CONTROLLING PERIPHERAL DEVELOPMENT: SOME INTERNATIONAL PERSPECTIVES

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To be given at 13th Salzburg Congress on Urban Planning and Development. Held 21 - 24 April 1978 at the Schloss Leopoldskron, Salzburg, Austria.

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If we are to look for 'failures' in the urban planning system many can be found on the peripheries of the great industrial cities of Europe. This is curious. Many factors and many influences were brought to bear on the emerging planning systems of the various European countries. But one element was crucial, how to handle the pressures for growth? The work of the key planning theorists who addressed themselves to this problem is, or ought to be, well-known by every first year planning student. Ebenezer Howard wanted to transplant metropolitan growth into satellite new towns. Cerda wanted uniform peripheral growth based on polynucleated neighbourhoods. Le Corbusier wanted the growth to take place upwards.

Yet despite these and other theories, urban growth has generally been accommodated by peripheral expansion with the minimum of planning input. At best this has resulted in large scale and dull housing schemes. At worst this has resulted in bad housing lacking not only basic community facilities but also basic utilities. A further problem associated, either directly or indirectly, with unplanned peripheral sprawl, is associated with social matters - vandalism, violence, alcoholism and crime. What went wrong?

The aim of this paper is to begin to answer this question with reference to three European cities, Glasgow in Britain, Barcelona in Spain, and Ljubljana. Ideally, of course, one would have wanted to have a wider range of cities in a wider range of countries, but this paper should be seen as the start of a wider project. We must, as a consequence, recognise that our sample of cities is far from representative. Two of the cities, Ljubljana and Barcelona, are representative of countries which are only now moving into industrial maturity, whilst part of a mature economy is located in that part which is falling into decline. These aspects should be borne in mind as a warning against building too much on limited evidence.

But to return to the main question, what went wrong with handling urban growth? Theoretically there are a number of critical points from the plan preparation to the plan implementation stages that could go wrong. Did the plans meet the needs of the circumstances? In other words sid the plans provide for the requirements of those who were to live in the new areas. Was there an administrative and legal structure that could suitably implement the plan? If so, was there the political will to implement the plan? This latter point relates to the degree to which the politicians

themselves believed that the plans met the perceived needs of the community - or perhaps more precisely, the voting citizen body as a whole.

In terms of the three cities under examination we can argue that two of them - Glasgow and Barcelona - did have viable plans prepared for them. The planners in Glasgow in the 1950's did prepare schemes for the peripheral development of the city based on neighbourhood concepts, which if implemented could have provided not only good houses, but houses set within a neighbourhood framework which could have provided a full range of community facilities, and even a range of industrial job opportunities. The plans could also have been very easily dovetailed into a regional strategy devised to decentralise some of Glasgow's population into new towns.

Similarly, it might be agreed that from the 1950's adequate plans were prepared for the necessary expansion of Barcelona. As Wynn notes:

> "The balanced poli-nuclear structure of the 1953 Barcelona Sub-Regional Plan (covering 27 municipalities), and the Land Urban Planning Act of 1956, which introduced a 4 tier hierarchy of urban plans and a variety of measures aimed at preventing land specualtion, could have provided the framework for effective urban planning."

These plans, too, could have been linked to the embryonic regional plan for the dispersal of population from Barcelona into new towns.

There was, however, basic weaknesses in the plans for Ljubljana. Peripheral development there was to be handled through the mechanism of high rise, high density residential areas, which were also costly in terms of rent. Later experience was to demonstrate that these were patently not what people wanted.

Moving now to the question of the legislative and administrative frameworks of the three countries, were they sufficiently robust to implement the plans? In the case of Britain, the answer is unquestionably yes. The 1947 and the 1968 Town and Country Planning Acts, and the powers that they gave to local authorities like Glasgow were strong enough to ensure that the plans could have been implemented, although it has to be noted that Central Government did not have the strength to insist that unwilling authorities should be brought into line.

In the cases of Barcelona and Ljubljana, however, the legal and administrative structures were not strong enough to ensure that even good plans could be implemented. In Spain the 1956 Land and Urban Planning Act contained loopholes, the most serious being the flexibility given to Local Plans in their modification of approved Municipal Development Plans. In Yugoslavia these were similar sorts of weaknesses in legislation, coupled with the substantial

autonomy given to the communes which could bye-pass city strategies. In both cases this led to substantial illegal and often shanty housing schemes. In other words, until very recently the law and administration in Spain and Yogoslavia has been powerless to prevent private builders from operating outside the law. This contrasts with the Glasgow situation where all peripheral housing development has been undertaken within the law, even if the results have been disastrous. Indeed most of the peripheral housing in Glasgow has been undertaken directly by the local authority itself.

Thus the failure of the outer peripheral estates in Glasgow has been the result of the lack of political will to achieve something better. In the section on Glasgow, this has been accounted for by the indifference of local politicians to planning considerations and to the belief that "there are no votes to be gained by good planning."

Because the root cause of the difficulties in Ljubljana lay with poor planning and weak tools of implementation, one cannot blame weak political will. Indeed there are now indications that the politicians are aware of the deficiencies. Plans are being prepared which more accurately reflect the aspirations of people's needs and the law and administration is being tightened to implement the new wave of plans.

In Spain the situation is, or perhaps more accurately has been, one of weak political will closely associated with the powers of the landowners, who see planning as a threat to their autonomy, and overt corruption. These points are spelt out in greater detail in the section on Spain.

Overall, therefore, we have identified basic weaknesses in the planning systems of three countries. Britain has a strong tradition of relatively sensitive plan making and adequate administrative and legislative structures, but indifferent political will at the local level. Spain has some planning tradition but weak legislation and powerful anti-planning lobbies and overt corruption which makes plan implementation weak. Yogoslavia has a poor tradition of plan-making and weak legislative and administrative structure, but a strong political will to see planning implemented.

The picture thus painted is pessimistic. The future is, however, more optimistic. Glasgow politicians are becoming more sensittive to planning, as the consequences of past mistakes become more apparent - although there is little land left for future peripheral development. Certainly, we can expect more sensitive plan making and tighter planning controls in Ljubljana and as Spain moves into a democratic system so we may expect the powers of the landowners and the scale of corruption to diminish there.

CONTROLLING AND PLANNING THE PERIPHERAL GROWTH OF GLASGOW 1945-1977

ROGER SMITH

Glasgow's past development had, by the early decades of the twentieth century, left it with a massive legacy of congested and overcrowded dwellings. The represented some of the industrialized world's worst slums. A major priority, therefore, especially after 1945 was to redevelop such areas, and in order to reduce residential densities to an acceptable level, transfer two thirds of the three quarters of a million population who lived there elsewhere.

This has been the overriding housing policy of the former Glasgow City Corporation. The first major attempts at easing these inner city problems was undertaken in the early 1920's with the provision of extensive public housing schemes (built under the 1919 and subsequent national housing legislation). The first of these schemes were of high quality. Densities were low - in the order of twelve dwellings to the acre - and the semi-detached dwelling, with separate garden from and back predominated. But largely on the grounds of cost their high standards were gradually eroded. Densities were increased and a modified version of the tenement - the traditional form of Scottish domestic urban architecture - began to take precedence in the later interior designs. During the post 1945 period planning, architectural and design standards fell even more as Glasgow sorrounded itself with further peripheral public housing schemes. The local authority was providing the city with another generation of slums, which in some respects were no worse than the schemes they were supposed to replace. Easterhouse, Castlemilk, Drumchapel became the byeword in Britain for public housing schemes at their worst. It is true that the dwellings themselves was structurally sound and provided with a wide range of amenities. On the other hand, no attention was paid in providing these peripheral estates with community facilities. They had no shopping areas, no public houses, no facilities for young people, and they were cutt off from the mainstream of the city's social and economic life. The estates, as has been noted earlier, dominated by updated versions of the old tenemants, were drab and uninviting. Largely because there were social desserts, many of these estates began to exhibit signs of social malaise. Vandalism, drunkeness, violence and other forms of crime became established so that some areas, like Blackhills, took on

the appearance of a derelict area in which the police patrolled only with the greatest caution. And as these areas continued to deteriorate so the odium attached to them become attached to the inhabitants. Employers were reluctant to employ those who lived there, hire purchase credif became difficult to obtain and so the levels of social and physical detteliction increased.

The Town and Country Planning and the Town and Country Planning (Scotland) Acts of 1947 gave Britain one of the most comprehensive town planning systems anywhere in the free world. Why was it that Glasgow, with the powers provided such degrading housing estates? In essence the answer to the question is that Glasgow Corporation was obsessed by building the maximum number of houses that it could, at the expense of most other considerations.

There are many explanations of this. The first is a humanitarian one. Such was the housing need in Glasgow that it seemed imperative to move people out of the slums as quickly as possible. Especially during the 1950's faced with this pressing task, it must have seemed that any deflection of resources from this task was immoral. Bad housing meant bad health, and to let bad housing remain was to tollerate ill health and even premature death.

There was also the factor that the local politicians believed that a high output of public housing won votes. Since the 1930's, with only a few exceptional years, Glasgow was run by a labour administration which believed that it owed its power to its ability to keep to its housing programme targets. Consequently the housing committee became the most influencial and prestigious of the various Glasgow Corporation Committees. The overriding priority for providing housing at all costs was therefore assured.

The powerful housing committee was therefore in a position to overide the wishes of the architects and planners employed by Glasgow.. Even in the early 1950's, the Glasgow architects and planners were anxious to ensure the peripheral housing estates which were being started at that time, should be well planned by adapting neighbourhood principles, and providing with a full range of community facilities. But in this event these schemes for 'grafting new towns onto the periphery of the city' came to nought. The Glasgow councillors thought them too prodigal of resources, which would be better used providing more houses.

The Scottish Office - the Central Government Department responsible for overseeing town planning and housing (amongst other matters) in Scotland was concerned with what was happening in Glasgow. But paradoxically in these areas where the Scottish Office had direct powers over planning, its interference - whilst beneficial as far as Glasgow as a whole was concerned - undoubtedly worsened the situation in the peripheral areas.

In 1943 the Scottish Office assisted the setting-up of a committee team to prepare an advisory plan for the Clyde Valley (that region which had Glasgow at its core). The plan - issued initially in 1946 - recommended providing a green belt not only round the city, but encroaching into Glasgow itself. This would facilitate only limited peripheral expansion. Much of the inner city congestion would be eased partly by some low density peripheral growth on what land was not touched by the green belt, but many from the slums would be transferred to four recommended self-contained new towns surrounding the city.

Initially Glasgow objected to these plans. It objected to losing building land within its own municipal boundaries, and it objected to losing population. The Scottish Office, on the other hand, viewed the regional plan sympathically. The Scottish Office, consequently, embarked on a policy of implementing the regional plan - at least as far as its own powers would allow. In order to affect the dispersal recommendation, the Scottish Office designated a new town at East Kilbride to take Glasgow's population. The Scottish Office also made it clear that as far as containing the growth, the city was concerned permission would not be given to develop on that Land within the minicipal boundaries which the regional plan wanted as a green belt.

During the subsequent thirty years the Scottish Office continued its dispersal policy for Glasgow. Further new towns were designated at Cumbernauld (1956), and Livingston (1962) and other overspill arrangements were made between Glasgow and other Scottish towns as a result of the 1957 Housing and Town Development (Scotland)Act. Furthermore, the Scottish Office prevented much building - but not all on the green belt where it lay within the Glasgow boundary.

By the mid 1950's Glasgow had come to recognise - at least officially - the desirability of the Scottish Office Policy. On the other hand, Glasgow was anxious to accommidate as many of its citizens who needed new housing within the city. Consequently the policy was persued of building as many of the modified types of tenements as possible on what land was available. The policy of the maximum number of dwellings at all costs continued to be followed.

The need for more houses increased further by the end of the 1950's when Glasgow started on its policy of clearing 100,000 of its worst houses. In 1960 its was calculated there was room in the city to replace only one third of them. Glasgow was able to increase that proportion only by building high rise blocks of flats, at first only in the inner part of the city, but then subsequently on what land was left on the outskirts of the city.

By the late 1960's the legacy of this policy was only too apparent. The social problems of the estates built in the 1950's and early 1960's was now compounded by the social problems of the high rise flats of the late 1960's and early 1970's. Clearly the growth of housing estates could have been better planned physically and socially. Why was it not? There are several explanations and so lessons to be learned. The first point is that planning per se is important and that it should have been given greater priority. Had planning been given greater priority in post 1945 Glasgow, there would undoubtedly have been less social problems. It follows on from this that more might have been achieved had the politicians been aware of the adverse consequences of non planning. Even so, without an electorate aware of the potential of planning, it has been argued that there were no voters in planning anyway.

Certainly had the original Clyde Valley Regional Plan proposals been more rigidly adhered to, there would have been lees pressure for land on the outskirts of the city, because more Glaswegions would have left for the new towns. On the other hand it might be argued that it was the green belt concept which forced Glasgow to build undesirable dwellings. But in either case the demand for good planning went unsatisfied, largely because the politicians were not prepared to provide the necessary resources.

PERIPHERAL GROWTH IN BARCELONA

- M G WYNN

In 1854, the military authorities in Madrid finally consented to the destruction of the medieval walls of Barcelona. In 1860, the Plan Cerda was approved as the official Development Plan for the city and the growth of the city across the adjacent plain to the outlying settlements inland (Gracia, Hostafranchs, Clot, La Llacuna, San Martin and San Andres) began. By 1950 these old nuclei had been largely incorporated into Cerda's grid pattern, which had been developed in a way far removed from that envisaged by Cerda himself. Most of the tertiary and quaternary services were centred around the central area of the 'Ensanche', linking the old city with Gracia. Away from this central area, the majority of the green areas, merkets and social centres in Cerda's plan had been used either for industry, consolidating the pre-1860 centres in Hostafracns, Clot, La Llacuna and San Martin, or for housing, for the middle and upper classes - mainly around the central 'ensanche' - and for the working classes - mainly around the industrial areas. Cerda's block (the 'Manzana'), the basic unit of his plan, had been built up on all four sides, instead of the two sides in the Plan, and the interior empty spaces (in the Plan) had been built on. In 1950, then, although the Plan Cerda remained the official Development Plan for Barcelona, the city itself bore little resemblance to the 'egaliterian city' envisaged by Cerda.

Most of the 'Ensanche' had been built up, although a few open areas, largely on the right extreme of the 'Ensanche' remained. Here and outside the 'Ensanche', on the hill areas of Montjuich (to the left) and the Tres Turons (above), on the beaches of Sommorrostro and in small areas of marginal land alongside the railway lines and cemeteries, a series of shanty towns sprang up. Some dated from the depression years of the 30's, but the majority came in the 40's, when, in the immediate post-war, urban planning in Barcelona was abandoned by the Madrid Government, and above all in the 50's, when immigration alone brought a demographic increase of over 10,000 a year to the Barcelona Municipality. In 1950, the housing shortage was estimated at 80,000. Between 1949 and 1954 the number of people living in shanty towns doubled from 26,000 to over 52,000.

The deficits of the previous decade rapidly multiplied and the swelling of numbers in the shanty towns constituted a latent threat to law and order. Public concern grew; not only for the shanty town dwellers, but also for the mixed zones of industry and housing in the 'Ensanche', the lack of services and green spaces and the sub-letting and co-habiting made necessary by the housing shortage. The Government was faced with a crisis situation. Madrid and Barcelona exhibited the urban characteristics of the classic social-economic structure, whereby the large cities struggle to absorb, in terms of housing and jobs, the flow of immigrants from the rural areas; these came from the south, where the birthrate was high and the 'latifundio' restricted possibilities of economic advancement, and from the mountainous north-west. In the 60's, the 4-yearly National Economic Development Plans introduced largely unsuccessful measures to stem the flow of immigrants into Madrid and Barcelona. By and large, however, energies were concentrated on trying to find ways to ease the housing deficit in the big cities. From the mid-fifties onwards a series of housing policies were introduced to enable public Bodies and to encourage private initiative to construct 'Housing Areas', which were to form an important element in the peripheral growth of Barcelona for the next two decades.

The early Housing Areas tended to be relatively small, of up to several hundred houses and were located in the few empty areas remaining on the edges of the 'Ensanche', or beyond. They were poorly communicated with the city centre, lacking in services, of two of three storeys and of minimum dimensions, usually 50-60 square meters a house. The main public promotor in Barcelona was the Ministry of Housing, either through the National Institute of Housing (attached to the Ministry) or through the Syndical Housing Authority (attached to the Ministry of Syndical Organisation). Of the various local public Bodies which promoted small estates in the 50's, the Municipal Housing Patrimony was the most important, being attached to the Barcelona Council.

In 1960, the housing shortage in Barcelona was estimated at 100,000. New Housing Areas were somewhat different. First, they were bigger; all those of public promotion after 1960 were of over 1,500 houses (Table 1). Second, although in absolute terms, the number of publicly promoted houses built per year remained steady from 1955 onwards, private initiative played an increasingly important role after 1961, when the National Housing Plan (1961-76), which aimed at constructing almost 4 million houses in Spain, introduced further incentives to attract the private sector to construct houses of 'officlal protection' (ie state subsidized). Third, location of these Housing Areas became increasingly further away from the 'Ensanche', accentuating a peripheral sprawl that spanned the adjacent municipalities. In the 60's, it was private initiative that promoted the massive constructions of Bellvitge (in Hospitalet), San Ildefonso (in Cornella) and Ciudad Meridiana (in Barcelona), totalling more than 12,000 houses, all largely lacking in all but the basic services (water, electricity). It was left, however, to the public promotors to provide the cheapest of all houses; again locations became increasingly peripheral.

YEAR	HOUSES BUILT BY 'PUBLIC' PROMOTION	FLOOR SPACE BUILT (M^2)	AVERAGE FLOOR SPACE PER HOUSE (M^2)	SIZE OF PROMOTION
1950-4	3,667	207,634	56.62	All less than 1000 Houses.
1955-9	7,078	513,895	72,60	Between 1000 and 1500.
1960-64	8,398	587,510	69.96	All above 1500
1965-69	8,055	578,779	71.85	All above 1500
TOTAL	27,198	1,887,818	69.4	

Table 1 Publicly Promoted Houses in the Municipality of Barcelona 1950-1969

In the mid-sixties, the Syndical Housing Authority promoted 3 Housing Areas of 1500-2500 houses each, called 'Neighbourhood Absorption Units', specifically built for people from cleared shanty towns. The quality of these houses was so poor that 10 years later, one of these areas at least (San Cosmo) is to be demolished. Built on the River Llobregat delta, next to the international airport, the lack of adequate foundations and the moist atmosphere have combined to render the houses unfit for habitation. And so serious are their structural faults that demolition and reconstruction is a cheaper proposition than repair.

The shanty towns did not disappear. Some were demolished; but the majority grew and were consolidated to become one element of a settlement type that has played an equally important part in the formation of Barcelona's periphery - 'marginal urbanizations' -. This term may be used to cover those dwellings that were built illegally and, by and large, in land areas theoretically classified as green zones. Some indeed are still true shanty dwellings; but the term also covers dwellings built of bricks and mortar from the start, by people not always of such humble origins. It can also include some of the Housing Areas like San Cosme, which clearly contravened approved Planning Legislation. And so there is something of a merging in the middle between Housing Area proper and Marginal Urbanization. At one end is the good quality Housing Area, largely occupied by the middle class and at the other, the poorest shanty development without electricity, water or adequate sewage system. In the 50's and 60's all shades of this spectrum were present in the development of the Barcelona periphery, with a definite weighting towards the middle and bottom end.

Barcelona is backed by an extensive hill area covering over 5,000 hectares called Tibidabo. Although it has suggered its own form of 'Marginal Urbanization', largely secondary summer and weekend residencces, clearly breaking planning legislation, its height, toppgraphy and distance from the city have made it unsuitable for an extension of the Barcelona periphery beyond the southern foothills. The city, its expansinn blocked inland, has spread laterally along the coast, jumping the Llobregat and Besos Rivers. It was here, beyond the main housing developments of the 50's and 60's that a second industrial colonization took place, once space within the 'Ensanche' was exhausted in the 50's. Now, however, these industrial estates in Prat, Hospitallet, San Baudilio and Esplugas on one side and in Moncada, San Adrian and Badalona on the other side of the city, are linked to the city by the continuous sprawl of housing and industry and suffer from the problems of congestion that their original siting attempted to avoid.

And what of urban planning? Technically, Barcelona and Spain have kept abreast of developments in planning thought and theory over the past three decades. The balanced poli-nuclear structure of the 1953 Barcelona Sub-Regional Plan (covering 27 municipalities), and the Land and Urban Planning Act if 1956, which introduced a 4-tier hierarchy of urban plans and a variety of measures aimed at preventing land speculation, could have provided the framework for effective urban planning, but a variety of factors prevented this. There were some loopholes in the 1965 Act, the most serious being the flexibility given to Local Plans in their modification of approved Municipal Development Plans. Hospital areas and green zones could re reclassified as housing or industrial areas. Corruption in the Councils and collusion with private economic interests meant that this vehicle for reclassifying land could be exploited to the full by land speculators. With Councillors elected by very limited suffrage and most local authorities lacking independent finance to tackle the often desperate situation in the suburbs, private initiative, often taking advantage of state subsidies, was given a free hand, and little effort was made to curb illegal developments. State investment aimed largely at stopping the gaps that private initiative could not be persuaded to fill. Housing and road infrastructure were the two main elements of State and Local Authority investment. That planning regulations were broken so regularly (often a Local Plan was not even drawn up to 'legalize' changes in classification) shows the irrelevance of a highly sophisticated theoretical planning and control apparatus, when local authorities are non-representative and lack the financial capacity to realise their approved plans and so have to rely on private and Central State investment, which makes a mockery of these plans. The result has been a disjointed, anarchical surge of the city out from the 'ensanche' envelopping the adjacent municipalities and beyond.

As the price of land in the city centre rose, so tower block office and commercial development spread into the central residential areas of the bourgeoise. This 'tertiarization of the centre' added to the movement out into the periphery. The north-west bourgeois suburbs of Las Corts, Pedralbes and Bonanova grew; and=some looked byond the periphery, even beyond Tibidabo, for a commuter-dnstance home in pleasanter surroundings.

Whilst the investment policy of the Barcelona Council tended to encourage this trend, based on Mayor Porcioles' grandoise schemes for creating a vast service centre for a catalan financial-industrial city region, the techniques of the Greater Barcelona Planning Commission worked on the drawing up of the 'Plan Director' for the Metropolitan Area of Barcelona, encompassing 162 municipalities and half the Province. Its major objective was to decentralize the Barcelona conurbationthrough the stimulation of inland growth centres and the creation of 3 new towns to accommodate overspill population from the Barcelona centre. Although most of the recommendations of this plan were never followed up, the 'ACTURS' law of 1970 gave the Minidsty of Housing special powers to speed up the planning process for the construction of 8 new towns in Spain, including the three outside Barcelona, included in the Plan Dirctor. At the same time the Syndical Housing Authority drew up and constructed its biggest promotion to date - 5,000 houses - named 'Can Badia' near Sabadell, clearly to act as a decentralisation nucleus for overspill population for the city.

Can Badia was built; but these rather crude, heavy-handed efforts at decentralization coincided with the upsurge of public awareness of, and opposition to, the mechanics of peripheral growth in the 70's. The Local Authorities resented the financial imposition of new Housing Areas, and the projected New Towns. The Residents' Associations, supported by some of the professional colleges and institutions, fought for remodellation of the Housing Areas built in the 50's and 60's. Industrialists and the general public became alarmed at the problems of congestion and the general state of the city. Meanwhile, the anarchial growth of the periphery continued. The recent changes towards democracy, an autonomous Catalonia, and representative Municipal Authorities has left the question of peripheral development in a state of flux. The Ministry of Housing, Local Authorities and the Residents' Association have made a series of agreements, whereby several of the Housing Areas in the periphery will be remodelled, repaired or re-equipped. The 3 New Town areas, designated in 1970 to decentralize the periphery, are now, ironically, located not beyond the periphery, but in its outer fringes, and it seems that the 1,500 hectares of Santa Maria de Gallecs, the most advanced of the 3 projects, will be used more tpoprovide service installations for the industrial suburbs of Mollet, Moncada and Santa Perpetua de Moguda, than to create a new city.

At present, the dynamic of political-administrative change is very relevant to the future of the Barcelona periphery, and urban planning, having been more or less an irrelecance since the days of the 2nd Republic, is suddenly once again an important element of the economic-political processes that determine peripheral growth. One must hope that in this new atmosphere of co-operation and collaboration between Central and Local Authorities and the Public at large, a more rational solution to the problems of peripheral development can be found.

Planning the Peripheral Development of Ljubljana - Peter Bassin.

Ljubljana, typical of most Yugoslavian towns grew as rapid industrialisation drew in immigrants from the countryside. Indeed Ljubljana, the capital of Slovenia - one of the six federal republics of Yugoslavia, became one of the fastest growing urban settlements. This rapid expansion during the 1960's created familiar problems of congestion and overpopulation and corrective plans and strategies were prepared.

a) A polycentric growth pattern was prepared for the whole Slovenian republic, which contained a population of two million. According to this strategy no town or city should have a population in excess of 100,000, with the exception of Ljubljana which was to have a population of 400,000 by the year 2,000. The aim of the strategy was to equalize the distribution of population and population density over the buildable land of Slovenia.

b) As for Ljubljana itself, the rapid expansion was to be handled by developing new neighbourhoods each with population levels ranging from 5,000 to 15,000 inhabitants. Feasibility studies from the period demonstrated that inorder to provide all the necessary accompanying social infrastructure, such as schools, daycare centres, primary schools, primary shops, public transport, etc., the optimum form of development was in high rise aprtment buildings at residential densities in the order of 450 people per hectare.

These plans have not been realized and since the 1960's Ljubljana has grown on its periphery as a result of unco-ordinated private building activities. Between 1960 and 1970 most of the development was for owner occupiers. After 1970 concerted efforts were made to provide housing to be rented by lower income persons, and also help was made more readily available for employers organisations to buy or build apartments for their members. Even so, the private owner occupied sector has predominated.

Furthermore, much of this private development has been undertaken illegally, that is to say outside the planning regulations. This was because of the high cost of the industrially built apartments and the limited opportunities for the occupiers to borrow money. These 'illegal' houses were built without locational and building permits in areas that were unsuitable for building or which had not been designated for residential purposes in urban plans. This, of course, could only happen because low inforcement was seldom carried out to the point of demolition. In fact illegal houses were only pulled down if they obstructed the laying out of a major piece of infrastructure, such as a new road. Only since 1975 has legislation been tightened, so that now the illegal developer is treated as a criminal and can be heavily fined or even imprisoned. In addition, the spread of illegal development is now also checked by curtailing the supplies of water and electricity.

As a result of the illegal sprawl much valuable land has been taken out of farming, and the low density development has caused difficulties in setting up networks of public utilities and social infrastructure. This in itself has caused public health dangers associated with the pollution of under surface drinking water from poor quality septic tanks (necessary because of its lack of sewage systems).

The spread of the illegal peripheral developments has, however, caused the Ljubljanian planners to rethink their basic plans and a sociological inquiry was undertaken. The results showed that there was an overwhelming demand for one family dwellings built at low densities. This awareness is now being

incorporated into current plans. In each of the middle range plans for the five communes in Ljubljana (covering the period 1976 - 1980) emphasis is being placed on one family housing. There are also indications that priorities are shifting in the Revised General Plan of Urban Development compared with the GPUD of 1966.

Leaving aside, for the moment, the problem of the illegal housing estates, a further major problem with the handling of peripheral development is the question of air pollution. Due to the combination of topographical characteristics, erratic winds, especially during the winter period and occasional temperature inversion, Ljubljana is noted for its fog which gradually turns into smog. The planners, especially during the 1960's, neglected this aspect. They were concerned to locate the large neighbourhoods at a point where the hot water from the two city's power stations could be utilised for heating. The planners, however, neglected the pollution caused by the heating facilities of individual dwellings, - mainly coal and oil. It was calculated that in the order of 60% of all pollution in Ljubljana was generated by private households. The answer to this problem is to ensure that all subsequent dwellings are linked to the gas networks. This point is, of course, directly linked to the illegal housing, much of which is not provided with gas and which currently adds considerably to the pollution problem.

How are the problems of peripheral development to be handled more sensitively in the future? We have already noted schemes for checking illegal house building. The rest depends upon the Boards for Development of Urban Area. Each of the five communes of Ljubljana has such a Board which controls the nationalised land - there is no private ownership only the right of use. Each Board has chosen its own professional organisation to develop the commune. Such organisations exist for three of the communes. At the moment the direction of these Boards from the overall city authorities are weak. However, the city assembly has agreed upon which housing areas in which commune will be developed and the city budgets are being planned accordingly. Nonetheless each commune is jealous of its powers and of its tax base, so that problems of co-ordination still have to be overcome.