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by

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REPORT BY COUNCILLOR J.F. OBERHOLZER, M.P.C.

WASHINGTON

Washington is a city with wide thoroughfares and many public squares - it has been endowed with exceptionally good planning. A city rich in sculpture, magnificently planned, but in spite of its dignity it has many problems including areas that have become blighted.

The constitutional procedure in the United States is similar to our own in South Africa; that is, a three tier Government with the Federal Government at the top, the State Government in the centre, equal to our Provincial Government, with the Local Authorities at the bottom rung of the governmental structure.

The Federal Government is keenly interested in the welfare of local authorities for the reason that city taxpayers are also federal taxpayers and any economic setbacks on the city level naturally affects the Federal Government, and the wellbeing of the people as a whole.

Blighted areas in cities affect the country as a whole and for that reason the Federal Government considers it its duty to provide financial aid for slum clearance purposes and in addition, such action creates an economic upsurge thereby assisting in combating unemployment amongst other things.

URBAN RENEWAL

The middle tier of government, namely the State Government, plays a very small part in urban renewal projects. It merely provides enabling legislation so that local authorities may apply for Federal Government assistance for slum clearance and urban renewal purposes. The Local Authority then acts in terms of enabling legislation and applies to the Federal Government for assistance to renew a given area. An area only qualifies for and is eligible for urban renewal assistance if 20% of the properties are in fact sub-standard that they can be defined as slums or semi-slums. The area is defined by the local authority with an estimate of cost of clearing the land and an application is submitted to the Urban Renewal Department of the Federal Government. Once the project is approved, the Federal Government almost disappears from the scene. After that all it does is to inspect the progress made from time to time and help with advice and guidance, but does not interfere in any overriding capacity with the activities of the local authority. Local authorities seem to have a wide measure of autonomy and are left to their own devices to a great extent, subject to this inspection of the Federal Government inspectors, who only wish to satisfy themselves that the project is progressing according to plan and that the government's contribution is well spent. The Federal Government's participation is two-thirds of the cost of the project, the local authority bearing the remaining third of the cost.

The two-third, one-third formula is applicable to the loss suffered after the land is sold to a developer i.e. the Federal Government pays two-thirds of the loss on a parcel of land and city one-third of the loss.

Everything pertaining to an urban renewal area is debited to the project. The local authority's one-third contribution is normally in the form of services such as roads, parks, other utilities and even schools (a local authority's responsibility in the U.S.A.). The local authority's one-third share of the loss is therefore in a non-cash form. If the cost of these services exceed the one-third figure the excess amount is credited to the next urban renewal project of the city.

The land having been acquired and cleared in terms of the above arrangement is then sold to a private developer if not required for public use. Private developers are obliged to conform to the local authority's approved scheme in terms of its town planning provisions for the cleared area.

The following Federal Government agencies provide incentives to private developers to participate in urban redevelopment.

1. Federal Housing Administration (F.H.A.). This agency insures (guarantees) 90% of the long term loan at 5 $\frac{1}{4}$ % interest, redemption period 40 years. The builder (who is usually the developer) is allowed a 10% profit, which in theory means he need have no investment capital of his own, but the act requires that he shall have at least 3% in cash. F.H.A. insurance fee is $\frac{1}{2}$ of 1% total interest then 5 $\frac{1}{4}$ %.

2. Federal National Mortgage Association (F.N.M.A.), is a Government agency using treasury funds. It will purchase mortgage bonds at par (no discount) but charges a purchase fee of 0.5%; it also charges a "purchase commitment fee" of 1% of the full value of the mortgage.

The method a developer usually employs to finance a project:

First, he secures an "insurance commitment" from F.H.A. costing 0.15% of the face value of the mortgage. Second, he secures a "purchase commitment" from F.N.M.A. Having secured these two "commitments" he then approaches a conventional lender, usually a commercial bank for a short term construction loan. There is little risk attached to a short term loan once the two government agencies have provided the "commitments".

The developer also receives benefits in the form of tax exemptions from both the Federal Government and the city, the latter in the form of Real Estate Tax concessions. Rents of redeveloped areas are controlled by the Federal Government and are lower than on the open market. Once an owner owns a sufficient equity in the property he can dispense with Government aid as described above, an act which will release him from Rent Control.

Experience in the U.S.A. has proved that the taxable value of land after redevelopment increases six to seven times when compared with its original slum value.

In the south-western area of Washington a renewal programme was started some twelve years ago. 700 Acres were expropriated and completely razed and since that period a certain percentage has been completely renewed. It has cost many millions of dollars to achieve this. The ground was sold to developers at about 30% of its original cost and what has been achieved is magnificent in its concept and execution.

Row houses, very neat, plus large blocks of flats have been built, the area has been planned to provide sufficient open and parking space. A mixed development has been achieved, with enough playing space for children, there are schools in the vicinity and when one views the area one cannot help but feel that the achievement is most commendable bearing in mind that this was a complete slum with all the accompanying degradation.

Officials responsible for urban renewal were most helpful in pointing out many of the pitfalls experienced in the early stages of urban renewal programmes, and the measures introduced to avoid previous mistakes. Originally when the scheme was initiated, it was contemplated that people living in the south-west area of Washington would be permitted to return there. That, in practice, has not happened. In that area, for instance, there were over four hundred small traders. These traders were displaced, were not compensated for goodwill, were only paid the value of their properties, they disappeared. Over the twelve year redevelopment period none of them in fact have returned. Families who were displaced from the area had to find their own accommodation somewhere else. Poor families who were living under slum conditions tended to find slum accommodation somewhere else in the city.

These were some of the problems that urban renewal had to face. The big objection to urban renewal by people directly affected was that they were not paid a replacement value for their properties. Pensioners, for instance, were paid \$6,000 for their properties and if they had to find accommodation somewhere else, which was not in the same poor condition as those properties which they vacated, it meant that they would have to pay somewhere in the vicinity of \$13,000 for similar accommodation.

Areas were razed to the ground and then laid fallow for a period of between eight and ten years before redevelopers acquired the ground and started redevelopment. The redevelopment that took place was not for the lower income groups, but rather for the more well-off middle class types.

The Act has since been amended requiring

- (a) every family displaced must be relocated in a safe sanitary and decent home.
- (b) Businessmen must be compensated for loss of trade and, if possible, re-located somewhere else in the city.

- (c) In most cases before demolition takes place a developer must be acquired for the redevelopment of an area.

REHABILITATION OF AREAS

Where there are areas where houses can be reasonably rehabilitated by effecting repairs both inside and outside, the local authority immediately moves into the area, establishes an office there, has discussions with the owners or occupiers or owner-occupiers of the property and persuades the owners to rehabilitate their properties. Advice and guidance are given by the officials of the local authority, namely the architects and others. Owners are assisted to acquire loans with which to improve their properties. The representations and opinions of the people living in the area weigh heavily with the local authority when the scheme is finally decided upon. The success of the scheme depends on the co-operation of the community itself. The cost of this service by the local authority qualifies for a two-thirds subsidy from the Federal Government.

In the event of owners refusing to rehabilitate properties the local authority may expropriate the property and either sell it to someone who is willing to repair it, or itself repair the buildings and then sell the property to a willing buyer.

Whilst in the United States of America, Congress was amending the Act to provide for financial assistance for rehabilitation purposes by means of outright grants as well as low interest loans with an extended repayment period.

HOUSING

The Federal Government has an agency (P.H.A.) which is responsible for the rehousing of people who are displaced by any project, be it an urban renewal project, a highway project, a hospital project, a parking area project, a Federal building project or a school project. It does not matter what activity is to replace the housing, the people displaced must be rehoused in a safe, sanitary and decent home before a project is undertaken. Public housing is provided by the city with Federal Government financial participation, the Federal Government providing 90% of the required loan and the city 10%. The Federal Government also bears the annual loss of the redemption period of 40 years, of 90 percent of the scheme, the city bearing the remaining 10 percent of the loss. A scheme means everything included in the project, all costs including maintenance costs. The rental received from such a scheme is then deducted from the annual running costs and the deficit is borne by the Federal Government and the city in a ratio of 90 percent: 10 percent.

It is now proposed to integrate the sub-economic group with the economic group in a housing project, the occupants not knowing whether their neighbours in fact pay sub-economic rentals or economic rentals. They are completely integrated and the project will bear the annual loss.

Then there are private agencies, non-profit agencies such as churches and the like, that build houses for the moderate income group. They receive loans at a $3 \frac{7}{8}$ percent interest from the Federal Government and the loan is repayable either over 20 or 25 years. The ruling treasury interest rate is $4 \frac{1}{4}$ percent, which means that housing is made available to people at reasonable rentals. These agencies receive 100 percent loans but it is of course subject to Federal control, the type of house that is built, the rentals charged, etc.

PLANNING

The National Capital Planning Commission is a Federal Government organisation engaged on the planning for the region of Washington. In Washington there is no mass rapid transport system. The railways carry mostly freight and from a passenger point of view, seem to have died with the advent of the motor car, therefore the tendency has been to build more and more expressways to cater for motor transport.

A population explosion has taken place in Washington. They planned for a population of 2 million over a period of 30 years from the then 1,400,000 in 1955, but actually attained this figure in a period of ten years. At present they are busy planning for the year 2000.

Their regional plan is the radial corridor plan; in brief it means that their highways will extend from the centre city in all directions, crossing their own borders into adjoining counties and provision has been made using the median of the freeway for a rapid transport route, towns developing in a controlled manner along the corridors.

The radial corridor plan is to obviate suburban sprawl and to control and develop planning in a given direction with towns following each other on one of the legs of the corridor and preventing any development in between the corridors, the in-between areas to be used for recreation, natural parks and so forth. If suburban sprawl is permitted, it brings in its wake many problems, such as transport and the provision of services. Their greatest difficulty is a lack of statutory authority to compel authorities to conform to plans presented by them.

Washington has a private organisation, composed of prominent businessmen, called the National Capital Downtown Committee. This committee, at the request of the National Capital Planning Commission, has been responsible for the planning of the downtown area. They have no legislative control for their particular plan, but they have been able to persuade businessmen to adhere to this plan to a great extent - the businessmen realising the value of orderly planning for their downtown area. They have employed a Swedish architect to replan a blighted area. It is a magnificent plan and ultimately the authorities will, in all probability, adopt a programme for this particular area.

This committee, before it decides on a specific plan, actually consults every conceivable organisation in the city,

and listens to their representations and views before coming to a final decision. They listen to people like the Pensioners' Association, through the Women's League to the technical experts, who are concerned with planning projects in the city itself, and they say they have had valuable information from these organisations, and have consulted many dozens such organisations. They have no power, they only plan, assist and guide and their function is really that of a forward planning organisation for the downtown area. Businessmen have spent to date, over a period of approximately five years, some \$900,000 voluntarily on this organisation. A platform plan has been drawn for the central business area with streets underneath, creating a pedestrian piazza on the top and yet providing access for deliveries to the main shopping centre, but it will essentially be a pedestrian area and only those vehicles that must of necessity go to the area for essential deliveries will in fact want to go there. The project is ambitious but essentially long-term.

TRANSPORT

The two-third one-third subsidy formula seems to apply to most things in the United States, that is, the Federal Government paying two-thirds of the cost of any project and the city paying the remaining one-third. This also applies to mass transportation demonstration programmes. A city operating a bus service can apply for a two-thirds subsidy for the purpose of experimental changes in its services or its fare structures and for the purpose of demonstrating, through actual experience, the effect of such changes on the use of mass transportation facilities. The term "service" is rather broad. It can include changes in existing services, such as schedules, termini, parking facilities, factors relating to passenger comfort and convenience, new services, feeder services, or an extension of a service into an area that is not being served at the present moment. It can include the testing of new equipment or operating techniques for the purpose of determining their engineering or economic feasibility. Under this heading would come the testing of reserve bus rights-of-way, the co-ordination of various transportation facilities, improvements in technology or even another form of mass transportation. Consultants can be used for research purposes to conduct research into the sociological habits of people before the project is started. The information gained from these demonstration projects is then published and other cities benefit from the experiments carried out in another part of the country, which could mean a considerable saving to themselves.

In Washington for instance, there is a mini-bus service, which runs down the main street of the shopping centre, picking up and dropping passengers. This experimental service qualified for a subsidy.

I have only dealt with the two-thirds subsidy from the Federal Government, but low interest loans may also be obtained for projects. 90 Percent of the loan is granted by the Federal Government, the city having to bear the remaining 10 percent.

Washington is planning a mass transportation system,

that is, by underground railway, underground in the central area, emerging on the outskirts of the city, in one instance going under the river. This is a multi-million dollar scheme, and it is felt must be implemented at this stage, because of the motor population explosion experienced in the city, estimated to be an additional one million motor vehicles in the next 15 years. Their plan briefly consists of the "park and ride" method of transport. At every station along the route of the railway line there will be large parking areas served by fast trains at frequent intervals. They also have quite a poetic technical term which they call "kiss and ride", that is where the wife takes her husband to the nearest station, kisses him goodbye and he then proceeds to his work at the city while she has the use of the motor car for the remainder of the day.

Officials have, for various reasons, rejected every other means of mass transport other than the conventional steel on steel. They have, for instance, rejected the monorail because aesthetically it is not acceptable. Washington being a monumental city where not even telephone wires are permitted to be displayed overhead in the streets. They also rejected free busways for the reason that free busways demand some sort of elevated structure to be able to move in a mass transit form. It is felt buses can be better employed in the suburbs, transporting passengers from the stations to their homes.

TRAFFIC

In Washington and other large American cities a unique method of assisting private motorists in selecting a route home is employed, in the event of an accident or congestion on the main highways. It is a service rendered by private radio companies, who have two helicopters flying over the city watching traffic movement. If for any reason a traffic blockage occurs this information is relayed to motorists with advice as to the best routes out of the city bypassing the trouble spot. The service is rendered free to the motoring public by the radio companies.

LOS ANGELES

Los Angeles is a city covering 450 square miles, the metropolitan area covers a larger area with a population of approximately 8 million people and 4 million registered motor vehicles. Los Angeles is a city which sprawls all over the countryside. I think one can term this "sprawl gone mad". We travelled to Disneyland, which is 30 miles from the central city area and it was built up all the way. Urbanisation since World War II has exceeded all expectations in American cities and if one can learn through what has happened there, then I am convinced that ultimately Pretoria and Johannesburg will link up.

In America people are prepared to commute for a distance up to 70 miles. We were under the impression that our Bantu people should not commute in excess of 20 miles, but in the U.S.A. people commute in excess of that every day. As a matter of fact, people prefer to live away from the central area and commute either by motor car, train or bus every day and 30 miles is not considered to be excessive at all, in fact that

is quite near to the downtown area in terms of American thinking.

Because of its tremendous sprawl stretching in all directions, I think this city can truly be described as the laboratory of the super city. It is in fact a good example of how a city should not be allowed to develop.

The enormity of the motor vehicle problem can hardly be visualised when one compares it with South African standards. They are constantly building highways in the state of California and the demand for highways seems to be insatiable. The financing of the highways is undertaken by the State and the State receives a 90 percent subsidy from the Federal Government, the State contributing 10 percent. It is quite remarkable that in certain states, and that is also applicable to the state of California, they sometimes receive in excess of 90 percent subsidy from the Federal Government, depending on the amount of space owned by the Federal Government in the form of national parks and the like. In the event of there being large areas owned by the State as national parks, that area is then calculated as counting as a Federal responsibility and the subsidy is increased proportionately. For instance, the state of California receives a 91.2 percent subsidy for the construction of major highways because of Federal-owned land within the area of jurisdiction of the State. State highways pass through cities at State expense, the city contributing nothing at all to the construction of the highways. There is a 12 cent tax on petrol in the United States, of which 4 cents accrues to the Federal Government, 8 cents to the State Government and of the 8 cents, 3 cents is paid over to the counties and the counties then pay a pro rata share to the cities for road construction and maintenance. The State will even pay for road construction within the city limits, that is, ordinary road construction, if the city can make out a case that these roads are considered to be arterial roads. The taxing system in the United States and the appropriation of funds is so complex that the Americans say it is far better and easier to accept it than to try and change it.

In California the minimum free lane requirement is 8 lanes, although they always acquire sufficient land for a 10 lane freeway, and should the demand warrant it, it can always be widened to 10 lanes. All expenditure is charged to a freeway project including expenditure incurred in the planning of the project and any technical work done by the State, all of which qualifies for the 90 percent subsidy from the Federal Government.

The emphasis seems to be on public relations in the United States. A city like Baltimore, which is about the size of Johannesburg in population and area, has four more public relations officers. The Traffic Department has a public relations officer to serve that department alone. The reason for such public relations work is obvious - people come from all over the world to examine projects in the United States and I think it is a very important adjunct of the work done there. Without public relations officers I am quite sure that visiting people would not receive the same personal attention. The calibre of

the public relations officer in the United States is very high, they are all very competent people. We in Johannesburg have but a single public relations officer. This is a defect which should be rectified at the earliest opportunity. I am of the opinion that the department should be expanded and that we should lead the African continent in the field of public relations work and we should be able to sell our city to a greater extent and provide a service which will be much sought after by other countries on this continent and by visitors from overseas. No project in the United States, be it urban renewal, mass transit, freeway or anything of that description, is undertaken unless the public has been consulted and the public is normally consulted by way of meetings or referendum, it is therefore the public relations officer's task to go out into the field to present the project to the public who either supports or rejects the scheme.

We actually accompanied one of the public relations officers to a meeting of citizens, where a mass transit project was explained to the citizens. He did it exceptionally well, using slides and indicating what was contemplated and what it involved, especially financially, and to what extent the citizens would be obliged to pay for the project. The citizens received the project enthusiastically, proof of support by the public. This is the method in which the United States operates. They take the public into their confidence and the public has the final say in any project. As a matter of fact many projects in the United States have been abandoned simply because of public resistance.

RESTON

Reston is 25 miles from Washington DC, out in the country. An American entrepreneur by the name of Simon purchased 7,100 acres of land for \$12 million and is busy developing a town there - a self-contained community which will ultimately be a town of 75,000 people. For a single entrepreneur to have the vision, courage and foresight to tackle a scheme of this magnitude, which will cost \$30 million, is quite remarkable to say the least. We saw the plans and models for Reston and I must say it is an ambitious scheme. Ambitious, beautiful, exceptionally well-planned on countryside with undulating hillsides, a magnificent manmade lake, also a golf course, hospitals, community centres, shopping centres on the neighbourhood basis, and a large industrial area. Many people living there will be employed in the nearby industrial area. The industrial area is buffered from the rest of the community by means of the golf course.

Reston will cater for everything that a community will require with all the recreation facilities imaginable, including fishing and boating. This is magnificent and gigantic planning. For a single entrepreneur to have tackled this project is quite remarkable. He is a pioneer in America in this particular field. When we visited the area, building was in progress, a tower block of 15 storeys was already 14 storeys high, houses were already built, the lake was established, the golf course is complete, factories are being erected, houses are being built, certain plots are being sold to private individuals, who will then build their own homes. On other

plots the organisation itself has built homes and is selling these at the moment. The area seems to be popular in spite of its distance from Washington DC, namely 25 miles. Very courageous action on the part of Mr. Simon, who, I am sure, did at the outset not know, or could not have been sure, that his project costing millions of dollars would in fact be a success.

SAN FRANCISCO

Twelve years ago San Francisco planned its mass transit programme, and only recently commenced construction. Every conceivable method of transport from conventional bus transport to the monorail have been considered and rejected. No type of monorail can meet the required standards for high speed comfort, operating efficiency, safety and economy. They finally decided on the conventional steel-on-steel method of transport, namely, the railway, believing it to be the most workable and feasible system of all from an engineering, financial and technical point of view.

The railway will be seventy-five miles in all - four miles under water across the Bay in tube. The project when completed will cost \$1,000 million, and will be financed by way of bond issue, and perhaps a subsidy from the Federal Government. To date they do not know to what extent the Federal Government will participate. In this figure of \$1,000 million they have allowed an amount of \$200 million for possible inflation contingencies. Portion of the income will be derived from the automobile tolls that are paid on the Bay Bridge at the present time.

It is expected to take seven years to build the mass transit system. It will be built mainly under the main streets in the downtown areas of San Francisco and Oakland with thirty-seven stations in all, and at most of the stations, except in the downtown area, provision will be made for parking.

5'-6" Gauge rails will be used and it is planned to attain a top speed of 70 miles per hour with an average of about 50 miles per hour, including station stops, and during peak periods the train intervals will be a minimum of ninety seconds with a carrying capacity of 30,000 seated passengers per hour in each direction.

This is to be the most modern transit system in the world to date. For instance, at the stations - by means of electronic control - the trains will stop and doors on the station platforms will open simultaneously with those of the coaches - the same as any lift door operates. In other words, the stations will be completely screened-off from the tracks. One will not be able to see the tracks except for the glass partitions.

The Federal Government has made a grant of \$7½ million to conduct tests in order to develop new concepts of rapid transit equipment and operating techniques. Also for improved electric power supply propulsion systems for the vehicles to develop the best possible transit vehicle truck for high speed transit cars,

to determine the effect of wind on fast moving transit vehicles, to demonstrate the safety, efficiency and reliability of automatic train control systems, to test and refine new methods of track and road-bed construction, to minimise noise, to give a smooth, comfortable ride for the passenger. The Federal Government has also given a grant of over \$1 million to develop a revolutionary automatic fare collection system which will charge riders on the basis of miles travelled and the charges are to be reasonable - in the vicinity of about 2½ cents per mile.

The experience gained here (after completion of the tests, costing \$7½ million) will be made available to all cities throughout the continent and to anyone else anywhere in the world. In other words, the U.S. Government is spending millions of dollars for research purposes, the results of which are then made available, free of charge, to other countries.

I think that this knowledge alone has in some measure justified the expenditure of this trip, because Johannesburg will one day be compelled to consider some sort of mass transit undertaking.

I have indicated that the San Francisco experts have in fact rejected the monorail as a mass transit method. Whilst we were discussing the project, a Japanese contingent was present and we had the opportunity of exchanging views with the Japanese and inquired whether they preferred the monorail to the conventional steel-on-steel railway system. They indicated that the monorail has serious limitations and they were over here to study the system as announced by San Francisco, but that they preferred the underground tube system to the monorail system. It must be pointed out, however, that these gentlemen were representatives of the railway authorities in Japan.

That evening I had the opportunity of speaking to a Japanese gentleman, the representative of a monorail company in Tokyo - a Mr. Onemoto, who indicated that with new techniques and improved cars they were able to transport 54,000 people per hour as against the contemplated 30,000 per hour of San Francisco's mass transit system.

SEATTLE

The monorail at Seattle runs from the downtown area to a site where the world's Fair of 1962 was held - it is for a distance of one mile negotiating two particularly sharp curves. The cost of the monorail including all its equipment was \$3 million and, during the World's Fair period, 9 million people travelled on the monorail.

Merchants along the route have instituted court proceedings against the monorail authority claiming that it has affected their businesses adversely. This is disputed by the authority, which has indicated that along the monorail route all the rents have been increased. It has certainly brought additional business to those businessmen in the immediate vicinity of the stations.

The makers claim that the monorail can negotiate a gradient up to 12%, whilst the professors at the Washington University who made a special study of the monorail, are of the opinion that one should not plan in excess of 4% gradient. They also indicated that this will require more powerful motors in order to be able to negotiate such a gradient.

We rode on the monorail and found it to be quite comfortable, certainly no less comfortable than an ordinary trolley bus.

In Seattle the monorail's top speed is 60 miles per hour, whilst the Japanese manufacturers claim that their monorails travel at a speed of 90 miles per hour. Four portions constitute a car which carries about 228 seated with an additional 225 standing, making an approximate 450 people per trip and, during the World's Fair period, they claim that they were able to handle 9,000 passengers per hour in one direction.

I feel that Johannesburg could consider (after the economics have been worked out) introducing a monorail for the southern suburbs only at this stage; starting and using as a terminal, the Wemmer East Parking Ground; proceeding along Eloff Street Extension, say to the Wembley Stadium vicinity, with the terminal there; and using the ordinary bus system as a suburban service from there, and perhaps also providing sufficient space for individuals who wish to park and ride.

Seattle is building an enormous and complicated freeway through the centre of the city. In one particular spot there are twelve lanes as it enters the city's central area after which it sheds certain of the lanes, eventually reducing to 8 lanes. It is magnificent engineering complete with radar detectors, loop detectors and television cameras. The centre four lanes will be used only during the peak periods, the centre four lanes will be reversible, i.e. one will have eight lanes going into the city during the morning peak and eight lanes out from the city during the evening peak.

At the control centre, where television screens will indicate to the operator the volume of traffic on the freeway, and in the event of the operators being of the opinion that it is of such magnitude that the introduction of the reversible lane is warranted, they will then be able to open up this centre reversible lane for use by traffic, say, in the event of some football match or other such activity taking place in the city.

Their reversible devices are quite ingenious, consisting of warning signs near gates guiding traffic when the lanes are to be reversed and shunting the traffic to those lanes that will provide the necessary access onto the centre reversible lane. But this particular part will be the subject of the technical report by the officials.

They have a system there, and using our South African left-hand side travel on the road, whereby one can turn left against the red light at a traffic light-controlled intersection, after having stopped and having made sure that it is safe to make a left-hand turn - and it seems to work extremely well.

Seattle has introduced forward planning agencies which are rather complicated in their constitutional setup, but they are agencies doing extensive forward planning work. They seem to integrate and dovetail all the facets of planning in collaboration with every related agency that can possibly be consulted on planning including the sociological desires of the people. In Seattle the University of Washington does studies on transportation and planning problems for the city.

DETROIT

Detroit has a population of 1,800,000 people and to date they have cleared 680 acres of slum property for renewal purposes. The total nett cost of the 680 acres is \$66 million and the estimated value of the redevelopment is \$394million.

The Detroit Council in a rather ambitious scheme cleared 680 acres and then experienced difficulty in finding developers to develop the land. With a superhuman effort they were able to find a developer and start quite close to the central city area selling the land at low prices ranging from 35 cents per square foot to \$1 per square foot.

Detroit was fortunate in having large slum areas in the vicinity of their main hospital as well as in the vicinity of the university, as these two institutions require large tracts of land for expansion purposes.

The experience in Detroit is that when land has been redeveloped, the land values have increased sixfold on an average.

PITTSBURGH

Pittsburgh's urban renewal programme started prior to the Federal Government's financial assistance for urban renewal. In Pittsburgh the business community established a planning organisation of their own. This agency does not act as a pressure group to coerce the city into action, it is complementary to the city's own urban renewal agency. It works harmoniously and in close co-operation with the city department, and assists in the planning of the areas requiring renewal.

Previously a firm wishing to expand, moved from the city itself - perhaps to an area of jurisdiction of an adjoining city. Today urban renewal assists in such expansion, and firms remain in the city as tax contributing undertakings.

I believe that in Johannesburg there should be the same co-operation between our Council, the Chambers of Commerce and Industry, the Mining Companies and other interested parties in planning the city, including projects for renewal areas.

Pittsburgh's approach to urban renewal is not just a question of renewing areas, getting rid of the blight, and then substituting it with something else. There are compelling economic reasons such as an increase in land values (five to

seven times), also an increase in working population. On one project the working population increased from 4,000 employees to 20,000.

So successful have urban renewal projects been that businessmen in a suburban area, with a ribbon development, approached the city with a request for urban renewal. Their turnover had dropped from \$90 million per annum to \$40 million. The city responded with a scheme creating a compact business area with sufficient parking and, in fact, forced people out of the strip areas - i.e. the ribbon development areas - to this area. The scheme included ring roads combined with housing units and public parks, also improving the quality of the houses in the immediate vicinity through the rehabilitation agency, and this resulted in an upgrading of the entire area and an increase in business.

The state of Pennsylvania appropriates \$8 million annually for urban renewal purposes, 20% of which is allocated to Pittsburgh, which means that Pittsburgh has \$1,600,000 per annum to apply to urban renewal schemes, i.e. to assist with the one-third contribution for urban renewal purposes, remembering that the Federal Government subsidises any scheme with two-thirds of the cost.

Pittsburgh has a public housing scheme on one of the areas that was cleared under the urban renewal programme. The high rise apartment block was exceptionally well planned and well conducted, but most impressive were the rowhouses, six units in a row, delightful and attractive; located in spacious grounds, costing + \$20,000 each. They seem to spare no expense to provide their citizens of the lower income group with decent housing. The rentals are dependent on the income of the occupant - between \$35 and \$99 per month.

I cannot see how any stigma can be attached to these houses, yet the Pittsburgh authority feels it must stagger public houses in areas that are already built up, or even go so far as to buy individual houses on the open market for public housing purposes, accerting that an increase in administrative costs is inevitable. It is argued that if an individual in the low income group occupies a public house in a better class area there is bound to be a rub-off, - a psychological impact, resulting perhaps because of their new environment, in trying to improve their own social position. The occupants of public houses are carefully screened and vetted. People with a bad or criminal record are not accepted as tenants for public houses.

REHABILITATION PROJECTS

A survey is conducted of the condition of properties and also a capability survey, which establishes whether people are in fact in a financial position to rehabilitate a property. Public relations officers make personal contact; hold mass meetings; trained people are moved into the area to speak to the people, to assure them of their bona fides; they gain the confidence and the goodwill of the people before they actually discuss projects on a person to person basis.

When the agency approaches a person to persuade him to incur expenditure to rehabilitate his property, (two men are used), one man will do the estimating while the other talks to the owner. Owners are normally reluctant to allow a person to move about freely in his home. He may be a little suspicious, asking many questions. A single estimator acting alone might be impeded in his work.

Costs are prepared for the rehabilitation and these are itemised. They try to apply a standard which will last for longer than the amortisation period of the property. They then assist the owner with calling for tenders, drawing up specifications, and obtaining a loan or a second bond. All this assistance and guidance is free of charge. The owner's financial position and ability to pay is carefully scrutinised, applying a rating system which is purely subjective. Through experience they are able to evaluate whether an individual can pay or not. Items, such as increased taxes from enhanced land values of a rehabilitated property, and every other facet of costs connected with the property, are taken into consideration. This must work out to a figure not in excess of 20% of the individual's income. He is then a sound risk.

Let me mention a few more factors that are taken into consideration:-

Maintenance, which is calculated at $1\frac{1}{2}\%$ of the value of the property.

Future indebtedness is taken into consideration.

Monthly repayments on an existing bond.

Gaining the confidence of the people seems to be a time-consuming exercise, it takes approximately one year before the first owner will start to spruce up his property. If an individual's property is expropriated that person is assisted to relocate himself, the first year's rent is subsidised and relocation cost is paid. So no hardship ensues.

They frankly admit that the problem which they have not solved is that of the old people - people of 55 years and older. It is very difficult to obtain mortgage bonds for people of that age - normally their working life is almost at an end; their financial future is uncertain.

A point I wish to emphasise and which was impressed upon us, re urban renewal, is that one should very carefully select the first area for urban renewal treatment, because the success of general urban renewal schemes will depend on the success of the first project.

To date Pittsburgh's Urban Renewal Agency has undertaken seventeen development and renewal projects, extended physical operations to 1,018 acres of land, and has acquired just over 3,800 properties in fourteen different areas of the city, and this year an additional 600 to 700 acres of blighted or vacant land were in planning or under consideration for

project "Status". 415 Acres have been resold or committed for development. More than 300 acres have been rebuilt or are now under construction. Another 394 acres of properties (existing houses and business buildings) are in the process of being preserved and improved. Over \$265 million in private investment capital have been or are now being expended in the seventeen project areas, with roughly 95% allocated to revenue producing purposes. The remaining 5% for municipal purposes.

Assessed taxable values of property in the seventeen project areas have increased by an estimated \$47 million in fifteen years and can be expected to increase by another \$35 million over the next three or four years. This is important to the people of Pittsburgh. Renewal payrolls, generated by construction and related activity, are averaging out to roughly \$17 million annually over a twenty year period.

We visited Westinghouse Experimentation Station (some 15 miles from the central city area). This firm is testing and have under construction a duorail mass transit project. It is similar to the monorail except that it is on dual rails, with rubber on concrete plus stabilising wheels on a centre rail. The cars carry 28 seated passengers with another 40 standing. The cars can be single or increased up to ten cars for a single trip, they are electronically operated vehicles with speeds of 70 miles per hour on straight lines, less on curves. The maximum gradient is 6% and maximum curvature 150 ft.

The monorail is aesthetically attractive but, when rails come together to form a double pair, it is, in my opinion, less pleasing. I feel that a double pair of a monorail, which is equal to a single pair of a duorail, is aesthetically more acceptable than the duorail system. This is an experiment and we will be advised in due course of the results obtained.

For a city to qualify for Federal Government assistance for an urban renewal programme it must prepare what is termed as a workable programme. The area must be clearly defined, 20% of the buildings within that area must be blighted and 50% of the buildings, including the previous 20% must have a blighting influence on the remainder of the area. In addition there must be a plan of codes, an enforcement plan, a relocation plan, a citizens' participation body with the minority group represented on this body - the minority group in all instances being the Negro population.

The most striking city centre urban renewal project in the U.S.A. is in Pittsburgh known as the Golden Triangle at the confluence of Pittsburgh's two rivers.

The United States Congress appropriates \$800 million annually for urban renewal purposes. This figure seems to be adequate, the cities not being able to absorb more at the present juncture.

PHILADELPHIA

In Philadelphia there are two redevelopment schemes which I think bear mentioning:-

The first is a programme called "Society Hill". An old market was situated on this site, which was cleared and the city then invited developers to come forward with schemes for development of the area. After some delay they ultimately found a developer who was prepared to develop two tower blocks in addition to some rowhouses (720 units in all costing \$16 million).

I wish to indicate how important sociological studies are. I mentioned the new rowhouses in the Society Hill Complex. The selling price is \$45,000 per unit. In the immediate vicinity are some very old houses with historical associations, and these were sold by the city for approximately \$6,000 each. The purchasers were from the higher income group of Philadelphia, who spent large amounts to rehabilitate those old rowhouses, sometimes at a cost of as much as \$100,000, simply because of their sentimental value, whilst over the road, brand new rowhouses costing only \$45,000 stand empty and unsold. I mention this in passing only to show the importance of acquainting oneself with the habits and desires of people before incurring heavy expenditure.

The Eastwick urban renewal programme comprises 2,300 acres of cleared land. It is now fifteen years since the project was first tackled and to date very little building has taken place there. Eastwick is too large an area for a single developer. The city will be compelled to engage numerous developers and divide this huge area into manageable portions.

Philadelphia seems to have tackled too many urban renewal projects all at once.

An Urban Renewal Agency has the following branches:-

- Land Acquisition
- Land Disposition
- Engineering
- Relocation
- Co-ordinating of Problems in the Community Branch
- A Codes and Rehabilitation Branch
- A Legal Branch
- A Director of Community Requirements Branch, which is responsible for economics studies.
- Communities Facilities Administration, the Public Housing Agency, the Federal Housing Administration (guarantees or underwrites mortgage bonds,) and the Federal Mortgage Finance Agency, all of which play a part.

There are numerous agencies, some of them performing a city function, but not answerable to the city. There are so many agencies that an official called a Co-ordinator, brings all these agencies together so as to produce some sort of result.

PLANNING

To plan on a regional or metropolitan basis is almost impossible. One region in Philadelphia has 88 cities in its sphere of influence, and every one of these autonomous cities has a local or vested interest in a regional plan. The cities vie with each other to attract high revenue earning activities to the city. Because of their very heavy commitments (the cities pay for education) those activities, such as commerce and industry, which do not produce material for education, are encouraged to establish themselves in the city, sometimes wrongly sited, so as to have a high taxable activity in their midst, therefore regional or metropolitan planning is almost impossible in the U.S.A. unless it is forced on the cities from the higher authority, namely, the Federal Government.

Philadelphia has a master plan for the city with the year 1985 in view. A planning commission of nine members (six are appointed by the Mayor and three are city officials), meet twice a month. There is a high level of citizen participation in the planning of the city and it is strongly supported by the citizens. The planners frankly admit that without citizen participation they could not have produced the plan that they have in fact produced. The Citizens Council on City Planning, a citizens organisation actually received an annual allocation from the City Council. It employs its own officials, and acts as a watchdog organisation, criticising the city, if warranted. It helps in listing priorities and acts as a pressure group, taking an active part in the City Planning Department, which is composed of sixty staff members, twenty of which are planners.

The method of financing home ownership in the United States is through the normal money-lending institutions, such as banks, pension funds, insurance companies, etc. Mortgage bonds are insured or underwritten by the Federal Housing Administration (a Government agency). No salary limitation is placed on the individual. Any one may apply, provided he is a good risk, which is established after careful scrutiny of his financial stability and ability to pay. As little as $2\frac{1}{2}\%$ is accepted as a down payment on a house and the redemption period can be as much as forty years. Interest rate is $5\frac{1}{4}\%$, plus a half of 1% commission for the Federal Housing Administration, making an interest rate of $5\frac{3}{4}\%$. Persons who have a substantial equity as down payment can obtain an interest rate of 5% without F.H.A. insured assistance.

In the event of the primary lending institutions, such as banks, insurance companies, etc., not having sufficient funds to meet the requirements of everyone, there is a secondary mortgage institution, namely, The Federal National Mortgage Association (popularly referred to as "Fannymay"), which will make money available. This is a Government Association using treasury funds. When capital is in freer supply Fannymay in turn can sell its mortgage bonds to any money lending institution who wishes to purchase such bonds.

Mr. Derek Cartwright, who we met in Detroit, said that the Canadian system re urban renewal operates in this way. The

Federal Government will give a direct subsidy for research in respect of a project and then a 50% grant for the cost of acquisition and clearing of the land, plus the cost of Municipal Services for the new development taking place there. Then the Federal Government will bear 25% of the balance of the remaining cost and the Provincial Council 25%, i.e. 50% of the remaining half or 75% in all. In addition, it will grant a low interest loan of 66 ²/₃% of the balance over a redemption period of between 20 and 50 years. Such then is Federal Government participation in urban renewal in the North Americas.

TENNESSEE VALLEY AUTHORITY: KNOXVILLE.

The Tennessee Valley is situated between the Great Smokey Mountains on the East and the Cumberland Mountains on the West, comprising 40,000 square miles and inhabited by 4 million people.

When the original settlers settled in the Valley, the Valley was well wooded; it was agriculturally a rich area but, with primitive farming methods of those times over an extended period, both the soil and the people seemed to deteriorate, until in 1934 when the American Congress felt that something should be done to rehabilitate not only the soil but also the people of the Valley.

Because the Valley was subjected to periodic floods which devastated the soil and the area generally, nine major dams and enormous power stations were built to control and use the water flowing towards the Ohio and Mississippi Rivers. Farmers too were educated in new methods of farming which resulted in the ultimate rehabilitation of the soil. Flood control measures with enormous lakes meant a navigable waterway. With the electrification came industries along the banks of the river and with the added cheaper water form of transport (two and a half times cheaper than road transport) coupled with improved farming techniques, and the restoration of the soil, the Valley is again an economic viable entity.

The Tennessee Valley Authority is an appointed board of three members. Many sub-branches deal with agriculture, water, power, forestry, research and so forth. But the central authority, which accepts the responsibility for all planning in the Valley, is the Tennessee Valley Authority. The Board members are appointed by the President himself. In my opinion the success that has been attained in this Valley is due to this centralised body which has the sole responsibility and is answerable only to the President.

Owing to their very nature and composition the many agencies that normally operate in the State Departments of the United States seem to take longer than is necessary or required to come to conclusions simply because of the complexity of the system. This fettered procedure is not applicable to the Tennessee Valley Authority.

The Tennessee Valley falls within the area of jurisdiction of five states, and the T.V.A. Board has a policy of guiding,

encouraging and persuading the states to take over certain of the activities originally initiated by the Board. Originally the states had no planning departments of their own, then T.V.A. came on the scene, and the Board managed to persuade the states to establish such departments and to employ planners. The states had no areas set aside for recreation; the T.V.A. Board, in fact, started certain recreational activities and donated land for that purpose. Only when the success of these areas were proved did the states begin to display interest. The land, where the recreational areas were established, was actually donated to the states. These areas today are so successful that between 40 and 50 million people make use of the facilities annually, and they come from as far afield as Canada to enjoy the amenities provided.

The states have now recognised the need for regional planning and are co-operating and planning on a regional basis. So successful has the T.V.A. project been that in the last 25 years in excess of \$185 million of private capital has been invested in the Valley.

The T.V.A. is busy building a new dam and thereby creating a large lake, namely Barkley Lake. An area of land 170,000 acres in extent between the existing Kentucky Lake and the New Barkley Lake will be developed as a mass recreation area. In addition, a game reserve is to be established there, and school groups (young people) will come from all over the United States to visit and camp there. Trained programmers will instruct young people in the science of preservation of fauna and flora, as well as the advantages of outdoor living, remembering that some children grow up in the concrete jungles in the cities and have never seen animals in their natural state.

Before the new dam was started the decision had already been taken to set aside this area for recreation purposes.

Briefly, then, the reasons for the establishment of the Tennessee Valley Authority, were:-

- (1) To control the floods, not only the flooding of the Tennessee Valley, but also lower down where the Tennessee River flows into the Mississippi River, where flooding occurred for hundreds of miles.
- (2) To restore the eroded soil and to rehabilitate the people through the application of new farming methods.
- (3) To build power stations to provide electricity and to create the climate for the industrialisation of the area which took place.

It is interesting to note that thirty years ago 70% of the people of the Valley were farmers. Today only 10% of the people living in the Valley are farmers, and even the rural farming communities are growing into metropolitan cities.

The water from the dams is not used for irrigation purposes, the rainfall is sufficiently high to meet with all the

water requirements of the farming community. Electricity by itself would not be an economic undertaking. After having computed the electricity's share of the cost of the dams in relation to the share for navigational purposes, as well as flood control purposes, the cost is cheap. It is one cent per kilowatt hour.

For the development of the area between the lakes the Tennessee Valley Authority has jumped the expenditure from nothing three years ago to \$9 million per annum.

NEW YORK

In New York 250,000 housing units are classified as sub-standard. A further 400,000 units are considered to be unsatisfactory for reasons such as overcrowding, and are also classified as falling within the sub-standard group, but not in the priority group for rehabilitation or demolition purposes. So serious is the problem that, if no further deterioration of housing within the city limits takes place, it will take 20 years to rectify the existing position.

New York is very wary of rehabilitation and indicate that one must very carefully assess rehabilitation costs as compared with new unit costs. Nevertheless New York seems to favour rehabilitation and the city encourages rehabilitation by granting city tax exemptions for a period of nine years.

We again came across the many agencies on the same principle in the New York Traffic Department. The Traffic Chief has under him (I suppose they could be called divisions - they call them bureaus there) a bureau dealing with traffic lights, another with Meter Maids, another with planning, another with the provision of parking garages, another with personnel and so forth.

New York recently introduced the vandal-proof parking meter (the same parking meter as used by Baltimore). Since the introduction of the vandal-proof parking meter there has been a 40% increase in revenue, so much so that practically the total cost of the meters (approximately \$2½ million) has been recaptured out of this increased revenue within a year after their installation.

Parking meters in New York are patrolled by Meter Maids, who assume all the duties in connection with parking meters. They employ 210 Meter-Maids with a senior woman in charge of every five Meter Maids.

New York has the grid-iron street pattern similar to Johannesburg. Since the introduction of the one-way street system, delays caused by stops at certain centre-city points were reduced by 46%. The average speed of vehicles on these busy routes has improved by 40%.

New York is to spend \$100 million on the introduction of an electronic signal system for traffic lights. Traffic-counting electronic devices, automatic computers and other

products of the space age technology will be employed to provide flexible control for present and foreseeable traffic needs. These devices will measure the volume and speed of traffic, simultaneously introducing variations to effect the necessary control.

In terms of studies and experience (it has always been the complaint in Johannesburg that, as soon as a traffic light is erected, accidents seem to increase), a three-second amber with a two-second all-red light to obviate the accidents that have been occurring at the conventional amber control intersections is recommended. Any delay caused by the two-second all-red can easily be taken up by the necessary phasing. They use actuated equipment extensively.

For a quick analysis of traffic movement on one of the major expressways they have come up with quite a novel idea of asking motorists to switch on their lights. The motorists kept their lights on after leaving this major highway and they were then, by a simple method of field observation, able to assess in which direction traffic was moving.

Exclusive bus lanes were introduced in 1963 during the rush hour on Livingstone Street, Brooklyn.

The exclusive lanes are only for the peak periods: from 7.00 a.m. - 9.00 a.m. in the mornings and from 4.00 p.m. - 7.00 p.m. in the evenings. During the restricted hours other vehicles are permitted to enter these lanes, but only for the purpose of making a right-hand turn. In our country that would mean a left-hand turn (the Americans drive on the right-hand side of the street).

The surveys have shown that there is a reduction of 21% in bus trip times, making it possible to schedule what amounts to an additional 22 buses during the rush hours, but they do indicate that they have not yet solved the problem, because in these exclusive lanes they still have the difficulty of having to deal with the individual parkers at the roadside. They have not as yet introduced towaway zones.

Prior to our departure overseas we were informed of New York's intention to erect elevated busways above street level, an innovation which created some interest. The intention is to erect a busway using the median of a freeway for the purpose. (At this stage only a suggestion). New York traffic experts admit it would be quite impracticable to have such elevated exclusive busways in built-up areas.

In New York we visited the Port Authority's parking terminal, a terminal consisting of five floors built on a property measuring 800 ft. x 200 ft. Three of the five floors is space let to bus companies and used as a bus terminal. The other two floors are used for parking, with additional parking on the roof. Parking costs \$2½ (R1.70) for nine hours. A remarkable thing about this parking terminal is that there are

many shops within the area where passengers congregate. In fact 56% of the income of the parking terminal is from shops let to private enterprise.

I am convinced that if our city had had this information at its disposal when it designed the Southern Suburbs bus terminus with the Van Der Bijl Underground Parking Garage, we might have gone about it just a little differently so as to have made the maximum economic use of that terrain.

Mr. Kay of the Parking Garage Bureau indicated that in an area, where one has a heavy peak load, the absolute maximum number of parking spaces in a parking garage should not exceed 700.

In New York motorists are encouraged to leave their cars at stations and to travel to the central area by means of the underground railway.

NEW HAVEN

New Haven is a small city with a population of 152,000, serving 400,000 in its metropolitan area. New Haven has attained more in the field of urban renewal than any other city of comparable size in the United States. Here again, simply because of a very active citizen's action group, composed of leading business personalities in the city itself, who have assisted the city in the planning of areas to be renewed and, more important still, in finding entrepreneurs to develop the area so cleared.

Professor Maurice Rotival had submitted a master plan for the development of New Haven, and Mayor Lee (the strongman mayor system operates in the United States) has religiously followed this plan and was able, together with the citizen group, to accomplish much in New Haven.

New Haven has not concentrated on one particular section of the city but rather tries to provide something for each section of the community, business, public housing and housing for the aged.

The aged pay 20% of their pension, in other words their income, as rent for a housing unit (\$41 per month). Very attractive and interesting little units are provided. I might just mention that one of their innovations is a bell which, in the event of them being ill at night, is rung to summons the superintendent; the back door opens simultaneously permitting the superintendent to enter without the individual getting out of bed to open the door. Housing units for the aged are grouped in units of 36, each with a superintendent.

New Haven has been singularly successful in the field of the provision of housing for the middle income group. When an urban renewal area is cleared, bodies, such as the Y.M.C.A., church bodies and other non profit organisations, build economic housing projects.

Government funds being provided means that inspections will be carried out during the building programme and whatever body undertakes such non-profit housing provision can be sure that the construction will be of the highest quality. 100% loans at a low interest rate with 40 year redemption periods are obtained from the Government. Co-ops are formed for flat development, which means that individuals can purchase shares in a company to the value of the unit. If he wishes to leave, he resells his shares to the company. By this means low rents, for the lower income group, have been attained, without the stigma of public housing being attached to such projects.

Whilst in New Haven I visited two schools that were constructed on modern American lines. I have asked for the plans of these schools to be forwarded to me in Johannesburg; I think they will be of interest to our Provincial Authorities. A small yet handy device is a magnetic blackboard where one does not have to use thumb pressure and drawing pins to affix anything to the blackboard. Small pieces of steel are used. (Plans have already been forwarded to the Provincial Authorities).

At New Haven we saw a parking garage spanning a road with shops on the ground floor on either side of the road. It was quite attractive but, aesthetically, there was room for improvement. This too is something that I think we should consider in our future plans.

LONDON

In Britain over a period of 20 years the traffic has increased two and a half times. Unlike the Americans, the British seem to find difficulty with the designing and planning of their roads, because of money limitations imposed by the Treasury. The Americans would acquire sufficient land for a ten-lane highway in spite of the fact that their present day requirements might only be for six lanes. When traffic conditions warrant it sufficient land will then be available to widen the road to carry ten lanes of traffic. In Britain funds are not as free, a fact which detrimentally affects their forward planning.

A proposed road is advertised in the press, followed by a public hearing.

New highways are called "Corridors of Opportunity". British highways are well landscaped by a team of experts. There is a Landscaping Division, with a Landscape Architect, a Horticulturist, and other officials on the staff. They work in close co-operation with the Road Engineers. Once the road has been mapped, there is a line inspection and suggestions are made to the Engineers, and costs are assessed. They consult local planning authorities, and also an Advisory Committee, consisting of representatives of societies, such as Horticultural and Motor Societies, to whom their recommendations are submitted for comment.

London started off with a traffic survey and this ended

up with a transport survey (the Ministry of Transport being responsible for transport). This in turn developed into a socio-economic study, at the time of writing being conducted by an American firm of consultants, in conjunction with a British firm. The Ministry of Transport is able to plan roads on a regional basis. Local authorities are required to submit all plans to the Ministry in order to qualify for the subsidy in terms of the listed formula.

All expressways, or trunk roads, as they are called in Britain, are the responsibility of the Ministry of Transport. The trunk roads stop at the boundaries of the local authorities or at a convenient intersection. The roads within the local authority area in the city are classified in three categories:-

CLASS 1 ROAD - a road which carries 75% of the through traffic.

CLASS 2 ROAD - a road which carries 60% of the through traffic.

CLASS 3 ROAD - a road which carries 25% of the through traffic.

To qualify for a subsidy, either in the construction of a road including land acquisition or if the road needs widening and capital moneys have to be expended on such widening, the formula is:-

CLASS 1 ROAD - the Central Government will subsidise 75% of the cost of the widening.

CLASS 2 ROAD - 60%

CLASS 3 ROAD - 50%

In the cities there is no grant for maintenance purposes but, in terms of the above formula, the counties obtain a grant for maintenance.

REVERSIBLE LANES.

The Hammersmith Bridge is an unusual bridge because of its approaches and no near destination for any person using the bridge; it is also used extensively by buses. Here London introduced quite an innovation: it is one-way for three minutes and then for three minutes two-way. This is achieved by the mechanical switching of bollards. The traffic has to be marshalled on the approaches before the switching operation takes place. (Information provided by Mr. Duff of the Ministry of Transport).

Another innovation is called the box junction. It is simply an area paint marked in the middle of an intersection. If a motorist happens to be stopped in that area, when the green light is changing to red, he is liable to a penalty. Personally I believe it to be an awful waste of paint.

The American system of turning left against the red signal is not favoured. If the street is all clear, either of moving traffic or pedestrians, they prefer rather to filter the traffic through against the red by means of a definite signal.

London have not introduced exclusive bus lanes, although a study for the reservation of lanes for the exclusive use by the buses is at present being conducted.

There is no set phasing of the robots in London. Traffic is measured by detectors and traffic lights phased accordingly.

If a city wishes to introduce traffic signals, here again, the formula previously mentioned (75%, 60%, 50%) applies for the erection of traffic signals in city streets.

Traffic surveys conducted by the city, receive a 50% subsidy from the Ministry of Transport, but if related to trunk roads (in other words expressways), the project is paid for in full by the Central Government. The Government will pay in full for experiments, re computer phasing, to be introduced soon at a cost of half a million pounds.

Whilst discussing parking garages in the central city area, we were told that the maximum number of cars that one should permit in the central area is 500 parking spaces. London also is not providing too many off-street parking facilities so as to discourage people bringing their cars into the central area. But again, one must draw attention to the fact that London has a very efficient underground railway system.

London's transport operates in the greater London, comprising 2,000 square miles, which is considered to be an economic area. They have 8,000 buses, 4,000 underground cars, and a staff of 75,000 people, divided into three divisions. There are no garages or bus terminals in the inner ring, the buses being through-buses. This is possible because of London's size - it seems to be one central city area after another.

London's transport is controlled by a permanently appointed board, consisting of seven members who are appointed by the Minister of Transport. It is an economic venture having shown a surplus of £1.3 million during the past financial year.

In the event of a contemplated fare increase, a tribunal holds a public hearing and comes to a decision - similar to our Transportation Board. It is laid down in the Act that the tribunal may not frustrate the Board's statutory aim, and that is to show a profit.

London's transport is operated by the Government but no questions in connection with London's transport are permitted in Parliament. Any complaints, which cannot be rectified by the officials of the Transport Department, are then submitted to a consultative committee, consisting of non-paid laymen. This committee deals only with ordinary day to day schedules and complaints, which might be of some significance, or in the public interest. This consultative committee then makes a recommendation to the Department which normally accedes to their requests.

1½ million people are brought into the core of London daily. 40% travel by train, approximately 40% by the underground, and 20% by bus. Only a very small percentage use their private motor cars and even then some of those will park away from the central area and use the underground into London proper.

The Transport Department is soon to conduct experiments with one-man operated vehicles with a flat fare. As only double-decker buses are used it is intended to seal off the upper deck during the valley periods. In the near future they intend introducing a single-decker one-man operated bus with a flat fare of sixpence with only two stops. This will be superimposed on the existing service. It will travel for 1½ miles carrying 75 passengers (one third seated with the remaining two-thirds standing).

An experiment will soon be launched (and this is worthy of consideration) with a single-decker one-man operated bus, where one will pay when one leaves the vehicle and not when boarding, so as to obviate disrupting traffic in the central area. People will then pay their fares in the suburbs where traffic is not as prevalent.

The London Transport Department has managed to persuade employers of labour to stagger working hours, with some success, the result of course a smoother running of the service. In addition two nights a week the shops close at 7.00 p.m., which means a levelling out of the peak period, not only because shop assistants leave work later, but the shopping public who normally travel during the peak, also travel later.

I think that the following figures will be interesting:-

The New Victoria Line (now under construction), which will carry 32,000 passengers per hour, comprising 1,000 passengers per train with 32 trains each hour, will cost £5 million per mile, including stations and equipment. This is on the high side because it is to be integrated with their existing underground system. Twin tunnelling without the equipment costs £2½ million per mile, tunnelling in soft clay. The tunnel has to be lined with either cast iron or concrete. In addition, deep foundations of large buildings have to be underpinned and safeguarded. This lesson has taught them to safeguard any possible future routes for their underground system, something which we in Johannesburg should bear in mind for a future mass transit system.

URBAN RENEWAL:

London has the enabling powers to expropriate property for purposes of urban renewal. The authorities are obliged to relocate the people of an urban renewal area, but they need not necessarily relocate them in the vicinity in which they lived. Any businesses displaced in terms of an urban renewal scheme are fully compensated. 25% of a bombed area, which is to be renewed, qualifies for a Government grant, i.e. 50% of the cost of acquisition of the land. Other than that there is no assistance from the Central Government for urban renewal, with the exception of the normal grants that are made in respect of the construction of new roads. All rentals for public housing projects, however, are subsidised by the Government.

Grants of up to £400 are made for rehabilitation with certain conditions attached, one being that after rehabilitation has taken place the property must have a lifespan of at least 30 years.

I think that it would be of interest to say something about the Greater London County Council:-

It is a metropolitan body consisting of 100 elected members. It is a body which actually controls the metropolitan planning of some 30 bodies or municipalities, and has extensive powers in this respect. All plans have to be submitted by the local authorities to the Greater London County Council, which then vets or amends these plans, the local authorities then being obliged to implement the amended plans.

Education and the planning of sewers for the metropolitan area are some of the London County Council's other functions, but the emphasis is on the planning and development of the metropolitan area.

We visited the Barbican Scheme, a project of the city of London, now under construction. It is an extensive urban renewal project. Most of this area was bombed during the war and it thus qualifies for some financial assistance from the Central Government. It is an area 35 acres in extent and the proposed density 230 persons per acre. A definite effort is being made to avoid the conflict of pedestrian and motorist, with pedestrian-walks and shops on a podium 26 feet above the street level.

The Barbican scheme makes provision for 2,100 flats and all other amenities required by a self-contained community. The total cost is expected to be £30 million.

We paid a visit to the Hyde Park Underground Garage, a 1,200 car garage, situated under Hyde Park. From both exits (there are two) the cars literally merge in expressway fashion with traffic on a road carrying very fast moving traffic. The Engineers, who conducted us over the garage, also expressed the opinion that in the central area one should not have a parking garage in excess of 500 parking bays.

The tariffs at this particular garage, which is some considerable distance from the central area (in fact one would have to take the underground tube to get to the central area) are:-

- 2/- for the first hour.
- 1/- for each additional hour up to 8 hours.
- 10/- for over 8 hours but inside 12 hours.
- 12/- for over 12 hours up to 24 hours.

The nightly charge from 6.00 p.m. to 9.00 a.m. is £1/10/0 for seven vouchers, i.e. £1/10/0 per week.

For businessmen who wish to park from 8.00 a.m. to 7.00 p.m. Monday to Friday, the charge is £1/15/0.

The weekly tariff for 24 hours is £3.
The monthly tariff for 24 hours is £12.

PARKING METER CHARGES:

In the central area of London the charge is 2/- per hour with a maximum of two hours. A little further out it is 1/- per hour with a maximum of two hours, and still further out it is 0/6d. per hour with a maximum of two hours. The reason for the differentiation of charges is simply to discourage people from entering the central area.

In London there are Traffic Wardens patrolling parking meters. A Warden patrolling on foot can handle 75 meters.

I had the opportunity of inspecting a new development of a parking meter (called the Duopark), which is used in many countries of the world. It is a twin parking meter and, according to the manufacturers, it has several advantages over the single parking meter. Aesthetically it is more acceptable because there are less posts and other features (a pamphlet is available), but what struck me especially about this parking meter is the slot mechanism and money collecting box.

The name and address of the firm manufacturing the meter is:-

S. Markman of London Limited,
143 Holborn,
LONDON E.C.1,
ENGLAND.

LIVERPOOL.

Liverpool employed consultants to develop the centre of the city and it was soon realised that one cannot develop portion of the city in isolation, any development in a city affects the immediate surrounding areas and further afield, therefore the position in Liverpool is a joint office consisting of the consultants and the city planning department being fully integrated. One-third of the city of Liverpool is to be redeveloped. Changing patterns in population habits causes town planning philosophy to undergo a change. New towns are springing up, people are moving out, some old industries remain, others move, requiring more "elbow room". All this results in a changing social pattern and traffic movement and naturally the planners, who might have had set ideas in the past as to how a city or a metropolitan area should be developed, must now adapt their plans in terms of the new tendencies. Liverpool's future planning will be, as far as is humanly possible, on a radial basis with fingers stretching out from the central city area, attempting to avoid sprawl; land between the fingers to be used for agricultural or recreational purposes.

Experience has taught the lesson that there should be a distinction between the long term strategy plan and the short term plan. The long term plan to embody certain planning principles, which can only be projected after a thorough investigation of the inter-relation of a transport system, of the existing road system and of a projected superimposed road system - a land use survey which will then permit one to draw up a broad structure plan where only principles are considered and not detailed land uses, which

is dealt with, or can be dealt with, by the short term plan. Embodied in the short term plan must be action areas, which can be tackled immediately. Here again one comes across the philosophy of a maximum parking space to be provided in the central area so as not to overload the road system. To strike a balance it is felt by Liverpool, that 80 percent of the people commuting to town must do so by public transport. Therefore, the location of land uses which will generate traffic is important, also the disposition of residential densities. So then one finds the patterns of the central area and ribbon development along certain arterial roads are undergoing changes and giving way to the modern pattern of the supermarket, which normally establishes itself in a strong catchment area. The small businessman is being forced to close down.

With automation, the industrial pattern is also changing. It is therefore very important for any planning authority to have the closest consultation and liaison with industrialists and business people who trade or operate within a city.

Because planning must be preceded by different studies, Liverpool has set up a research section, divided into two parts, one for research and the other for policy purposes. Owing to a lack of knowledge in the field of research Liverpool has been forced to undertake its own research. Sometimes, because of the length of time studies take, it is necessary to make a quick appraisal of local conditions and come to a decision whilst one might critically study the problem after that in depth. It is, therefore, important to have after such studies a policy map of a district planned in general terms and to assess how feasible that plan will be in relation to the whole. The plan will naturally have to be flexible and therefore one should be careful in choosing a name. One should avoid the term "master plan" and rather refer to it as a "guide plan". It will have to be changed from time to time, but this can be done without any great disruption, there is little likelihood of a dispute once the plan as a whole has been accepted. It means that only small portions will be in dispute at any one time. One can accept that owing to the structure of certain buildings, it may be twenty years before a portion of the plan is actually brought into effect in a particular area, but Liverpool reviews the plan annually and analyse the changes and then change their projections accordingly, it is important that it be a continuous process.

Liverpool is combating ribbon development by buying properties of businesses that are in the process of falling away. With the disappearance of small businesses, additional custom for the remaining businesses that now wish to expand and redevelop, the city is able to control redevelopment. Included in Liverpool's plan are enormous parking garages - one is planned for 2,500 parking spaces and another for 5,000 parking spaces - but these are planned in conjunction with the expressways and they will actually be planned so that they will have access onto and egress from the expressway, merging with the traffic as any other road of importance would do when linking up with an expressway. Liverpool has included in its plan a pedestrian mall of several streets, approximately one mile in all, from which all the vehicular traffic will be excluded. This fits into the general plan for the central city area and has

been welcomed by shopkeepers; in fact some have complained because of exclusion.

The authorities in Britain have recognised that no area can be planned in isolation. For that reason regional bodies are being considered for the whole country. The Greater London Council is the first of such regional planning bodies, more are under consideration and the Liverpool-Merseyside area will certainly also have a regional controlling body in the near future controlling the planning of the region in relation to its roads and traffic requirements, land uses and the like. The planners have been aware for a long time of the need for such a regional planning authority. They feel such an authority should plan from the top downwards and even be responsible for the zoning and rezoning of individual stands in the cities.

We took the opportunity to visit the Liverpool Transport Department and were met by Mr. Morris, the Public Relations Officer of that department. One thing of interest was a Leyland-Atlantia bus that is used extensively in Liverpool. We were informed by Mr. Morris that they had in fact put to the test over a period of time approximately half a dozen types of buses in Liverpool and found this bus to be the most efficient and purposeful for their requirements. The engine is in the rear with a single driver-controlled door at the front, being a double decker bus, and I am of the opinion that this type of bus can readily be adapted for one-man operation purposes and it certainly warrants investigating some mechanical means of fare collection.

I met a Miss Wood, the Superintendent of the Women Police of Liverpool, and was informed that the ladies have performed their duties very successfully. Since their inception the department has grown from 24 originally in 1947 to 210 today. They are not only responsible for traffic duties, they in fact do point duty, but they are also responsible for all other police duties associated with a police force.

BIRMINGHAM.

Birmingham's renewal scheme is the most progressive encountered in England. They started approximately 10 years ago, requiring special legislation by Parliament to undertake their urban renewal intentions which have been very successful. We were conducted over the Bullring Scheme, which very effectively separates the pedestrian from the motor car and creates a complex which is alive, well-supported and a great success. An inner ring road, and an outer ring road effectively handles the traffic. They have tackled the problems with imagination.

In regard to the public housing, 50 percent of the housing units of Birmingham are the property of the local authority. They believe in the leasehold system for control purposes. The blocks of flats that we visited were most attractive.

COVENTRY.

A city that suffered heavily from bombing attacks during the war, their central city area was extensively damaged, making possible the replanning of the central area. The pedestrian mall conception, exclusively for pedestrian traffic on two levels, in most instances is a resounding success.

The success of the Coventry Scheme was due to the tremendous amount of planning and thought that went into the scheme conceived by the officials and then submitted to their Council. One must give the Council credit for having supported this imaginative conception. Both in Birmingham and Coventry there were enormous models of the areas to be rehabilitated, replanned and rebuilt, and these models have been of benefit not only to us, but as propaganda media to inform the population of these cities of the intentions of the Council, and because it is visually perceivable, they have had support from the citizens for their urban renewal undertakings.

PARIS

Paris is the focal point of the whole of France. In the early planning of Paris it was the intention to concentrate all roads, rail and forms of communication in the direction of Paris, so much so that even today Paris still attracts the whole of France to its bosom. Unlike the American cities, the Government wishes to reverse this trend and is in fact encouraging industries to leave Paris by creating a climate for new industries to establish themselves outside the city's limits. The Government subsidises industry in the form of grants for those who wish to leave the city limits and go further afield. The subsidy is for removal purposes and long term loans to industry to move out.

In France, because of the lack of private participation and the provision of housing for the people, the Government has stepped in, to an ever-increasing degree, to itself provide the housing required by its citizens. It has created a division called H.L.M., freely translated meaning the Housing for the Low and Moderate income groups. The Government has assisted private entrepreneurs, whom they call promoters, to provide housing. The assistance is by way of long term loans at a low interest rate. It has taken this form:

1. A 100 percent loan free of interest - redemption period 53 years - for the sub-economic group.
2. 85 Percent loan - redemption period 45 years - at 1 percent interest. Naturally here a ceiling is placed on the earnings of individuals.
3. 70 Percent loan - no limit to the size of the building, no ceiling regarding earnings - redemption period 30 years - at 5 percent interest.

The Government also assists individuals to buy flats with a grant plus a loan. In the event of the individual exercising the prerogative of accepting a loan as well as a grant, the loan will then be at $5\frac{1}{2}$ percent interest, but if he chooses not to accept a grant, the interest is then reduced to 2.75 percent. The only stipulation here is that no individual may sell his flat before the expiry of eight years. There are complementary methods of financing for individuals with large families. People are encouraged to own their own homes. A savings organisation which will accept deposits, 200 Franc minimum, and pay 2 percent per annum for a period of six years. At the end of this period the State will match the capital so deposited to assist the individual to purchase a house.

The State has imposed a type of special services levy for housing purposes. It is 1 percent of the earnings of the workers. This 1 percent is paid into a special fund to be utilised by a special body which builds houses for the workers, a stipulation being that the workers of that particular industry will then receive priority in the allocation of housing units. The State also assists low income families who hire housing and receive a subsidy of between 45 percent and 85 percent of the rentals depending on the number of children, earnings and the like. The State, again depending on income, will pay up to 75 percent of the rent of its aged i.e. people of 65 years or over.

When I asked Monsieur Vonneterre, who provided us with all this information, what the mistakes were that they had made in the past and are avoiding at the present moment, he indicated that the housing units they had built originally were too small and of low quality. Today they are building bigger units and of better quality.

Just as an aside, communication through the services of an interpreter is most difficult; as a matter of fact I found it most exhausting. One cannot possibly receive the same clear picture as one does in the English-speaking world.

We saw the planner of the la Defense project. Central Paris has a height restriction plus a restriction on new buildings, something that I am sure will be maintained in perpetuity owing to the beauty of Paris. There being need for additional office space the authorities approved the la Defense scheme, controlled by an appointed board of individuals from surrounding local authorities. This scheme is so bold and imaginative in its conception, greater than anything come across, even in America. The area selected lies immediately west of the river Seine and is 250 acres in extent.

A platform of 100 acres is to be built, leaving spaces in the platform through which will rise the tower office blocks of 45 or more storeys in height. Buildings of up to 4 stories can be built on the platform itself. The platform will be free of vehicular traffic, all services to be located under the platform, including parking for 20,000 motor cars. The busiest road in Paris, complete with interchange plus the underground railway with station will be located underneath the platform.

10 Million square feet of office space is to be provided where 50,000 people will work. It is estimated to cost R200,000,000 up to platform height.

Except for the road construction and underground railway, the scheme has to be an economic undertaking, that is an instruction in terms of the special legislation that had to be enacted for the project. I have indicated that the cost would be R200 million up to platform height. Paris has, in its metropolitan area, nearly 9 million people and a scheme of this nature may be an economic venture in that country, but I have grave doubts.

We met Monsieur Taurand, the City Planner, and had discussions with him about the future planning for Paris and the Paris region. Paris, like every other city in the world, has experienced the population explosion and definite steps are being taken to reverse this process. It is being done by the establishment of eight towns on the periphery of Paris with all cultural and other amenities which should encourage people to remain in their own town rather than visit central Paris. This is the reverse of the position in America, where people are trying to rehabilitate the central city areas because of the stagnation that has set in. The position in Paris is perhaps unique, as previously stated everything in France is directed to Paris - all roads and railways. Important activities are centred there. Paris must reverse the trend so as to protect the historical character of the city, whilst a measure of modernisation is to take place. In fact the intention is to reduce the population of Paris by 200,000. This can be done by the strict enforcement of codes as well as zoning provisions. The Government itself is to assist in this process by transferring some of its activities to the adjoining new cities that are being established.

A regional plan has been drawn up for the Paris region, always bearing in mind that new techniques may affect the plan quite substantially. New techniques, such as television for office use, with headquarters of large organisations only in the centre of cities, whilst the rest of their activities can be outside the cities, with television it could be as good as operating an entire undertaking in the same building. Consideration must be given to the future use of the helicopter, or some other form of air transport.

Large areas of the city are to be renewed and redeveloped by a mixed organisation consisting of 51% of city representatives and the rest being drawn from private enterprise. Special laws will be required to assist this body in its work. Planning in France works in two ways. A minister is responsible for planning.

Planners draw up the general plan for the entire country, thereafter regions and local authorities are encouraged to plan their own areas to conform with the national plan. All plans of the lower bodies are submitted to the Minister for approval.

We visited a new dormitory town called Sacelles. Originally planned to accommodate 2,000 dwelling units, it has grown over a period of seven years to 12,000 housing units. The town was built by private enterprise with Government loans. The housing units, blocks of flats, offices, administrative buildings and amenities are all of very high quality and one can only give credit to the

French for this outstanding effort. This dormitory city is for working class people; which the French admit to be an error. One should not group people of the same class together, it creates social problems. The new town is complete, parks, roads, kerbsides, pavements - nothing has been postponed to some future date.

One of their most impressive blocks is the home for elderly people. Here the old people are housed in the most delightful flat units. Their food is brought to them, purchased at a very low rate. Modern conveniences and amenities, such as a television room are provided, and again the building is of the highest quality.

We were shown a large model of the complete town. This type of visual contact certainly makes things easier to explain to the visitor, especially in a foreign country where language difficulty is encountered.

TRANSPORT.

The Transport Department of Paris controls the underground railway as well as the buses. An annual deficit on buses is normally made good by the profits of the underground and in the event of a loss on the whole undertaking, the State moves in with a subsidy. They are most reluctant to increase fares, thus avoiding increasing the cost of living, thereby assisting in curbing inflation. The State even goes so far as to subsidise 50 percent of the travelling costs of a breadwinner with a large family.

On the buses there is two-man operation in the central area of Paris, where 87 million passengers are carried annually, as against 35 million in the suburbs, where one-man operation is in vogue. Because of the short distances that passengers travel in the central area, one-man operation is not possible. It might be of interest if I indicate here that the conductress has a little cubicle of her own inside the single decker bus where she collects the fares, which in my opinion is a complete waste. She must take up the room of at least four seats. At present the transport department is investigating the possibility of using one-man operation with a single flat fare system. This is partly in operation in Marseilles we were informed, where it is expensive to board a bus without a ticket, whilst inexpensive if the ticket is purchased at a municipal kiosk before boarding.

Paris is busy extending its underground system which is financed by the State, the city being responsible for the capital required for the rolling stock. The cost of the new underground railway is in the vicinity of £6 million per mile. Paris has introduced new techniques in its underground. The rubber tyred wheels run on wood. We were informed that the rubber tyres have travelled over $\frac{1}{2}$ -million Kilometres, which is approximately 300,000 miles and wear on the tyres is hardly visible. We had the opportunity to travel in one of these trains. It is a comparatively smooth ride, very quiet, almost noiseless.

We talked with officials of a private commercial company manufacturing the SAFAGE monorail. This is the suspended type of monorail. They claim to have had some success at their testing stations. They also claim that within the next two years they will be building a monorail in Texas, two miles long with two

stations. They indicated that they will be building one in Japan, two miles long with five stations, and that this line will be started during this year. It will be a single line with five stations, with loops at each station. A double line was recommended, but the buyer in Japan demanded a single line. They will also be building one in Rome. Leicester in England is considering a double line of eight miles with eight stations.

One of the advantages they claim for this monorail is that it can travel 80 miles per hour with gradients of 8 percent and 100 ft. curve if so required. They also claim that with four cars requiring a station of 300 ft. by 50 ft. they can move 24,000 passengers per hour, and double that rate with double the number of cars. The height of the car from street level to the bottom of the car is 16 ft. 8 inches.

URBAN RENEWAL.

Urban renewal is not normally subsidised by the State, nor does a formula exist for subsidisation other than in the event of a local authority showing a loss on an urban renewal area after the land has been cleared and resold to a developer, the State makes good such loss.

REHABILITATION.

The State requires owners to rehabilitate their properties and they have instituted a rehabilitation tax for this purpose. A 5 percent tax is paid on all rentals, which is then used for rehabilitation of the property by the owner.

HOLLAND

ROTTERDAM.

Holland has the three tier government system, the Central Government plays a very important role in the affairs of local authorities. The constitutional position is similar to that of South Africa: Central Government, Provincial Government and Local Authority Government.

All taxes are collected by the State, with the exception of approximately 10 percent, which is collected by the city by way of a small tax on property and an entertainment tax. The remaining 90 percent of the city's budget is paid to the city annually. The city prepares the budget which is approved by the province and financed by the Central Government.

During the immediate post-war period Rotterdam's public housing was of a low standard. They too are moving away from low quality houses to higher quality houses, not only in the finishing of the housing, but also in the size of the housing units. The method of financing housing in Rotterdam is that non-profit companies or organisations obtain 100 percent loans from the Central Government, the redemption period being 50 years on buildings and 75 years on the land at 4½ percent interest.

Occupiers pay approximately 15 to 20 percent of their earnings in rentals which is sufficiently high to create a reserve fund that will cover annual running losses, otherwise the Government

bears 90 percent of the annual running losses and the city the remaining 10 percent, but in practice this hardly ever happens. The city guarantees the interest on loans.

The Central Government subsidises housing by private entrepreneurs in the form of a grant according to the number of bedrooms in each unit. In Rotterdam approximately half of all the units built have been so subsidised. 50 to 60 percent of all vacant land in Rotterdam is owned by the city. Owing to the length of time it requires to acquire land, the city has a policy of expending R6 million per annum on the acquisition of land.

We visited the garden suburb of Vreewijk. This suburb was built for the labouring classes in 1920 and the houses were of high quality and today, 45 years later, they can compare with anything in the better class suburbs. It was indeed a garden suburb with magnificent open spaces along the canals. It is really a beauty spot. The point that I am trying to make is that if one builds quality houses, they last for a long time, maintenance is cheaper and in the long run it is the best and most inexpensive method of building.

In Rotterdam there is an Acquisition and Allotment of Land Section and this section is incorporated in the Department of Town Planning and Reconstruction. As a result, there is close co-operation between the planning sections of the Department of Town Planning and the officials of the Real Estate Section, which has been proved to be extremely useful and fruitful in practice. The ready exchange of data and the mutual exchange of ideas, also in the lower ranks, is greatly promoted in this way. Through this inter-action the planners form a better conception of the economic sides of the plans devised by them, while those who acquire and those who allot the plots later on can follow the intentions of the town planners with a better understanding. In fact when it was put to them that it may be wiser to separate these two sections, they viewed such a suggestion with abhorrence.

URBAN RENEWAL.

Hollanders only lately enacted laws for the governing of urban renewal in that country. 80 percent of the cost of acquisition of property will be borne by the State and 20 percent by the local authority. For rehabilitation purposes the Central Government gives direct grants to the owners to assist in the rehabilitation of property.

TOWN PLANNING.

The Cabinet decides on a broad policy for the entire country, but does not itself prepare the plan. Regional plans are prepared by the provinces - there are eleven provinces in Holland. The cities prepare their plans which conform with the regional plan of the province. As a matter of fact the officials of the Planning Department of the Province meet with the officials of the city of Rotterdam every five weeks to discuss town planning matters common to the interest of the city and the Province. The effect of such an arrangement is that when the city submits its proposals to the Province, they are already sure that the proposals will be approved. To date this seems to be the simplest and most efficient and effective way of planning of all the countries that we visited.

Rotterdam is building a mass transit undertaking, partly underground, partly on the surface, of conventional steel on steel. The interesting part is that when the fares are calculated, the cost of construction will not be included in the calculations.

GERMANY

In Bad Godesbergh in Germany we met officials of the Ministry of Housing and Planning.

During the war Germany had 5 million housing units destroyed which had to be replaced and, in addition to that, she had to accommodate 13 million refugees from the Eastern Zone. Housing received priority and the intention was to build homes rapidly and near the individuals' places of work.

Germany believes that the individual must be encouraged to contribute towards his housing. The formula is 15% of the purchase price as down payment, 37% of the purchase price is borrowed on the open market at between 6% and 7% interest. (First mortgage) Redemption period 30 years. The remaining 48% is advanced by the Government (second mortgage) redemption period 56 years; government rate of interest 0.5% on its loan. After the first mortgage is redeemed the repayment (rent) is then reduced proportionately.

Non-profit companies are by and large responsible for the building of housing units and then sell them to home owners. Because private companies or individuals are no longer participating in the provision of housing, the insurance companies and other lending institutions who provide the first mortgage monies have entered the building field.

Persons who build their own homes without Government assistance by way of a second mortgage, are encouraged to build with some tax exemption calculated on their income tax.

As in America the sub-economic group (or the rent-assisted economic group) is integrated with the rest of the community. A ceiling is placed on the individual's earning so as to qualify for assistance in acquiring a home, but when his income exceeds that ceiling, he is not required to move. Substantial assistance is rendered to large families.

In the field of planning, the Federal Government legislates for planning re: compensation, land uses and development by local authorities under the control of the Provincial Government. The cities draw up a master plan, which is vetted by the Province. The cities then act within the confines of the approved plan.

Planning takes two forms: There is a master plan for the region drawn up by the Province. It is a guide plan (just a programme), which is checked every five years, and the city plans must conform with the master plan for the region. This is based on a Federal Act and planning must fall within the framework of the Act. It deals broadly with land uses. Because of the difficulties experienced in the large cities, the Central Government has laid down a bulk factor of 2 which can be exceeded, depending on special

circumstances, but only with the approval of the Federal Authority.

In planning, Germany is trying to achieve a proper balance. It does not wish any over-population in the bigger urban centres. It encourages the decentralisation of the population and yet wishes to control the time distance the communities will be required to commute. The big cities are, in fact, required to subsidise the satellite towns when the population working in the big city reaches a certain figure.

Germany, as yet, has no urban renewal programme. Legislation is in the process of being drafted at the moment, recognising that the cost of urban renewal will be greater than the cost of the 8 to 10 million housing units that have been constructed since the war. It is anticipated that the Federal Government will in all probability bear approximately 50% of the loss on urban renewal.

DUSSELDORF.

Düsseldorf, through its planning authorities, wishes to control the size of its population, satellite towns are therefore established to serve the city. The policy is almost identical to that found in Paris.

Satellite towns are subsidised by the big city, depending on the number of employees who work in the big city.

In Düsseldorf the planners had on display models of the city, and also many charts with their projections, and again, it was interesting to note that the city intended controlling the number of parking spaces that will be available in the central city area, in this instance 35,000 including street parking spaces.

In Düsseldorf, the Federal Government pays 50% of the cost of feeder roads from the expressways, the expressways being a Government responsibility on the outer ring.

An interesting feature in Düsseldorf is an elevated motorway (4 lanes) adjacent to a very select shopping area. At one point the expressway is only 18 ft. from the overhanging verandah of the shop, and 27 ft. from the shop window to the edge of the flyover. This flyover is constructed with such delicacy that it did not seem to adversely affect this very select departmental store.

HAMBURG.

Hamburg's social housing is of very high quality and very impressive, but what struck us forcibly is the magnificent landscaping around their housing units. Even those early units that were constructed immediately after the war (they are not as attractive as the newer units) looked appealing.

We asked to see Hamburg's new market and were conducted over the market. The market mission has reported fully on this market. It is therefore superfluous for me to report on Hamburg's market.

BERLIN.

Discussions with the planning officials in West Berlin have been most interesting and illuminating. West Berlin is endeavouring to plan for a unified city, when in fact it has only half of the city under its jurisdiction, but there is some co-operation in the planning field, especially roads, between the officials of the Western Sector and the Eastern Sector on an unofficial basis. I put it to them that it seems as if they are permitted to communicate with each other over the wall, so to speak.

EAST BERLIN.

Although this was not included in my schedule, I did take the opportunity of visiting East Berlin, going through the customs of the communistic sector, an exercise which lasted for approximately half an hour, filling in forms, declaring the amount of money in my possession and having had to present my passport on no fewer than five occasions.

I found the Eastern Sector, especially in the vicinity of the Gate, and this also applied to the Western Sector, completely devoid of any activity. I then proceeded as far into Eastern Berlin as I could possibly do within the time at my disposal, and was struck by the very absence of activity in that sector of the city. Because of an absence of traffic there did not seem to be a traffic problem in East Berlin. I penetrated to beyond the main station, and standing there at 5.30 p.m., I looked up and down the street in either direction and observed only three motor cars, three buses and one lorry.

It seemed to me that the people of East Berlin were poorly dressed and did not have the happy appearance of the people in the Western Sector. The shop windows and the displays of the stores left a lot to be desired. They were of very poor quality. The goods displayed in the shops seemed to me, although I do not profess to be a judge, not to be of very high quality.

WEST BERLIN.

90% of West Berlin's housing is social housing. Here again, we were struck by the high quality of the housing provided and, in addition, by the wonderful landscaping that accompanied their housing projects.

Housing in Germany is in the form of blocks of flats, mostly four-storey buildings. Occasionally eight- or nine-storey buildings, which they consider to be the economic limit.

We viewed blocks of flats that were built in 1928. West Berliners claim they were first in the world to build this type of housing. With the exceptional landscaping and quality of the flats, they are comparable to anything built today.

Another scheme which we visited was adjacent to a park. The park seemed to merge with the gardens of the flat development area.

On the question of roads, I only wish to mention this small point, and that is that at one particular section, where there is a high density residential area, an acoustic wall separated the road from the residences.

In the vicinity of the Olympic Stadium we noticed a rather large parking area with many trees, cars being permitted to park between the trees. I think that this is something that warrants consideration in Johannesburg.

FINLAND.

HELSINKI.

I was under the impression that in Finland we would learn much about urban renewal, but the contrary is in fact the case. There is no slum problem in Helsinki. The reason for this is that the city purchased large tracts of land immediately after the second world war and, in fact, today owns 70% of the land in the city. Land was purchased beyond the borders of the city and ultimately when it was decided to extend the borders of the city it was a relatively easy exercise. Consequently there is no overcrowding, which makes Helsinki one of the leaders in Europe in the provision of public housing for its citizens.

Helsinki is encouraging the decentralisation of industry, there simply is no more room for industry within the city's boundaries. Since the war, in common with all countries, Helsinki has experienced a population explosion, as well as a large increase in motor population. From 1950 to 1964 the motor population increased from 12,500 vehicles to 75,600, bringing in its wake prolific traffic problems.

The city is planning a ten-lane highway as well as an underground mass transit railway network. Here again, a limit of 30,000 parking bays is being planned, including street parking - and no more - the capacity of the streets to carry traffic must be maintained. The expressways are the responsibility of the State up to a certain point within the city; it then becomes a city responsibility. No decision has yet been arrived at in respect of the financing of the underground railway system.

The Traffic Engineer, Mr. Aarvala, further explained Helsinki's traffic projections and the measures to be taken to meet the requirements. He indicated that they were to spend 10 million Finnish marks on a synchronised computer system traffic light network, also the establishment of a pedestrian mall in the shopping area by means of closing the main street for approximately half a mile. He indicated too, that they were purchasing new parking meters which will show the excess time parked by motorists. They seemed to have some difficulty with motorists arguing with traffic police as to the amount of time that they have over-parked, which creates some measure of dissatisfaction and controversy.

We visited a new town called Tapiola, situated some six miles from Helsinki. This town was built by a non-profit organisation known as the "Housing Foundation". The town covers 600 acres of land and 17,000 people already live there. The density is 30 persons per acre.

Tapiola is situated in a magnificent picturesque setting with beautiful lakes, and the countryside blending and merging with the town. The sociologists have here created a pattern which I am sure the world will follow, for there are extensive areas for recreation, traffic-free zones for the children, all conforming to a plan, with a modern environment and no overcrowding.

People purchase their apartments in this town and receive Government assistance by way of a loan at a low interest rate.

It is a mixed development, from single-storey houses to high rise tower blocks. Sections were planned by different architects, and the end result is most pleasing. I think that one could truly term this a model town.

We were conducted to the new civic offices and shown a huge model of a new central city scheme. A platform, with expressways descending by means of ramps under the platform, with high office blocks and cultural buildings, ringing a most beautiful lake. Personally, I felt that it was too ambitious a scheme for a city with a population of only half a million people, but it must be remembered that it is also the capital of Finland.

From there, we were conducted to the offices of, or rather the studio of Mr. Alster, a famous Finnish Architect, who conceived the scheme described above.

I wish to place on record the services rendered to our party by the South African Consul General, Mr. Olia, who accompanied us on our visits to and interviews with the Government and Municipal officials. We were met by him at the airport and taken to the airport after our visit to Helsinki. The attention we received from him was outstanding and something for which we are extremely grateful.

SWEDEN

STOCKHOLM.

Sweden is faced with the same population movement as other countries, namely, a de-population of the rural areas and an influx to the urban areas with the consequent increase in population there.

Sweden has at the moment eight regional planning authorities and these authorities consist of the municipalities within such a region who have to form a regional planning association to prepare a joint plan. All the local authorities of the region are represented on this association and the Government appoints the chairman and the vice-chairman.

Before a regional plan is finally accepted there must be consultation with the different communities within the region and with the State authorities concerned with the plan. The plan is then exhibited for a period of three months during which time objections are heard. It is then submitted to the Central Government for confirmation. 50% of the cost of such a plan is borne by the Central Government. The remaining 50% is borne by the local

authorities pro rata the advantage that they will receive from the plan.

The Regional Planning Authority has no power to impose its plan on the local authorities, but the local authorities use this regional plan as a framework to plan their own master plans for their cities and their master plan then acts as a guide for the detail planning.

Stockholm's own planning is on the radial basis, i.e. like the formation of a hand with the fingers being the directions in which the communities are planned with the provision of a mass transit railway system and the location of suburbs with adjacent shopping and industrial areas. It is interesting to note that the 1957 plan for the provision of industrial land is already out of date and has had to be revised. There is an ever growing need for industrial land.

Another interesting facet is that in their expropriation laws the local authority has the power to decide when a developer can exploit the land, for the reason that no such exploitation can take place until the local authority is in a position to provide all the services, including transport to the area.

The local authority of Stockholm expropriated a large area for the establishment of a modern shopping centre called Norrmall. The Expropriation Law was amended by Parliament to authorise the local authority to purchase the entire area by way of compulsory purchase, namely expropriation, and not stipulating in this instance what the land will be used for after it has been cleared, as is normally required in expropriation proceedings, which meant that the local authority could obtain the land at the then market value and not at the new projected enhanced value. The city had to pay for the relocation of people and had to even compensate small shopkeepers who lost their businesses.

The land mentioned above was not sold but leased to developers.

Housing.

The Government assists private individuals as well as corporations to provide housing with low interest rate Government loans, falling into four different categories, which I will not enumerate. I mention this to indicate that the low interest rate method of financing is the only system used when urban renewal is undertaken. The city will undertake urban renewal and developers can then obtain assistance by way of low interest rates for the redevelopment, but must pay the full cost for the cleared land.

One other so-called advantage, which I feel is a dubious advantage, is that the cleared land will have a higher mortgage value, which is favourable to the developer.

DENMARK.

COPENHAGEN.

Town planning of large areas, i.e. regional planning, is not really required by law, but is often carried out on local initiative.

In 1948 a regional plan was prepared for the outskirts of Copenhagen. This plan is being revised by the Government in collaboration with the municipalities concerned. Other regional plans have been prepared for the districts surrounding several of the large towns.

Regional plans indicate the general lines that are to be followed by municipalities in the planning and administration of housing schemes and other activities, and these have proved very valuable as a background for the preparation of town and development plans, but they act only as a guide to municipalities.

Each city has to have a master plan and this is required by an act of Parliament of 1949. The object of this act is to prevent the use of land for construction activities before it is ripe for development, thereby hindering an economically unsound extension of individual urban communities.

The impression we gained in Denmark is that they have many plans, but very few of these plans have been put into force. We were told, for instance, that the extension of the Copenhagen underground railway has been planned and has been on paper for 25 years, and to date no extensions have taken place.

GREECE.

ATHENS.

We visited the offices of Messrs. Doxiades and Associates, town planners who operate all over the world. We had the opportunity to view for ourselves the activities in their central office in Athens.

A seven-storey building is occupied by this firm and we were impressed with the method of action and the high efficiency of their undertaking. The firm employs civil and structural engineers, economists, sociologists, architects, planners and legal advisers.

It is quite a unique establishment and they undertake not only planning, but all types of studies, such as the provision and use of water in the Sudan, urban renewal redevelopment in America, the building of bridges in Greece, and the like. It seems to be a firm with wide experience in many fields.

ISRAEL

TEL AVIV.

Tel Aviv is a city with half a million people with $1\frac{1}{2}$ million in its metropolitan area, and planning for a population of three-quarters of a million by the year 2000. This small increase is due to Government policy which is to disperse the population as far as possible and not to have a concentration of population in large cities alone. This dispersion policy was planned in 1949 and is accepted today by the present Government. In conformity with this policy the Government has moved from Tel Aviv to Jerusalem.

In common with most countries in the world Tel Aviv has the same problem re town planning, ie. that it is surrounded by four dormitory towns and two satellite towns, and have found it a little difficult to plan on a metropolitan basis and even more difficult to plan on a regional basis because of the many conflicting interests. They are hoping that ultimately they will be able to prepare a regional plan for the area, i.e. a detailed regional plan or master plan. In 1931 there was a study group which had prepared a plan for the country in respect of transportation and roads, and succeeding governments have followed this plan to this day.

We visited some of the new developments in Tel Aviv, housing and the like, but the most interesting new development was an industrial development for light industry. This is an area where four-storey factories had been built and are sold to private persons. It is built on a platform approximately 3 or 4 acres in size, with the lower portion being the service area as well as the parking area, with a road leading to the first floor area, from where servicing also takes place. It is a very interesting development from the point of view of those many small industries who require space where their particular individual needs can be met.

In respect of urban renewal, it is not termed as such in Israel; it is called slum clearance and redevelopment. 30% of the properties in Tel Aviv are of a sub-standard category and will need clearance in the future. When an area is demarcated for slum clearance purposes the Government bears two-thirds of the cost of the acquisition and clearance of the land, and then together the Government and the city are responsible for the building of housing units, the Government again bearing two-thirds of the cost.

A housing fund administered jointly by the Government and the city was launched with an initial 10 million Israeli pounds. Flats are sold to the occupants on a 20 year basis at a low interest rate of $4\frac{1}{2}\%$, and all redemption and interest moneys are paid into the fund. $4\frac{1}{2}\%$ is considered to be a low interest rate. The current market rate officially is 12%, but we were informed that it can be as much as 18%.

To date Tel Aviv has cleared 8,000 slum housing units and have built housing for 3,000 families, the other 5,000 having found accommodation of their own accord.

Israel has experienced the worst population increase therefore it is quite understandable that the quality of housing provided is not of the same very high standard that we came across in Holland and Germany, but at the same time, they too realise that their standards have been too low, and they are now aiming at bigger and better quality accommodation.

The progress made in Israel during the past 17 years has been staggering to say the least. Here is a lesson to be learnt especially for our own country. A small nation surrounded by enemies, achieving wonders through the medium of hard work and an unshakeable determination to survive as a people, coupled with an optimism generated by a holy faith which promised that the desert shall blossom, as indeed it is.

SOME IMPRESSIONS AND RECOMMENDATIONS FOR CONSIDERATION.

One of the paramount lessons I learned on the overseas trip is that one cannot plan a city in isolation, nor can one plan a metropolitan area without considering the regional requirements, and it is absolutely imperative that a body be set up that will be responsible for a guide plan for an entire region, such a guide plan to be followed in general terms by the local authorities affected. The local authorities being free to do their own detailed planning within their own areas of jurisdiction, but always conforming on general lines with a metropolitan and regional plan. If this is not done our future generations will have to appropriate millions of rand to rectify the mistakes that we will be making in respect of planning today.

I wish to recommend that the business community of Johannesburg be approached to set up their own authority to assist in the planning of the central city area. After all, they have very large investments and an active interest in this area. The city cannot effectively plan for the needs of commerce and associated activities in the central area without their full co-operation, assistance and effective participation. Wherever we went in America, where this system was in vogue, those were the best planned and most progressive cities of all. It is in those cities where stagnation has been arrested and the downtown areas rejuvenated.

How can the city know what the requirements of institutions in the central city area are if there is not the closest liaison and co-operation between the city and an organisation representing those very interests.

To date it has been our city's policy to require private developers in the central area, when redeveloping properties, to provide parking. We ourselves have been providing as much parking as we possibly can. In the past adequate consideration has not been given to the fact that our projected parking requirements in the central city area may be in excess of what the central city streets are capable of carrying in the form of traffic, therefore if we wish to protect the central city area from the effects that have been experienced by some American cities, I believe that a thorough

investigation is warranted into this aspect so as to avoid the choking to death of the central area with vehicular traffic, and I wish to suggest rethinking along these lines.

One of the salient features of my experiences throughout the tour has been the very important part that is played by the planners in our every day lives and in the life of the city. Planning is the science of projecting human needs, not only of today, but for future generations, and it is for that reason that I wish to suggest that the Chief Forward Planner of the city of Johannesburg should be permitted to serve on the Technical Committee and attend meetings of the Management Committee. Planning deals not only with land uses, but the effect that those uses have on housing, traffic, transport, roads and other city activities. It is therefore essential that he be made aware of policy inclinations which will and must affect planning.

Public Housing.

In respect of public housing, if Government funds are not sufficient to erect high quality housing, I believe we should seriously consider not participating in the provision of public housing. No occupant will thank an authority for providing housing to which a "low class" stigma is attached.

Any project that is initiated, in the overall cost must be included the landscaping and pedestrian walk-ways. It is essential that the roads, kerbing, sidewalks and landscaping be completed almost simultaneously with the completion of the housing units.

Traffic.

I believe that a one-way system should be worked out for Johannesburg's grid pattern as soon as possible, and that for short distances in the central area, free reserve lanes should be introduced for our transport fleet, where possible, in the opposite direction to the flow of traffic.

Roads.

For the construction of roads there should be an inter-meshing between our own intentions and those of the Provincial Authorities, and I think that it is essential that a body of technical officials be created to ensure complete liaison between the Provincial and City Authorities, not only for Johannesburg, but for the rest of the Witwatersrand as well.

Mass Transport.

I wish to recommend that an immediate study be conducted for a mass transit system for the city of Johannesburg, bearing in mind that this is a long term policy, that it will only be warranted when the population of Johannesburg has reached a figure that will justify underground transport. The reason for a study now is simply to secure the routes the railway will follow and control the use to which the land can be used during the interim period.

The monorail recommendation appears earlier in this report.

The following suggestion will probably be the most difficult to implement and yet extremely important: the city to appropriate a sum of money annually to purchase land, beyond our borders, for the control of development in the far distant future when Johannesburg's boundaries will inevitably be extended. If we wish to adopt a policy of healthy planning, perhaps on a radial basis with the fingers leading out from the city along the expressways and the mass transit ways, I think it is essential that the city starts purchasing land now. This has been the experience of both Stockholm and Helsinki, and their cities have benefitted from a policy initiated many years ago. Land purchased now will be available for housing, open space and other civic uses in the future, otherwise in later years the cost of land may be found to be prohibitive.

I wish to express my sincere thanks to my colleagues for the opportunity to learn and see so much in overseas countries. I hope that the experiences acquired will be of benefit to our city. My appreciation to the City Engineer, Mr. B.L. Loffell and the Chief Planner, Mr. H.M. Marsh who accompanied me on the tour for all the personal services rendered which converted a long and strenuous tour into a pleasant experience. On behalf of all, my innermost thanks to the many countries we visited and their officials for the ready assistance and hospitality so lavishly showered on us.

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