taking place, I must make mention of the Market. The present market was erected in 1913, and with the parking space it occupies some 16 acres. The railway trucks that feed the market use the main West Rand and Soweto railway line, and the Railways advised the Council some years ago that, with the increase in passenger traffic, they could no longer undertake to continue to bring the railway trucks to the market, and that we must find a new site. For a long time the argument raged as to whether marketing was the function of the local authority, or whether it was a national responsibility, but eventually it was decided that we, as a City, should build the new market. The Council acquired a site on the old 107Ha City Deep Mine, some 243 acres in extent, and plans are already well under way, and a start has been made on the (45 Ha) levelling of the site for a market which will now occupy 160 acres when the buildings, sidings, etc., have been laid out. 16 acres originally, and 160 acres now: 48 ha) (65 Ha) (6.48 ha)

One of the difficulties of a Market is that in the summer one has a surplus of produce, and in the winter produce is scarce. In order to even this out, it is planned that the new Market will eventually have traces of (1.4 Hz) refrigerated space and cool chambers, and space for the ripening of fruit, so that in times of plenty the surplus produce can be placed in cold storage and made available in times of scarcity.

A fundamental change has taken place in the method of marketing. Some years ago producers consigned their goods to the Market Master: it was then sorted into commodities, and municipal auctioneers offered the goods for sale. The

City sent a mission overseas to study markets throughout the Western world, and it was found that today the auctioneer system is regarded as hopelessly out of date, as being too time consuming and it was decided to change. The producer consigns his goods to a Market Agent, and that Market Agent then negotiates the sale. It is only when goods are in short supply and supplies are insufficient to satisfy all the buyers that goods will be auctioned. This is how we will operate in the new Market. There will be 9 halls, 8 of which will be 1,000 feet long by 80 feet wide, and one 1,500 feet by 100 feet, and it is planned that at any one time it will be possible to offload some 300 railway trucks. Provision is also being made for a wholesale flower market. At the moment the flowers are mainly distributed by the Multiflora Market. A 13-acre (53 Ha) site is being reserved in the new Market, and Multiflora will be establishing its headquarters there

JOHANNESBURG PRODUCE MARKET A WHOLESALE MARKET:

People from the country may not know that the Johannesburg Produce Market is the central market which serves a tremendously wide area. Produce is consigned here, bought by wholesalers, and then transferred all over the Transvaal and into the Free State. The new Market is going to be very different from the old, and on a very much bigger scale. It is felt that, with the change in marketing methods that is taking place, the refrigeration area is very, very essential, and will have the effect of helping the producer, in that prices will be more evenly maintained throughout the year.

As I have already said, the Railways informed us that we had to make a move, but when it came to the point of moving the Market, the Council has to meet the cost of building the railway line, although the Railways will get all the revenue from the produce carried. We have to pay the bill for marshalling yards, and for the line to the Market, and that will cost us Rl,000,000, of the total R8,000,000 which will have to be spent on the Market. In addition, it is necessary for us to plan a new Abattoir, which will be adjacent to the new Produce Market, and will occupy some 230 acres. It is anticipated that this will cost around Rl4,000,000.

SEWERAGE SERVICES:

For some years Johannesburg has provided a metropolitan sewerage service. Johannesburg built large works, and has accepted the flow from surrounding areas rather than have a number of small works. Some of the areas to the north of Johannesburg have grown at a phenomenal and unanticipated rate, and when we laid down our sewerage mains, the areas to the north anticipated that the flow we would have to accept by 1985 would be 5,000,000 gallons per day. By 1960 they revised their estimate - after we had built the pipes - from 5,000,000 to 8,000,000 being the anticipated flow by 1985, but it is already million, and this is creating great problems for us because the quantity of water used in sewers doubles every 11 years, so that at our sewerage farms we have this mass of water. What do

you do with water that has come from sewers? Before it can be put back in a stream it must be purified according to standards laid down under the Water Act. The Council is faced with this problem - to install very costly machinery to purify the water, or to try and use it. have tried to use it. Portion of the water is used in our cooling towers at our Power Stations at Kelvin, but we have also developed the most intensive cattle breeding scheme in the Republic. That sounds a strong statement. We speak not of how many morgen per animal, but of how many animals per morgen. The sewage effluent is good for agriculture: the solids are good for manure and we have developed these farms on what was very poor agricultural ground. In so far as we can we grow our own fodder. of the purposes of cattle breeding is to improve the quality of beef on the Johannesburg Market. We have two farms, one to the south and one to the north. The total area of the farms is nearly 7,000 acres, but only a limited portion is used for agricultural purposes. We now talk of four head per morgen, and slaughter animals are sold at approximately 15 months, and at that age they weigh about 800 lbs. The stock used for the cattle breeding schemes are Angus, Hereford, Brown Swiss, Simmentaler, Charolais bulls, with a predominance of Africander, Hereford and Angus blood in the females.

REDEVELOPMENT OF BLIGHTED AREAS:

Some of the oldest established suburbs in Johannesburg are Jeppestown, Fairview and Troyeville, and they are now some 80 years old. In conjunction with the Department of Community Development, development of this area has now been frozen, and no further development can take place without permission of the Department of Community Development. These areas occupy roughly 176 acres, and it is anticipated that the whole of the three areas will be rebuilt. Portion of it will be a Municipal Housing Scheme, but for a portion it is expected that we will want to call in the assistance of private developers, who will have a predetermined plan in general principle of how the development is to take place, and private developers will be asked to take over portions of that ground for development, within the predetermined plan, as they feel will be advanta-This is an area not far from the city. Its redevelopment will have the effect of bringing people within easy reach of the centre of the city, and it will be able to house a much larger population than it does today. It will be a good development, with people living under decent conditions.

Some of you may know the areas which we call Vrededorp and Pageview. They have been declared white group areas although part of these areas have been occupied by Indians since the early days of Johannesburg. The residential area for Indians is Lenasia, some 18 miles to the south-west of the city. We have, in conjunction with the Department of Community Development, agreed that it would be grossly unfair to move the Indian traders from Vrededorp and Pageview without providing alternative facilities, so it has been agreed to establish a large Indian Bazaar in the vicinity of the

Newtown market. The ground has been expropriated, and the City, in conjunction with the Department of Community Development, is going to build a huge Asiatic Bazaar, which it is hoped will house the traders who will be displaced from Vrededorp, Pageview and Newclare areas. This is to be a very ambitious scheme, and it will also act as an Urban Renewal Scheme in the Fordsburg area, and there will be a measure of equity for the Indian traders, who would otherwise have lost their trading opportunities.

BUSWAYS:

. . . .

Another great problem in cities is getting the buses moving. They get bogged down in busy periods, and we have embarked on an experiment which we believe is unique, in that we are establishing a route which may only be used by buses. Our most congested area is Hillbrow. We have started this first bus scheme to serve the suburbs to the North/East (including Hillbrow). One of our streets. Joubert Street, is one-way and is largely used by buses, and we have carved a section off one of our Parks to form a road where buses only may travel. Previously the travelling time taken to get to Hillbrow was 30 minutes, but since the inauguration of the scheme the time has been cut by half, and now a bus, which previously was held up by traffic, by taking this "bus only" road, can do the distance in 15 minutes, and that is proving of great advantage.

We have also introduced buses where there is a driver only, as our difficulty in Johannesburg is that we cannot get white crews for our Transport Department. We know the solution to our transport problem is to have more buses, but we cannot recruit the crews, and that is why we have bus cancellations and cannot provide the service. However, it is hoped that with the new "bus only"road, and with having buses where there is no conductor, the problem will be eased. We have introduced a coupon system whereby, if people purchase coupons, they get a large discount on their fares. This is to encourage the use of coupons, so that when they enter they they just have to put the ticket in the machine for cancellation and the driver is not involved in giving change. So far the system seems to be working very, very successfully.

NEW CIVIC CENTRE:

Another big change is taking place in Johannesburg. We are establishing a new Civic Centre in Braamfontein, where some 25 acres was acquired some time ago for this purpose. Some of the office blocks are now under construction, but it is something of a long-term project, depending on capital availability. We are also planning for a large number of additional parking garages to take the cars that come into town.

Johannesburg, as with all other cities throughout the world, is finding the financial implications of running a city more and more heavy. For instance, the money borrowed to build its expressways will have to be paid off, and interest will have to be paid on it, with no revenue coming in at all from this expenditure. I think towns throughout South Africa are eagerly awaiting the Government's reaction to the Borckenhagen Committee Report. This Committee was appointed some 13 years ago, and its report is now in the hands of the Government. All cities are wondering what relief will be given to them, when the State studies the recommendations of this Commission.

We also have a difficulty in that our capital expenditure programmes are controlled by the Central Treasury. They advise us of the amount they will allow us to raise by way of loans each year, and this is having a crippling effect on the necessary expansions that have to take place. To give you an indication of one costly undertaking - that of providing for the extension of sewerage works. The extension which will have to take place within the next J years will cost over. R60,000,000. This service is to cater, not only for Johannesburg, but also the surrounding areas from which we accept sewage.

Another factor which will have a fundamental influence on the city is the development of the big property promoting companies. They want to develop, not on a stand or two, but on a whole block, and this is going to change the pattern of the city, for the good, I am sure, because the development of blocks gives us these island sites, more room and more street room, and will, in the long-term, be of great benefit to the city.

In giving you these facts - a lot of them may be, and I hope a lot of them will be, meaningful. I have tried not to be boastful, for I do not want to create an impression that Johannesburg is bigger and better - I am just trying to get across the things I know are taking place, the problems they are creating, and the scale on which change is taking place.

Recently we had an exhibition at the Rand Show by our Forward Planning Department. Some five years ago the Council appointed its Chief Town Planner to establish a Forward Planning Section in the City Engineer's Department. His instructions were, not to worry about what is happening today, but to have his eye on what we must do today for what will take place in 10,15 or 20 years' time. Before the section could really get to grips with the job, a mass of surveys had to be undertaken to provide the basic information. They are now tyring to project and plan for what will take place in years to come.

In 1967 I was in the fortunate position of being able to attend a Conference in Toronto - a Conference called by the Municipal Research Bureau of Toronto. Canada was then celebrating its 100th birthday, and Toronto had asked 40 cities, with populations of over 1,000,000, to send six delegates to the Conference, and we discussed the development of metropolitan areas. It was brought home forcibly to us that no city can plan in isolation - that one must plan with one's neighbours - that planning must be a joint effort, and that one must try and co-ordinate the developments in various areas. This is one of the things that is so necessary in

South Africa - to plan, not in isolation, but on a regional basis. Where metropolitan facilities are necessary, the local authorities should get together. The tendency overseas is to form regional planning authorities and for city units to become larger and larger.

We in Johannesburg feel the great need for planning, not only for ourselves, but for the areas surrounding Johannesburg to plan in conjunction with us, so that we can take a far-sighted view. At our recent Forward Planning Exhibition at the Rand Show, one of the walls carried a quotation from a Town Planner as follows:

"A PLANNER'S PHILOSOPHY

"Make no little plans.
They have no magic to stir men's blood,
And probably themselves will not be realised.

Make big plans.
Aim high, in hope and work,
Remembering that a noble, logical diagram,
Once recorded, will never die
But long after we are gone will be a living thing
Asserting itself with ever-growing insistency.
Remember that our sons and grandsons
Are going to do things that will stagger us,
And let your watchword be Order and your beacon Beauty."

I would like to leave this thought with you, that we must plan on a big scale, we must be imaginative, and we must try to plan for our sons and grandsons.

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