SAN MATIAS

N OPICO

QUEZALTEPEQUE

NEJAPA

CE

APOPA

TONACATEPEQU

AYUTUXTEPEQUE

CIUDAD DELGADO

CUSCATANCINGO

SAN MA

MEJICANOS

SOYAPANG

ILOP

San Salvador

ETROPOLITAN DEVELOPMENT PLAN

ON

ANTIGUO CUSCATLAN

SANTA TECLA

SAN MARCOS

SANTIAGO TEXAC

SANTO TOMAS


REPUBLICA DE EL SALVADOR EN LA AMERICA CENTRAL

PRESIDENTE
DE LA
REPUBLICA DE EL SALVADOR

A LOS HABITANTES DEL AREA
METROPOLITANA DE SAN SALVADOR:

Me place presentarles el "PLAN DE DESARROLLO METROPOLITANO DE SAN SALVADOR". Este documento representa un esfuerzo más del Gobierno de la República, en su lucha por propiciarles un ambiente físico apropiado para vivir y trabajar, que constituye una nueva etapa en el camino del bienestar social y económico del Pueblo Salvadoreño.

Para alcanzar las metas y objetivos del Plan, se necesitará la colaboración y comprensión de todas las personas e instituciones públicas o privadas que participan en el desarrollo de San Salvador.

Al someter a su consideración este trabajo, el Gobierno de El Salvador quiere dejar constancia de sus sinceros agradecimientos al Gobierno de los Estados Unidos de América, por la asistencia proporcionada a través de la AID, a efecto de realizar los estudios urbanos de planificación del Area Metropolitana.

FIDEL SANCHEZ HERNANDEZ,
Presidente de la República.

PRESIDENTE
DE LA
REPUBLICA DE EL SALVADOR

TO THE PEOPLE OF THE METROPOLITAN AREA OF SAN SALVADOR

I am pleased to present to you the METROPOLITAN DEVELOPMENT PLAN FOR SAN SALVADOR. This document represents another step of the Government of El Salvador in its efforts to create an appropriate environment for living and working. It also constitutes a new stage on the path to social and economic welfare for the Salvadorean people.

The understanding and cooperation of individual and of public and private institutions having a concern for the development of San Salvador are needed in order to attain the goals and objectives of this Plan.

In submitting this document for consideration, the Government of El Salvador would like to express its sincere appreciation to the Government of the United States of America, for the assistance given by U.S.A.I.D. for the urban planning studies for the Metropolitan Region.

FIDEL SANCHEZ HERNANDEZ
President of the Republic.

San Salvador

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DIRECCION GENERAL DE URBANISMO Y ARQUITECTURA
SAN SALVADOR, EL SALVADOR, C. A.

—o—

Señor Ministro:

I am pleased to submit to you the METROPOLITAN DEVELOPMENT PLAN FOR SAN SALVADOR. It represents a joint effort among the Consejo Nacional de Planificación y Coordinación Económica, the Ministerio de Obras Públicas, this Dirección General, and Adley Associates, Inc. As you know, the technical assistance provided by Adley Associates was financed by a grant from the United States Government, administered by the Agency for International Development.

This document provides basic information for the planning of the urban growth of San Salvador and the surrounding areas and for the institutionalization of the planning process.

In the Plan you will find policies and strategies for long-range development as well as guidelines for middle-range and short-range measures. Housing, industry, commerce, institutions, transportation, community services, and other related subjects have been considered in both their general and specific aspects, and the total Plan provides a guide for orderly urban growth.

Respectfully,

DIOS, UNION Y LIBERTAD

ING. OSCAR NOSTHAS MENA
Director General de Urbanismo y
Arquitectura

Señor Ministro de Obras Públicas
Ingeniero Enrique Cuéllar
Presente.-

Dirección General de Urbanismo y Arquitectura
SAN SALVADOR, EL SALVADOR, C. A.

MINISTERIO DE OBRAS PUBLICAS

SAN SALVADOR, EL SALVADOR, C. A.

Señor Presidente:

In conformance with the high importance given by our Government to the development of the Metropolitan Region of San Salvador, it is an honor for this Ministry to submit this document, which initiates a process of metropolitan planning. I feel certain that the proposed development policies will provide guidelines for the participation of the public sector and of private enterprise in the social and economic development of this most dynamic region of our Country.

Respectfully,

DIOS, UNION Y LIBERTAD,

ING. ENRIQUE CUELLAR,
Ministro de Obras Públicas.

Señor Presidente de la República
Coronel Fidel Sánchez Hernández,
Presente.-

ADLEY associates, inc.

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Senor Ministro:

We transmit with pleasure this Document setting forth a development plan for the Metropolitan Area of San Salvador. It represents one of the tangible results of the day-to-day working partnership of the professional staffs of our firm and of your Ministry and the National Planning Council. It is our hope that this Document will serve as a guide to both private and public leadership as they make investment decisions affecting the development of the Metropolitan Region. In effect, this entire plan may be considered as a guide to intelligent, constructive and timely investments by both private and public sectors.

While the plan stresses improvement of the physical environment, it reflects social and economic goals of this emerging urban area. Recommendations dealing with measures of physical improvement are designed to advance the economic and social progress in the Region. As an overall instrument it constitutes a "Strategy of Urbanization" for the Region.

This report is a summary of many technical reports, surveys and plans prepared over the past 18 month period. The subjects discussed in this Document are treated in greater detail within other reports on file in your Ministry.

This Document is intended to provide a sound basis for a continuing and effective process of urban planning in the Metropolitan Region. Specific recommendations for strengthening the institution of planning are provided in a separate major report titled: A Recommended Institutional Framework for Urban Development Planning.

Throughout the program we have benefitted from the advice and assistance of the other ministries and autonomous agencies of the government as well as from the involvement of the private sector leadership. We believe this attitude of cooperation and support for metropolitan planning is evidence of the willingness of the decision makers of the Metropolitan Region to support a vigorous and continuing planning effort.

We are continuing to work with your professional staff on implementation measures stressing the necessary relationship of the National Five Year Investment Plan to the needs of the Metropolitan Region. We will also be identifying specific opportunities for further, more detailed planning in one or several critical areas of the Metropolitan Region where intensive remedial techniques can produce major results in a relatively short period of time.

Thank you for this challenging opportunity to contribute in a vital way to the progress and well being of your Nation.

Sincerely,

ADLEY ASSOCIATES, INC.

Harry C. Adley

Harry C. Adley, A.I.P.
President

Dirección General de Urbanismo y Arquitectura
SAN SALVADOR, EL SALVADOR, C. A.

INTRODUCTION AND SUMMARY

A. BACKGROUND

San Salvador is faced with serious problems of urban growth. The daily congestion in the central business district is one indicator of the basic malfunctioning of the City. Ever-increasing numbers of vehicles choke the old, narrow streets; inappropriately-located activities, such as the downtown markets, add to congestion on the sidewalks; obsolete buildings stand in the way of commercial expansion; buses unload more and more commuters on the sidewalks because of the lack of terminal facilities.

Outside the downtown area, streets and highways are becoming increasingly congested with traffic. Industrial and commercial districts are springing up haphazardly. The rapid increase in population, especially families of low income, has resulted in the construction of tugurios - shanty towns in the deep ravines that bisect the City - and in the appearance of large-scale illegal subdivisions of tiny houses on the urban peripheries.

The desire of the government of El Salvador to find solutions to these and other deeper urban problems is the reason for preparation of this Document. Creation of the Departamento de Planes Reguladores in the Ministry of Public Works in 1956 was an early step. Backed by the Ley de Planes Reguladores, a recent concern of this Department has been preparation of a developmental plan for the Metropolitan Area of San Salvador. The Department recognized that present-day urban problems, as well as large-scale future growth, could not be helped by the narrow approach of past urban planning efforts, but called for a new regional approach that included economic, social, and physical considerations. This approach took into consideration not only San Salvador itself, but also its neighboring communities of the greater Metropolitan Region in relation to the economic and social development of the Republic and of Central America as a whole.

A second concern of the government has been that urban planning be recognized as a continuing important process of government, integrated into key decision-making. In the absence of a strong urban planning office, past efforts had been sporadic and in large part, unimplemented.

A grant of money from the United States Agency for International Development in 1965 provided impetus toward realization of these objectives. This gift made available the services of a team of technical experts, through the firm of Adley Associates, Inc. to help get metropolitan planning underway. The government of El Salvador matched the gift with its own funds, which have been expended on staff, office space, and equipment.

B. METHODOLOGY

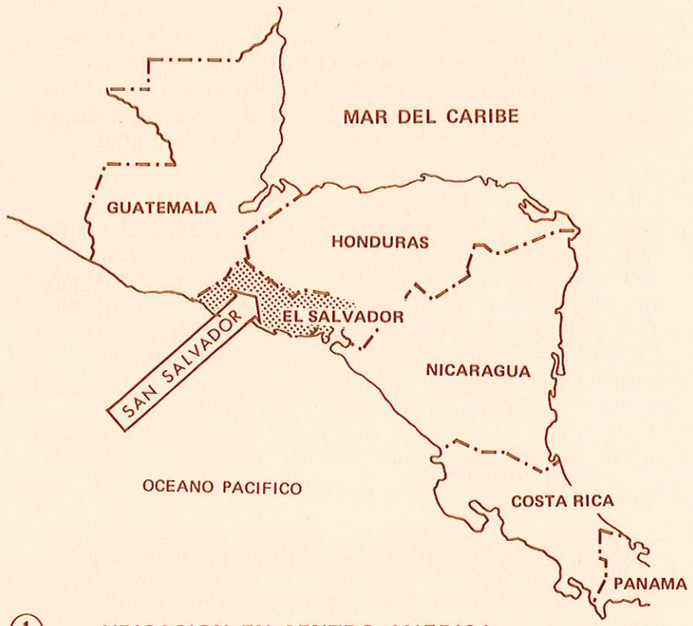
This Document summarizes the work of a year and a half, synthesizing the combined efforts of the team of Adley Associates and of the urban planning staff of the Government of El Salvador. The phases of the Planning Program are embodied in the scheme of organization of this Document.

Execution of a Regional Inventory

The foundation for all work has been a regional inventory. The Metropolitan Region has been analyzed, its problems and issues identified, its future prospects and potentials appraised. Social and economic considerations have been taken into account; however, the focus has been on environmental development and on related institutional measures. Findings of this first stage are summarized in Parts I and II.

Formulation of Goals and Policies

As a frame of reference for short-range measures, goals and policies have been formulated to guide development until 1990. A basic approach has been to link metropolitan planning to the thrust of national development. The Metropolitan Region has been viewed as the key location where goals and policies of the National Five-Year Development Plan can be brought into focus. Implementation of alternative long-range urban patterns for economic and social development has been stressed. The proposed developmental policies are set forth in Parts III and IV.



① UBICACION EN CENTRO AMERICA

Evolution of a Strategy of Urbanization

Recommendations for guiding the coming flood of urbanization are made according to a spatial and chronological sequence such as to stimulate economic and social advance. The growth of the Metropolitan Region is considered in relation to a broader urbanization strategy for the republic as a whole, geared to its financial and human resources. The proposed strategy of urbanization is presented in Part V.

Formulation of Planning Processes and Instruments

Particular attention has been given to the formulation of planning tools that can be incorporated into a continuing planning process. The first of these tools (Part VI) is a medium-range spatial development plan with a target date of 1980, intended primarily as a guide to the coordination of land use planning and transportation planning. It provides a spatial structure to guide functional ministeries in locating infrastructure and social overhead facilities; it is a guide to the organization of districts for detailed planning and statistical purposes; it leads to the identification of projects that should be included in five-year investment programming. This medium range plan is intended to be revised at least every ten years and could be given legal status if desired.

Additional methods of implementing metropolitan planning are described in Part VII. One is the organization of active programs for those areas where strong intervention by the government can help stimulate and guide development along predetermined channels. Modernization of the central business district and control of illegal subdivisions on the urban fringes are among such areas.

Part VII also sets forth developmental guidelines and recommendations that expand upon the broad metropolitan policies of Part III. These are intended to aid planners of the metropolitan planning agency, functional sectorial ministries, and the private sector in integrating specific programs into overall policies.

Still another tool, investment programming, whereby national and regional public investments are integrated into the framework of the National Five-Year Development Plan, will be studied as part of the Planning Program.

The Building of Planning and Developmental Institutions

A basic need of a metropolitan region in a dynamic stage of development is the creation of new institutions adequate to cope with conditions. A separate report entitled "Institutional Framework for Urban Development" deals with this subject and is summarized in this Document. Metropolitan planning and development are recognized as the concern of the Central Government and worthy of a high position in the governmental hierarchy.

C. FINDINGS AND RECOMMENDATIONS

Highlights of each part of this Document are summarized as follows:

Part I - The Situation Today

The urbanized Metropolitan Area of San Salvador is the industrial, commercial, and cultural center of the Republic of El Salvador, far exceeding all other urban centers of the Republic in importance. When considered in relation to all of Central America, its unique character is even more apparent. Although it is the second urban area in terms of population size, exceeded only by Guatemala City, it is the primary industrial complex of the Isthmus, ranking first in total value of manufacturing production. Its outstanding industrial growth has been a recent phenomenon, dating from the inauguration of the Central American Common Market, which made available a market of twelve million people to the entrepreneurship and capitol of its business community. Recognition of this dynamic leadership role in the Republic and in Central America is the cornerstone for all planning for the future.

Part II - Region-Shaping Factors

The urbanized Metropolitan Area contains about 460,000 persons out of a total population of 700,000 in the greater Metropolitan Region. It is estimated that by 1990 the Regional population will increase to 1,800,000. This enormous population growth will result not from an economic demand for workers, but solely from a continuation of past patterns of natural population increase and immigration from other parts of the Republic. Regardless of economic prospects, the portion of the population available for work - the labor force - will increase from about 250,000 persons today to about 620,000 in 1990. By 1990, there will be two and one-half times the number of people looking for work as there are at present. For each prospective worker, there will be two non-workers - children and youths, housewives and old people - who will need to be supported.

The enormity of social needs of the next generation calls for examination of the basic economic capacity to provide for them. The picture is not encouraging.

It is estimated that in the City of San Salvador, the most urbanized part, more than 75 percent of the families have incomes under ₡3,600 ($1,440) a year. This amounts to about ₡ 700 ($280)per capita. In the towns and rural areas of the Metropolitan Region, it is likely that an even larger proportion of the families fall in the low income group. As might be suspected from these statistics, conditions of housing, community facilities, and public services are woefully inadequate for most of the population.

Statistics for the Republic as a whole confirm this picture of economic distress. For 1967, the gross national product per capita (which is higher than income per capita) was only ₡708 ($283). This measurement of national productivity has increased only 15 percent over the 1962 figure of ₡615 per capita. In spite of the Republic's great economic progress of the last decade, in which the urbanized Metropolitan Area played the leading role, per capita productivity is increasing only about three percent per year.

The larger context now comes into sharp focus. Although the Metropolitan Region is where national economic progress is concentrated, it is still desperately poor. Economic progress has not yet substantially benefited the Republic as a whole. The current rate of economic growth, impressive as it has been in the past five years, is far too small to meet the current backlog of social needs, to say nothing of serving a vastly increased population.

Part III - Development Goals and Policies

Building upon the dramatic progress of recent years, emphasis on increased economic development is the most urgent task facing the leaders of the Republic. Great increases in the productivity of the Nation must be achieved in order to pay for social benefits.

The goals for economic progress and social benefits spelled out in the National Five-Year Development Plan have provided the general guidelines for planning the Metropolitan Region. The economic role played by the Metropolitan Region in Central America has provided clues to the specific polities to follow in the future.

Several measures have evolved from these two sets of guidelines which can spur economic development in the Metropolitan Region.

An economic development program should be adopted that stresses industrial growth in selected fields of manufacturing for the national and Central American markets. Drastic steps should be taken to modernize the central business district to San Salvador. Attention should be given to encouraging small scale industry and handicrafts. The provision of infrastructure - highways, mass transportation facilities, water supply and sewage disposal - should be planned to facilitate economic development in the private sector. For the present, social programs that have an impact on economic productivity, such as the achievement of basic standards of health and literacy, manpower planning, and worker training, should be emphasized.

Social progress must not be ignored in the surge toward economic productivity. Steps should be taken to help the masses of low income people become members of an urban industrial economy, especially the in-migrants from small towns and rural areas. As part of national goals, minimum social targets should be set on such matters as education, health and housing.

While attention is focused on rapid economic and social progress, conservation of natural resources of the Metropolitan Region is basic. Programs to protect agricultural lands, scenic features, and water supply areas should be carried out.

Part IV and Part V - Alternative Spatial Policies and the Strategy for Continued Urbanization

The pattern of urban development on the land is an important means of helping to achieve the goals of economic and social progress. A long-range policy for urbanization of the Metropolitan Region to the year 1990 is recommended. According to the recommended strategy, intensive urban development for the next ten years should follow recent trends, in order to make maximum use of existing public and private investments and to achieve the economic efficiency of intensive urbanization. To this end, it is proposed that the present urbanized Metropolitan Area be allowed to expand to a population of about 875,000 by 1980. In this same period, steps should be taken to plan and acquire strategic land reserves for the next stage of urbanization after 1980, which should be carried out to the north of the present urbanized Metropolitan Area in the Quezaltepeque-Apopa Area.

Part VI and Part VII - The Spatial Development Plan and Additional Planning Measures

Carrying out the developmental policies for the Metropolitan Region demands the understanding and cooperation of many groups. Private interests must be reconciled to the needs of the Republic as a whole in its desperate race for economic well-being. A set of specific measures are recommended for carrying out these policies.

The adoption of a medium-range spatial plan is proposed to coordinate the major elements of the urban pattern - land uses, the street and highway system, public utilities, and housing density. The proposals of this plan are geared to the rapid pace at which the Metropolitan Region must modernize and grow to carry out its economic and social potential in the Republic and in the Common Market.

Among the significant proposals to be carried out by 1980 are the following:

Construction of the key links of a regional expressway system.

Continued development of the mass transit system, including modern downtown bus terminals.

Initiation of a comprehensive redevelopment project for the downtown section of San Salvador.

Development of new industrial sites on the expressway system.

Improvement of the Soyapango - Illopango industrial area.

Control and improvement of illegal subdivisions on the urban periphery.
Improvements to the area of mesones.

Acquisition of the Cerros de Mariana as a "Peoples' Park".

Preservation of the watershed of the Lago de Illopango as a national park and tourist attraction.

Public institutions will need to be strengthened and new financing will need to be found in order to carry out these and other proposals. As a first step, it has been recommended that the formulation of metropolitan development policy and the coordination of planning and implementation be a continuing responsibility of the National Planning Council. This recommendation has been accepted by the Central Government, and the new metropolitan planning office is expected to be operational in January, 1969.

San Salvado

METROPOLITAN DEVELOPMENT PL

PREPARED FOR: MINISTERIO DE OBRAS PUBLICAS | DIRECCION GENERAL DE URBANISMO Y ARQUITEC

TECHNICAL ASSISTANCE: ADLEY ASSOCIATES, INC. – PLANNING AND DEVELOPMENT CONSULTANTS – ATLANTA •

FINANCED BY: UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT IN FURTHERANCE OF THE ALLIANCE FOR PR

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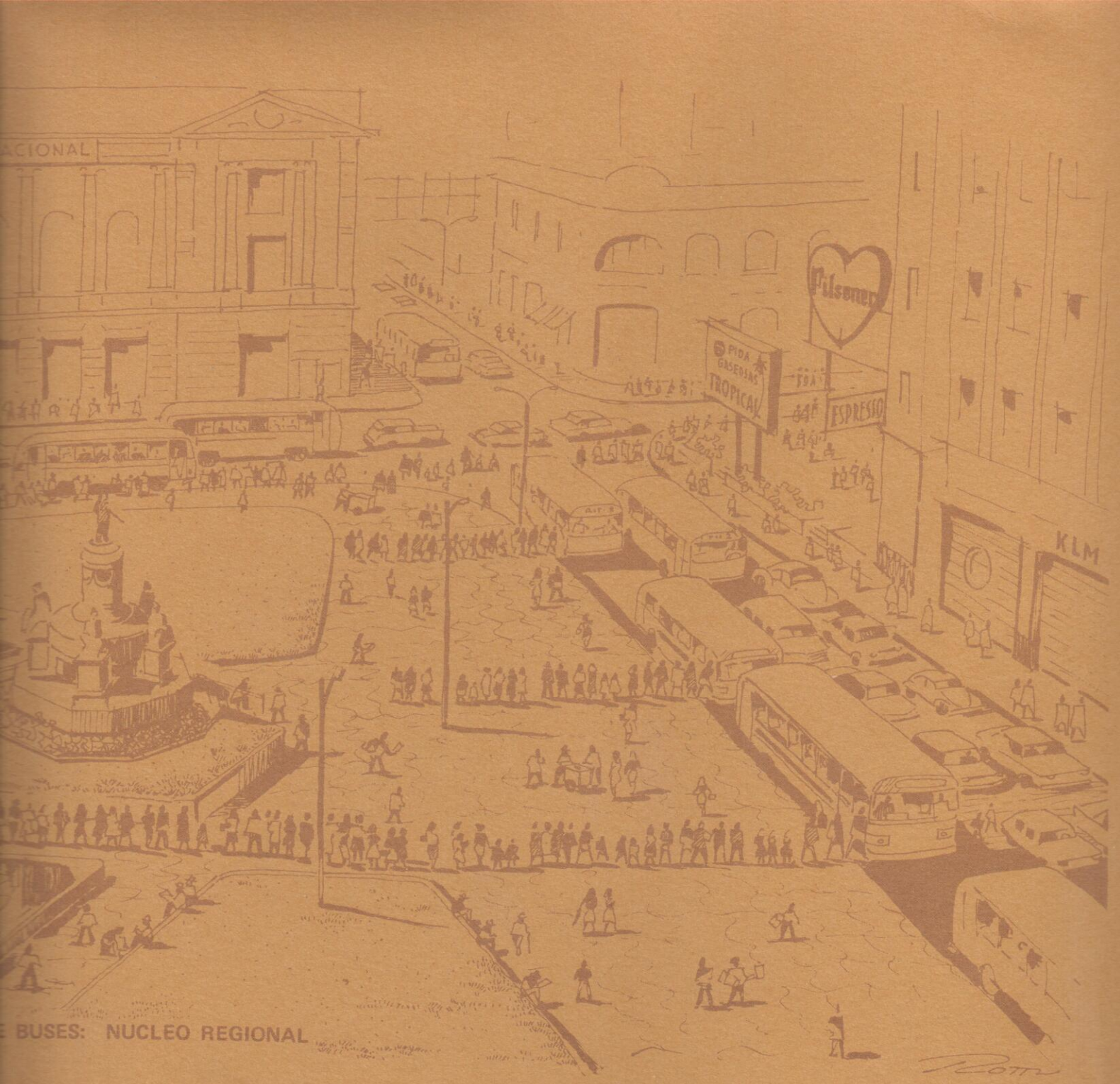

PART I
THE SITUATION TODAY

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THE SITUATION TODAY

A. THE PLANNING AREA

Since rapid urbanization is characteristic of the developing world, it is essential to think in terms of very large-scale urbanization continuing indefinitely into the future, rather than in terms of the urbanized area as it now exists.

Two criteria determined the extent and scale of the planning area covered by this Document: 1) that the urban planning area provide room for long-term growth, and 2) that the planning area include only those areas reasonably within the path of influence of urban expansion.

Three terms are used throughout the text. They are defined as follows:

1. Metropolitan Region of San Salvador

In order to provide a workable area for which data can be compiled and easily related, the boundaries of the planning area correspond to municipal boundaries - since these are the smallest statistical units for which the National Census publishes extensive data.

An area consisting of twenty-two such municipalities was defined and termed the Metropolitan Region of San Salvador: MRSS in English and RMSS in Spanish. These 22 municipalities are listed in Table 1.

The MRSS is not a unified administrative area - extending as it does across three departments - nor does it constitute, as it exists today, a true "metropolitan" region. But, it does contain all the critical land areas that will affect the structure of the future metropolitan agglomeration. Those constituent communities that ring the Volcano of San Salvador all lie in the path of urban expansion, and its outlying communities - San Matias and Tonacatepeque, among others - will, in time, become suburbs or satellite towns to a great metropolitan complex. The MRSS is a planning and statistical unit of sufficient size to deal with the urban metropolitan scale of the future.

2. Metropolitan Area of San Salvador

The Metropolitan Region of San Salvador is not the integrated area composed of a central city, suburbs, and agricultural hinterland characteristic of a developed industrialized nation. Rather, it is a small but dynamic twentieth-century metropolis ringed by agricultural land and rural communities with a seventeenth century flavor and pace.

Strong metropolitan relationships - the economic and social interactions that transcend municipal boundaries - exist to a marked degree only among ten central communities, nine of which form one urban agglomeration. These nine communities are supplemented by a tenth, Santa Tecla, which lies in the path of urban expansion.

The urbanized parts of these ten central communities made the urban agglomeration and the built-up section of Santa Tecla and referred to throughout this Document as the "Metropolitan Area".

Table I
MUNICIPALITIES INCLUDED IN
THE METROPOLITAN REGION OF SAN SALVADOR

1961 Population in Thousands

Division of Municipalities	URBAN	RURAL	TOTAL
CENTRAL COMMUNITIES	352.2	62.1	414.3
1. San Salvador	255.7	-	255.7
2. Ayutuxtepeque	1.2	1.5	2.7
3. Mejicanos	14.7	13.7	28.4
4. Cuscatancingo	8.0	3.2	11.2
5. Ciudad Delgado	24.2	8.5	32.7
6. Soyapongo	12.0	8.4	20.4
7. Ilopango	1.7	3.4	5.1
8. San Marcos	6.1	6.0	12.1
9. Antiguo Cuscatlan	1.6	3.6	5.2
10. Santo Tecla	27.0	13.8	40.8
NORTHERN COMMUNITIES	15.0	31.9	46.9
11. Apopa	3.2	9.1	12.3
12. Nejapa	2.4	9.5	11.9
13. Quezaltepeque	9.4	13.3	22.7
EASTERN MUNICIPALITIES	6.2	13.2	19.4
14. Tonacatepeque	3.2	9.8	9.9
15. San Martin	3.0	6.5	9.5
SOUTHERN MUNICIPALITIES	3.7	9.8	13.5
16. Santo Tomas	2.2	5.1	7.3
17. Sanitago Texacuangos	1.5	4.7	6.2
WESTERN MUNICIPALITIES	11.3	48.9	60.2
18. Colon - Lourdes	1.4	11.6	13.0
19. Sacacoyo	1.0	2.0	3.0
20. Ciudad Arce	4.5	12.1	16.6
21. San Juan Opico	6.8	20.5	24.1
22. San Matias	0.8	2.7	3.5
TOTAL METROPOLITAN REGION	388.4	165.9	554.3

3. Regional Core

The Regional Core consists of the downtown sections of San Salvador, where major commercial, governmental, cultural, and recreational facilities are concentrated. It extends from 12th Avenue to 25th Avenue in an east-west direction and from the Boulevard Tutunichopa to 8th Street in a north-south direction.

B. PAST GROWTH

1. Historic Heritage

Past epochs of development have left a rich and varied heritage of urban form at human scale. In spite of considerable earthquake destruction, there is a residue of fine historic buildings. In the future, because of the increasing impact of the motor vehicle and the very magnitude of new urban development, these remnants of the past will become smaller and smaller elements of the total metropolitan fabric. The tendency will be to destroy them in favor of modern improvements. Such links to the past, which provide character and depth to the urban scene, should be treasured elements, sensitively incorporated into new development.

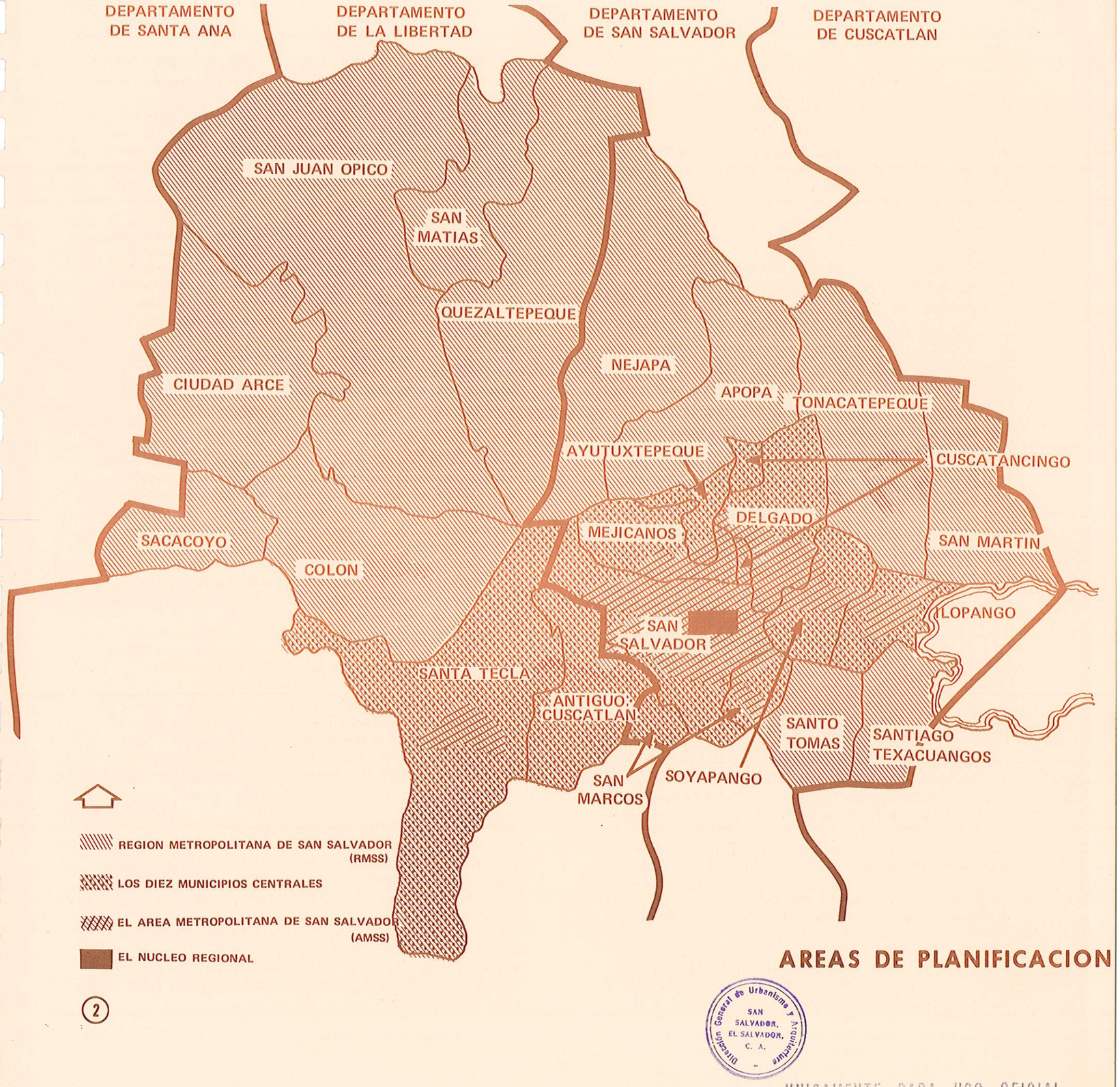
2. Urban Settlements of the Metropolitan Region

The urban pattern of the Metropolitan Region can be reduced to two contrasting elements: the expanding and dynamic urban agglomeration that is the Metropolitan Area, and the series of agricultural towns outside the mainstream of change.

3. Indian Villages and Spanish Settlements

In pre-Columbian days, the area of the Metropolitan Region was occupied by numerous villages of the Pipiles Indians. Several factors - the fertile soil formed by volcanic ash, abundant water, and temperate climate - made it an attractive site for a primitive agricultural people. Most of the original Indian settlements have long since been abandoned, and only one has left its mark upon the land - ruins of low, stepped pyramids in fields of sugar cane at San Andrés.

In the seventeenth and eighteenth centuries, the Spaniards laid out new towns to serve as the administrative and market centers of a plantation economy. These compact rural centers still survive in such outlying municipalities as Tonacatepeque and Santiago Texacuangos. Their tree-shaded squares, cobblestone streets, heavy-domed churches and arcaded town halls still preserve the flavor of past centuries. Other old towns, such as Ilopango and Mejicanos, have lost their physical identity as they have become absorbed in the urban agglomeration.



AREAS DE PLANIFICACION

4. San Salvador

The history of the City of San Salvador is most relevant to modern times because this settlement has become the heart of today's Metropolitan Region. Studies of its historical growth provide a dramatic narrative of almost four centuries of change.

The first Spanish settlement was founded in 1525 at the junction of the Rio Acelhuate and the Rio el Garrobo. Its central location in relation to the Indian villages facilitated control of the region, and it was built densely for the sake of protection. Today's Parque Libertad marks the site of the original town square, the Plaza de Armas. By 1594, the settlement consisted of twenty-five blocks, a focal point for roads and trails radiating to Indian villages.

For several centuries the town grew but slowly. The original compact form was altered by the construction of churches in what were then outlying villages: El Calvario, San Esteban, La Concepcion and San Jacinto. These church properties formed new nodes of development, and San Salvador grew in radial fashion along the connecting roads. For many years, until the cost of bridges could be justified, the ravines formed formidable barriers to expansion. Religious land holdings and the estates of private owners also constrained the pattern of urban growth. Located in the Valley of Hammocks, time and time again the settlement suffered from earthquakes.

In the nineteenth century the pace of development quickened. Impetus for growth was provided in 1821 by the designation of San Salvador as the Capitol of the new Republic. Between 1835 and 1839, it was the federal capitol city of the temporary Federated State of Central America. Later in the century, the introduction of coffee growing and the coming of the railroads also were contributing factors to growth. By 1900, San Salvador was still a classic pre-industrial town of colonial heritage - the center of trade, culture, and administration for a productive agricultural hinterland.

In the early years of the present century, important new forces of urban growth came into being. In-migrants from abroad provided a new merchant class. Small industries were started. The introduction of public health measures facilitated rapid population increase. Under the pressure of urban expansion, more and more large landholdings were made available for development. This process was accelerated under the national leadership of Maximiliano Hernandez Martinez, who laid out many of the elements of the modern City in the period 1932-1944.

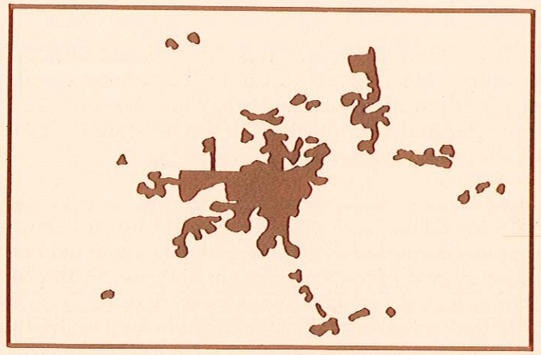
Since World War II, a new set of influences accelerated urban expansion. In-migration continued and population increased rapidly. Automobile travel became commonplace, and modern bridges and paved highways were constructed. New sources of credit for building construction became available. The long-term mortgage insurance provided by the Alliance for Progress for homes for medium income families was particularly significant for it resulted in the introduction of low-density suburbs of single-family houses.

5. The Metropolitan Area

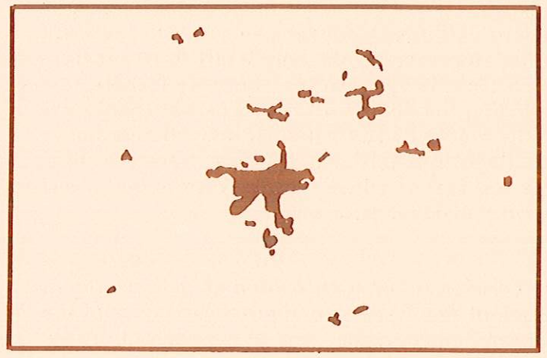
The Constitution of the Republic states that all offices of the Central Government shall be located in the City of San Salvador. As a result, municipal boundaries have had to be extended several times to accommodate new government buildings. Nevertheless, in the post-war period the urbanized area has expanded even further to embrace adjacent communities. This larger urbanized complex is termed the Metropolitan Area.

In addition to the Central Government's increased need for space, several other factors contributed to development beyond the boundaries of San Salvador: (1) ten years of rapid industrialization leading to development of the Boulevard de Ilopango industrial district; (2) construction of the modern International Airport at Ilopango; (3) natural population increase augmented by heavy in-migration from the countryside, which has resulted in crowded tugurios in the quebradas and extensive illegal subdivisions on the urban fringes.

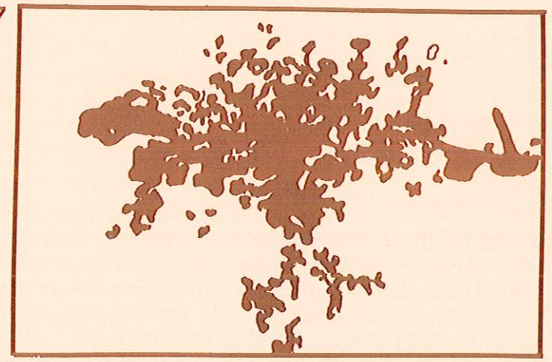
1800



1944



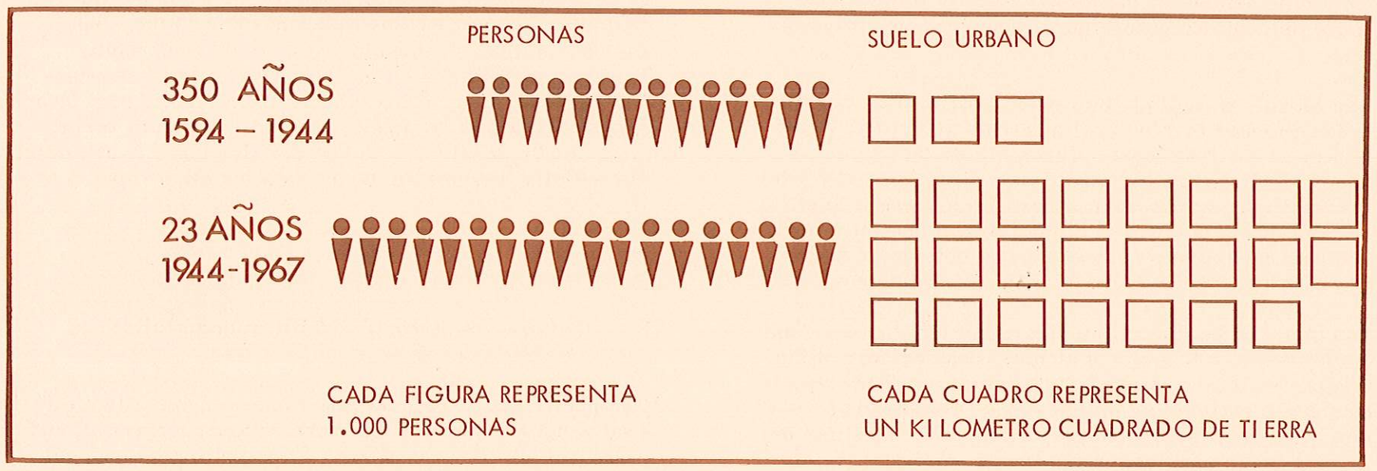
1900



1967

③

CRECIMIENTO HISTORICO DEL AREA METROPOLITANA



④

CRECIMIENTO RECIENTE DEL AREA METROPOLITANA

Still another new factor is a thinning out of population density. New residential areas have been developed at much lower initial densities than those of old San Salvador and, in addition, residential densities in some of the old areas have been declining.

So tremendous have been these forces of urban growth that in the period 1945-1967 alone, more than three times as much land was brought into use in the Metropolitan Area, as had been developed previously since 1594. This fact sets the scale of metropolitan development that must be anticipated and planned for in the next generation.

C. PRESENT CHARACTERISTICS

1. Arrangement of Land Uses

As the result of detailed land use studies, the overall urban land use patterns of the Metropolitan Area and Region have been identified. The 53 square kilometers of urbanized areas make up only four percent of the total land of the Region. The largest single use is residential, which occupies over half of the urban land. All other land uses are relatively small in comparison. Institutions, the second largest user of land makes up only nine percent of the total. Industry follows with eight percent and commerce with six percent (Table 2).

The urbanized Metropolitan Area consists of an agglomeration formed by nine contiguous municipalities in the Valley of the Hammocks. This built-up area measures about 18 kilometers in an east-west direction and 9 kilo- in a north-south direction. Santa Tecla forms a satellite town farther to the west. In addition, a number of small outlying municipalities form rural centers in the Region.

The Metropolitan Area (the nine municipalities and Santa Tecla) contains 82 percent of the urbanized area of the Region, while the remaining 18 percent is distributed among the outlying municipalities. Urban land uses are not, however, distributed proportionately among the ten central municipalities. For instance, the majority of stable housing and most squatters are located in San Salvador, while the outlying municipalities to the north and south contain an unusually larger proportion of illegal settlements. San Salvador also contains most commercial and institutional lands while the majority of the industrial land is in Soyapango and Illopango.

The pattern of land use presents a somewhat typical development for this size metropolitan area, influenced by the imposing and inalterable topographical conditions, of course, as well as the level of social, economic and technological development particular to El Salvador.

The generalized pattern can be described as a concentrated commercial node with dispersed individual commercial establishments. Community facilities and institutions, although not presenting a concentration or node, are dispersed only around the Regional Core; the periphery is noticeably lacking these facilities. There is one large industrial node (Soyapango-Illopango) and a few smaller concentrations of modern industrial establishments, while the small scale industry, approaching the handicraft level, is dispersed. Housing types range from the centrally located tenements surrounding the Regional Core, squatter shanty towns located on the creeks of San Salvador and the northern fringe, and illegal subdivisions, at one extreme, to fine, high-income residential suburbs in the western and comparable to any in the developed world.

The central commercial area is located at the crossing of the two principal (north-south and east-west) axes of the Municipality of San Salvador, occupying approximately 60 hectares, or about a third of all land devoted to commerce. The other two-thirds of commercial land use is scattered in four sub-centers: Alameda Roosevelt and Plaza de Las Americas to the west, San Miguelito and Avenida Espana to the north, Paseo Independencia to the east, and San Jacinto and Avenida Cuscatlan to the south. There are smaller district and sub-district level commercial concentrations in the adjacent municipalities of Soyapango, Mejicanos, Delgado, San Marcos, Santa Tecla, etc. The Regional Core can be described as a four-pointed star with the western tip longer than the other three.

2. Pattern of Community Facilities and Institutions

Community facilities and institutions are generally clustered about the Regional Core and account for nearly nine percent of all urban land use. Principal region-shaping institutions in the Metropolitan Area include the University of El Salvador at the end of 25th Avenue E. (the new University of Simeon Canas is relocating near Guadalupe to the west); the hospitals (including Rosales, Maternity, Social Security, Policlinica, Children's, and others) on 25th Avenue N. between Roosevelt and

ESCALA 1:150,000

VIVIENDA

COMERCIO

INDUSTRIA

CAMINOS PRINCIPALES

CAMINOS RURALES

AEROPUERTO INTERNACIONAL

ESTRUCTURA DEL DESARROLLO

29th St. W, the grounds of the International Fair of El Salvador on the western highway to Santa Tecla; Ilopango Airport on the eastern highway to San Martin; the National Stadium and Sports Arena in Flor Blanca; the two existing central cemeteries (a new one is being built near Soyapango), and finally the governmental buildings planned for the Government Center, just northwest of the Regional Core.

The tendency to concentrate related institutions in a single area is a natural and healthy development that should be encouraged, and specific policies should be set for each area: the hospital area, sports area, government area, exhibition area, etc.

The community facilities, on the other hand, are too concentrated in the area surrounding the Regional Core, in locations which were on the periphery of the city two generations ago. Although some ministries, such as Education and Health, have taken steps to decentralize so that their facilities are located according to the latest population distribution in the MASS, overall decentralization is still uncoordinated. For the most part, the fringe population remains isolated from basic community facilities and to reach them must travel great distances on foot or use public transportation.

3. Transportation Network

The primary highway network may be visualized as a crude circumferential circling the Volcan de San Salvador which is the hub of a number of radials. Part of the highway system is formed by the Carretera Panamericana which traverses the Region in an east-west direction, passing through the centers of Santa Tecla and of San Salvador on local streets. The highway network and its related facilities form the major transportation element.

The Region contains the only commercial airport of the Republic. The modern International Airport is located to the east, in close proximity to the major industrial district and connected by the Boulevard de Ilopango to the downtown area.

There are two railroads, each with a separate terminal, but with a through connection. They carry primarily bulk goods and are of declining importance.

4. Distribution of Population

In 1961, the Metropolitan Region contained about 554,000 people (Table 1); 388,000 people - 70 percent of the total population - were classified by National Census as residing in urban areas while 166,000 people - 30 percent of the total - were classified as rural residents. According to the definitions of the National Census, "urban" areas are the parts of municipios where governmental administrative facilities are located, while "rural" areas consist of the remainder of municipios which have no administrative facilities. These may contain small settlements which are not governmental administrative headquarters, haciendas, and scattered dwellings on small landholdings.

Table 2. LAND USES IN THE MRSS* 1967

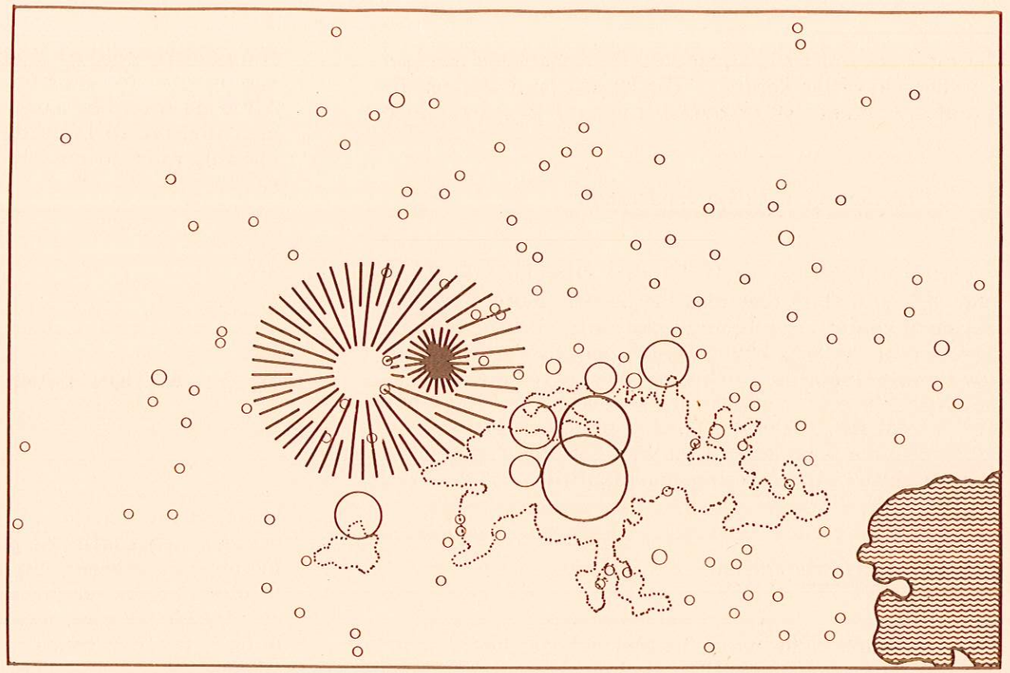
	hectares	percent	percent
Total area	122,045	100.0	-
Non-urban	116,768	95.7	-
Urban	5,277	4.3	100.0
Residence	2,802	-	52.0
Standard	1,571	-	29.7
Tugurios	68	-	1.3
Illegal subdivisions	1,163	-	22.0
Commerce	332	-	6.3
Industry	400	-	7.6
Transportation	147	-	2.8
Institutions and community facilities	462	-	8.8
Public open spaces	182	-	3.5
In process of development	581	-	11.0
Vacant without services	371	-	7.0

* 22 municipalities

The urban population of the Metropolitan Region is highly concentrated - 30 percent lives in the congested southeast quadrant of San Salvador (South of Calle Ruben Dario and east of 25 Avenida Sur). The remainder of the Metropolitan Area contains another 61 percent of the urban population, and only nine percent is located in the outlying municipal centers.

DISTRIBUCION DE POBLACION

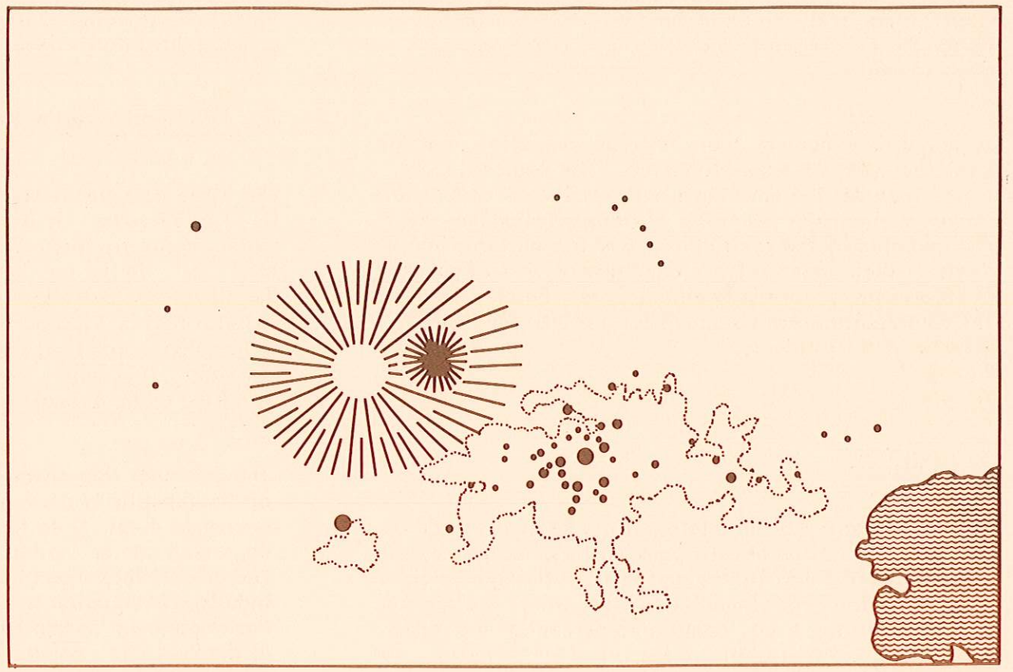
(6)



DISTRIBUCION DEL EMPLEO URBANO

(7)

TRABAJADORES



The rural population is distributed throughout the numerous cantones of the Region. The largest rural settlement is that at Lourdes, which contains several thousand people.

5. Distribution of Urban Employment

A partial survey made in 1965 by the Direccion de Urbanismo y Arquitectura indicates the general pattern of employment centers. Including industrial, institutional and commercial workers, about 68,400 persons were counted. The downtown business district of San Salvador was the principal place of employment, accounting for about half of the total jobs. About a third of the urban jobs were located in the remainder of the Metropolitan Area, and about a sixth in the outlying municipalities.

6. Daily Traffic Pattern

The streets and highways of the Metropolitan Region carry a heavy load of daily traffic. Technical studies have estimated the relative locations and volumes of such movement. The "trip," which is the one-way movement of one person from an origin to a destination, is the unit of measurement.

As might be expected, there is great congestion of motor vehicles in the Metropolitan Area. The Regional Core, which includes the downtown business district of San Salvador, is the major generator of transportation movement. As indicated by the relatively heavy trip pattern, Santa Tecla, which contains little employment, is an important "bedroom town" for the Regional Core. Points outside of the Metropolitan Area account for a relatively small amount of daily travel.

7. Summary

The urban pattern of the Metropolitan Region is made up of an agglomeration of nine communities, the nearby satellite town of Santa Tecla, and small outlying municipalities. The ten central municipalities, which are termed the Metropolitan Area, contain 93 percent of the urban population and five-sixths of the urban employment. The central business district of San Salvador is the major employment center and the major traffic generator for the Region.

The primary regional highway network is well developed and provides the structure of future urban development. Although linked by modern highways, the outlying municipalities are still outside the path of modern urban development, which is confined largely to the Metropolitan Area.

D. NATIONAL AND REGIONAL RELATIONSHIPS

Location and function of flourishing cities are not accidents, but reflect a geographical logic and an interchange between city and countryside. The City is located at an advantageous site; it is furnished by the countryside with raw material and labor; and the City, in turn, provides goods and services not available in the countryside. A review of the role of the MRSS in the greater regions of the Republic and Central America provides understanding of its economic and social functions and insights into its developmental potential.

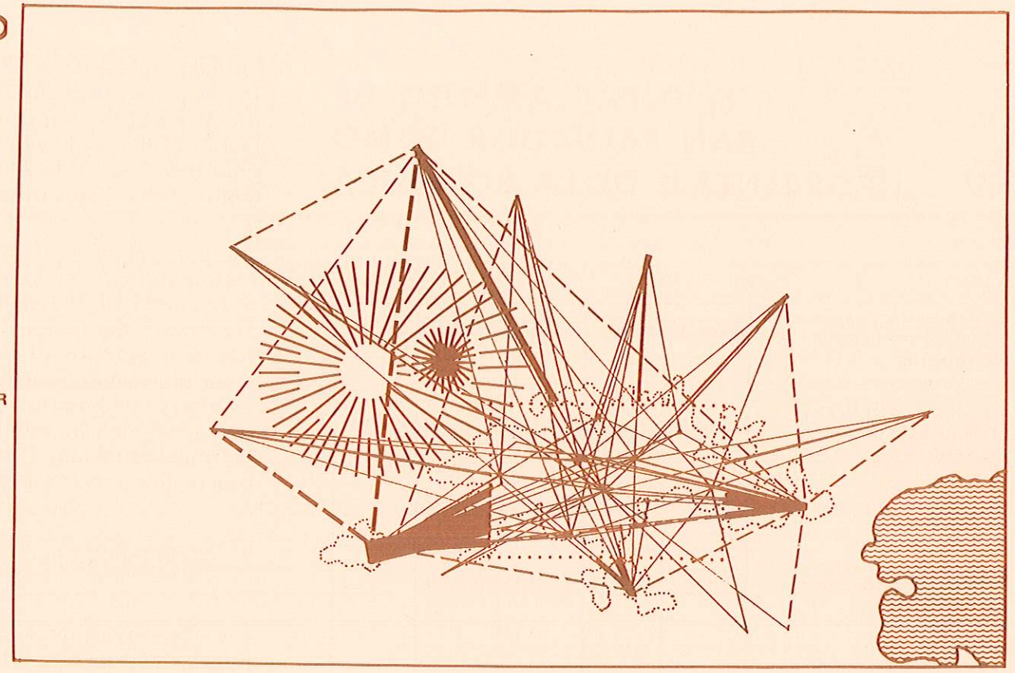
1. Relationship to the Republic

The MRSS occupies a west-central position in the Republic of El Salvador. It is at a crossing of transportation routes, centrally located in relation to the best agricultural land. In the terminology of development planning, the city of San Salvador is a "primate city" - a national capital that is disproportionately large in relation to other urban centers of the Nation. In the case of San Salvador, it is more accurate to consider the Metropolitan Area as the primate city.

The dominant role of the Metropolitan Area in the life of the Republic is shown even more dramatically by economic data. Data for the Department of San Salvador, which can be used as representative of the urbanized core cities, shows that a large part of the Republic's industrial production is concentrated here. Although the Department of San Salvador contained only a fifth of the Republic's population in 1961, it accounted for a fourth of the industrial establishments, almost half of the value added in manufacturing, and almost two-fifths of industrial wages.

PROMEDIO DIARIO DE VIAJES PERSONALES: 1967

(8)



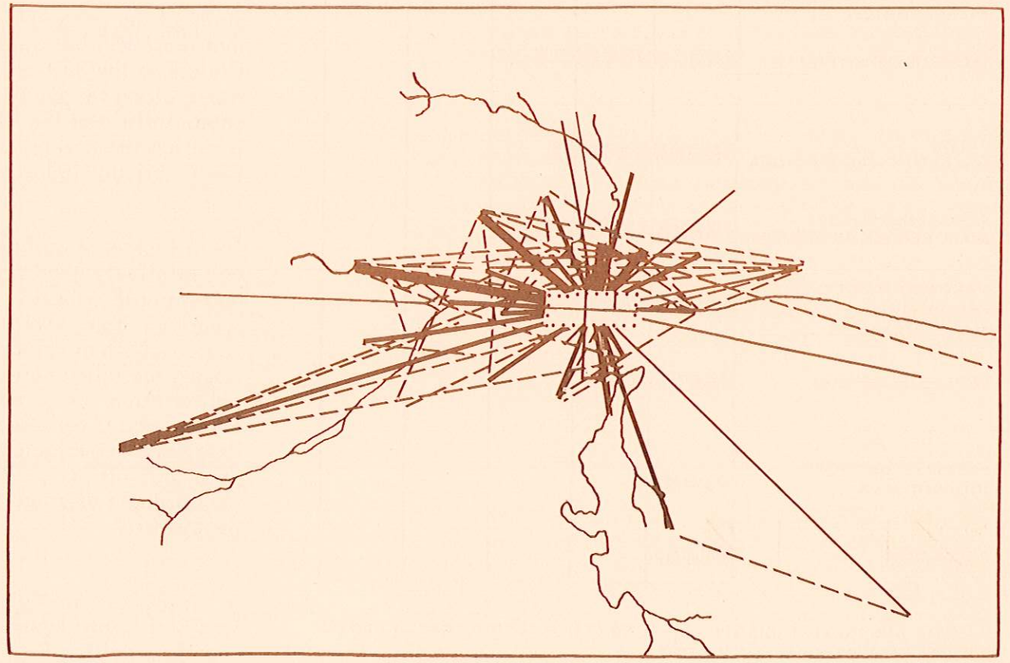
VIAJES INTERZONALES FUERA DEL COMPLEJO URBANO DE SAN SALVADOR

VIAJES CON DESTINO AL COMPLEJO URBANO DE SAN SALVADOR

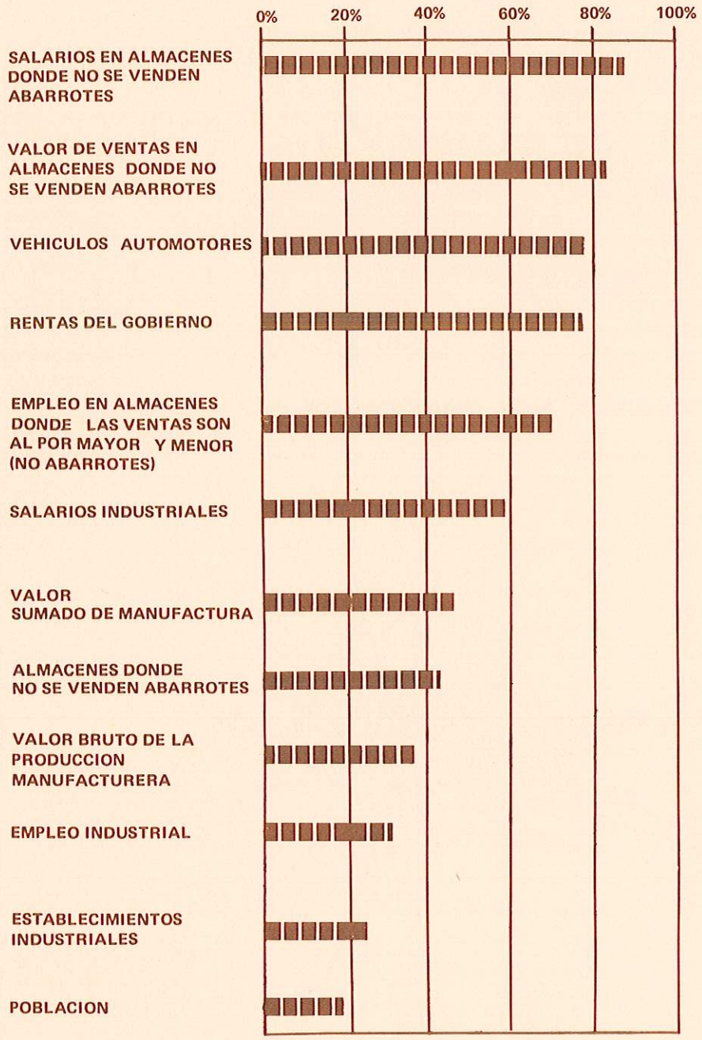
ESCALA = 1MM. = 10,000
VIAJES PERSONALES DIARIOS

PROMEDIO DIARIO DE VIAJES PERSONALES: AREA CENTRAL DEL RMSS 1967

(9)



(10) EL DEPARTAMENTO DE SAN SALVADOR COMO PORCENTAJE DE LA REPUBLICA



FUENTE: ANUARIO ESTADISTICO 1965 DE VEHICULO AUTOMOTORES Y RENTAS DEL GOBIERNO OTROS CENSOS DE 1961.

In trade and services, the area is even more dominant. The Department of San Salvador accounts for more than two-fifths of the retail non-food stores, almost three-fourths of the employment in wholesale and retail trade, more than four-fifths of retail sales, and almost nine-tenths of the wages in retail establishments.

The predominance of wholesale and retail trade in the Metropolitan Area are complemented by other functions associated with the central city of a tributary region. The area is the national center of government and industrial and agricultural management. It is also a cultural, entertainment and social service center where museums, theaters, and hospitals are concentrated. As nearly all persons of high income in the Republic reside in the Metropolitan Area, it has the only significant concentration of fine homes and purchasing power.

2. Relationship to Central America

The economy of the Regional Core is closely tied into the larger economy of Central America.

Study of the geographical and climatic features reveals that the MRSS has an extremely favorable location. It is close to the best agricultural lands, which are concentrated along the Pacific coast. Its temperate climate is characteristic of the highland along the Pacific, and it is astride the north-south transportation corridor, the Pan American Highway.

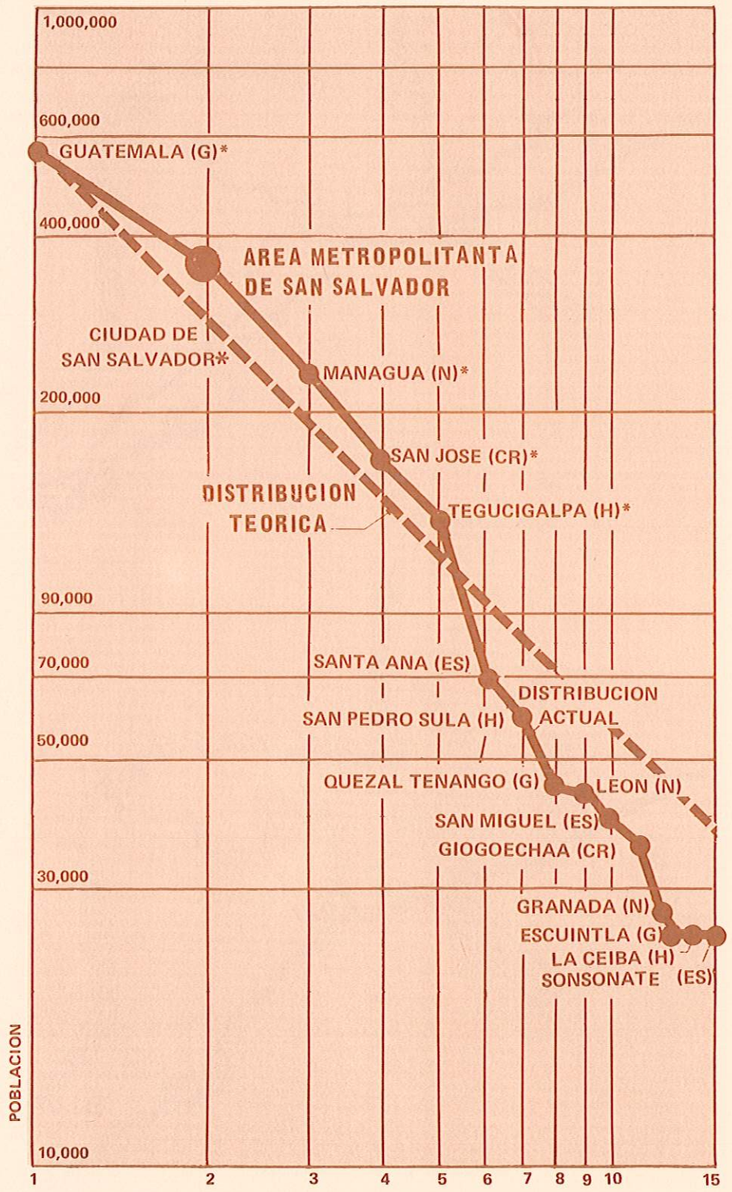
These factors of agricultural fertility, temperate climate, and relatively good transportation have influenced the pattern of distribution of urban population in Central America. San Salvador is a major center in a concentration of urban centers that have these factors in common. Among the urban centers of Central America, the Metropolitan Area is exceeded in population size only by Guatemala, and is followed in rank order by Managua, San Jose, and Tegucigalpa. All of these leading cities are "primate" cities, the capitals of modernizing countries containing a disproportionate share of each nation's populations.

In view of its strategic location, recent development trends of Central America are particularly significant to the Metropolitan Region: primarily, development of the Central American Common Market. One of the purposes of this concept is to promote industrialization in order to cut down imports from the rest of the world. The avail-

LOS QUINCE CENTROS URBANOS MAYORES DE CENTRO AMERICA 1961

(11)

CAPITAL DE LA NACION*



ESCALA LOGARITMICA DOBLE

LOS DIEZ CENTROS URBANOS MAYORES DE LA REPUBLICA 1961

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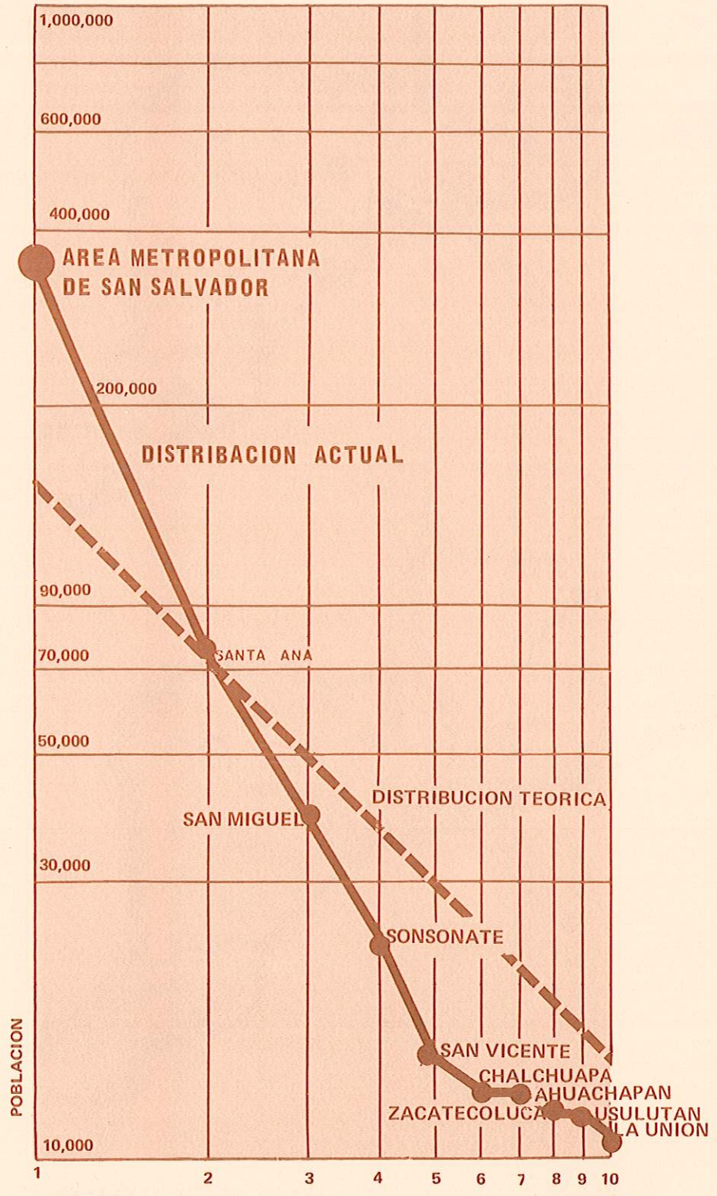
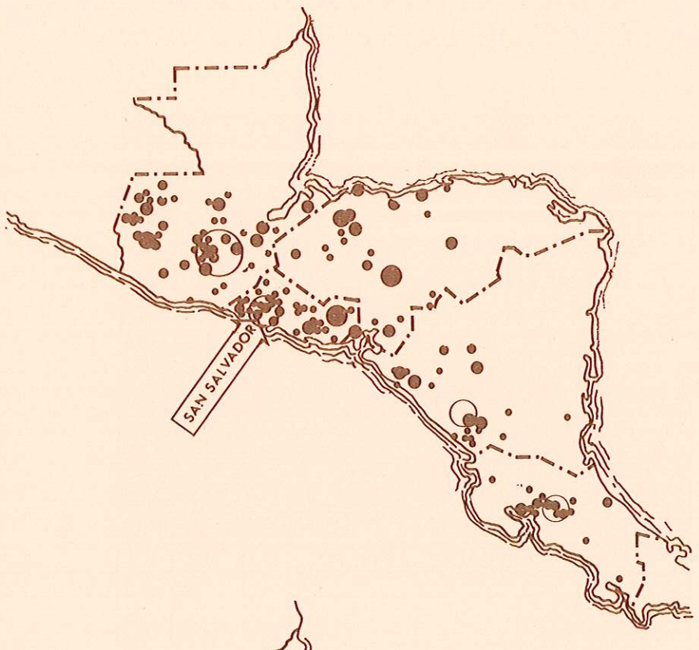
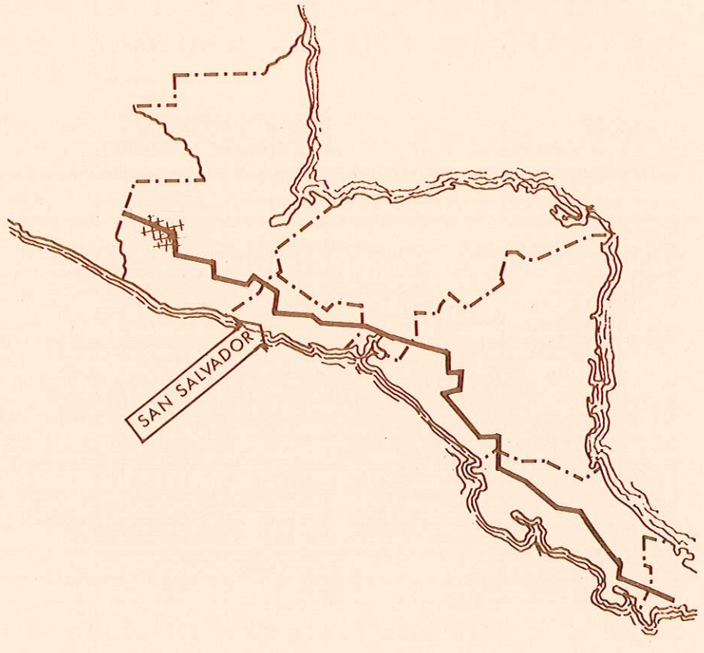


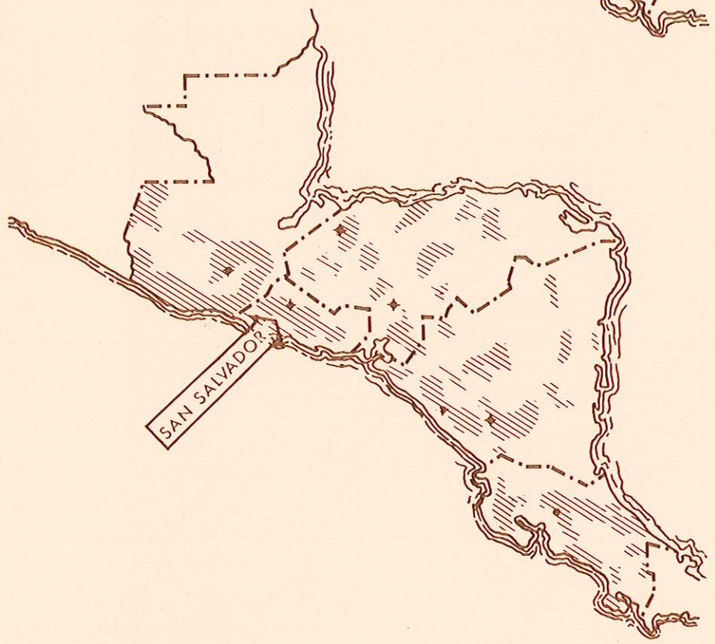
ESCALA LOGARITMICA DOBLE

POBLACION URBANA



CARRETERA PANAMERICANA



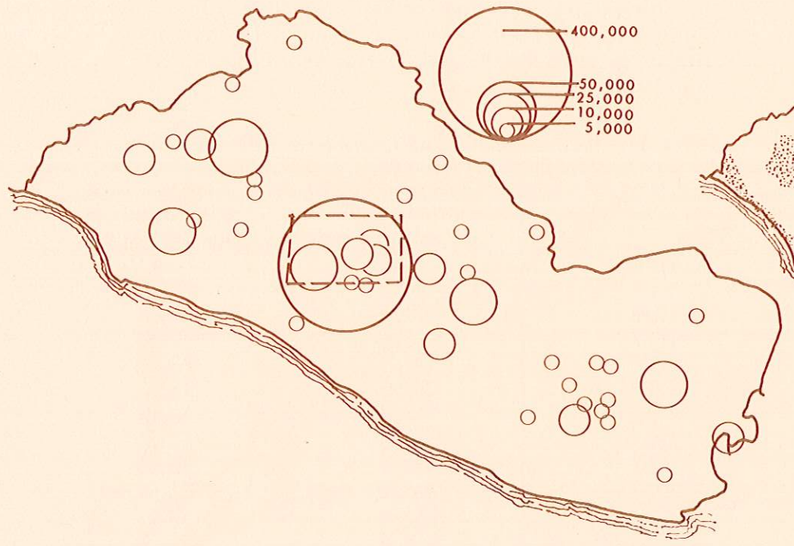


USO INTENSIVO

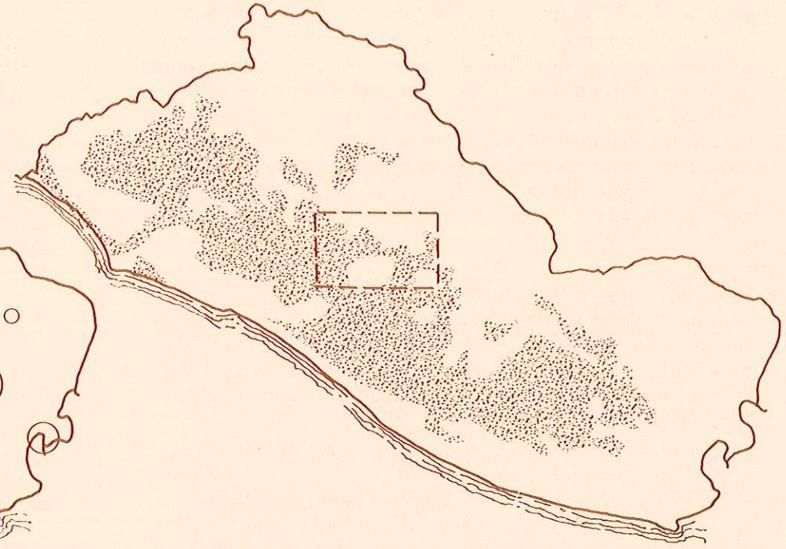
CLIMA Ttemplado

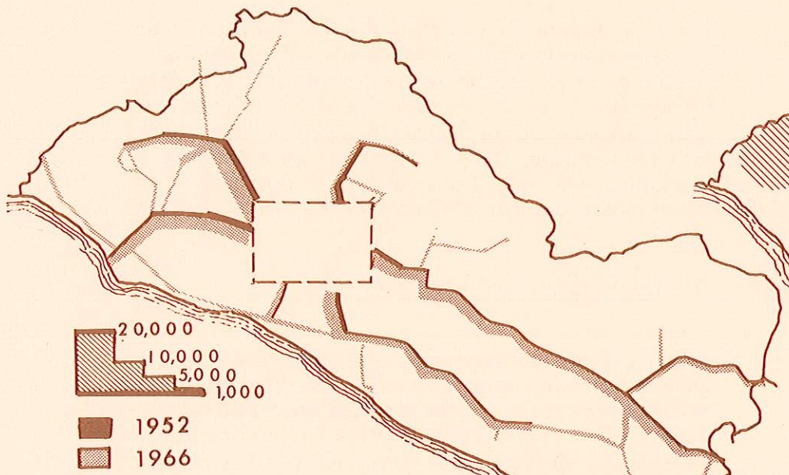
RELACIONES REGIONALES

POBLACION URBANA



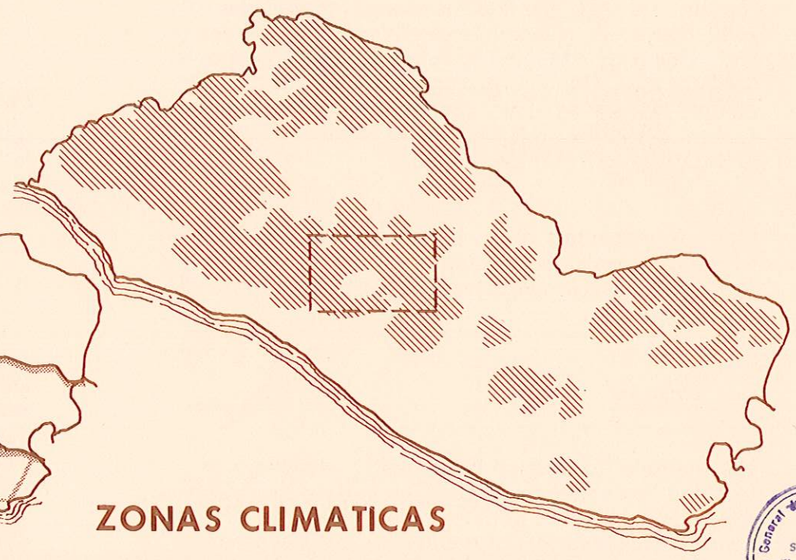
TERRENOS DE PRIMERA CLASE





FLUJO DEL TRAFICO

ZONAS CLIMATICAS



RELACIONES NACIONALES

ability of a Common Market of eleven million persons makes it feasible to build large modern factories which could not be supported by the separate smaller economies of five individual countries. The Region imports food and raw materials from other countries and exports manufactured consumer goods. The Republic's industrial growth of recent years, most of which is concentrated in the Metropolitan Region, is in large part a result of the Common Market.

The improving economic situation of Central America, in which the Metropolitan Region provides key leadership, is shown by growth in commercial trade. Between 1950 and 1965, international trade movements increased from 8 million pesos to 128 million pesos, a gain of fifteen times (Table 3).

The impetus for development furnished by the Central American Common Market has other stimulating effects on the local economy. The Central American Bank has opened lines of credit for financing working capital and national production of exports to other countries.

Efforts to standardize brands and government regulations on production are underway. Efforts are also being made to simplify and standardize remaining customs regulations.

Proposed improvements of the Central American highway system will also be beneficial to the Metropolitan Region. In 1951, the Pan American Highway was only 2.02 kilometers in length; today it is 2,003 kilometers and extends from Mexico to Panama. Further improvements to the Central American system are planned, including the paving of the continuation of the Carretera Troncal del Norte in Honduras, to connect the Metropolitan Region to San Pedro Sula.

Other infrastructure programs that will ultimately benefit the Metropolitan Region include a unified Central American telecommunications network and a regional power grid.

3. Summary

The Metropolitan Region has a highly advantageous location in Central America. The bulk of the Republic's urban economic activity is located here. The central urbanized part of the Region is the second largest urban concentration in Central America. Programs of the Central American Common Market have already greatly benefited the Region; and it is in a highly strategic position to take advantage of continuing progress in the unified development of Central America.

Table 3. INTERNATIONAL COMMERCE IN CENTRAL AMERICA, 1950-1965

Year	Millions of Central American Pesos	% Increase Over Previous Year
1950	8.3	-
1957	16.6	22.8
1958	20.5	23.5
1959	28.0	36.6
1960	32.7	16.8
1961	36.8	12.5
1962	50.4	36.9
1963	66.2	31.3
1964	105.4	59.7
1965 (P)	128.4	21.8

(P) Preliminary

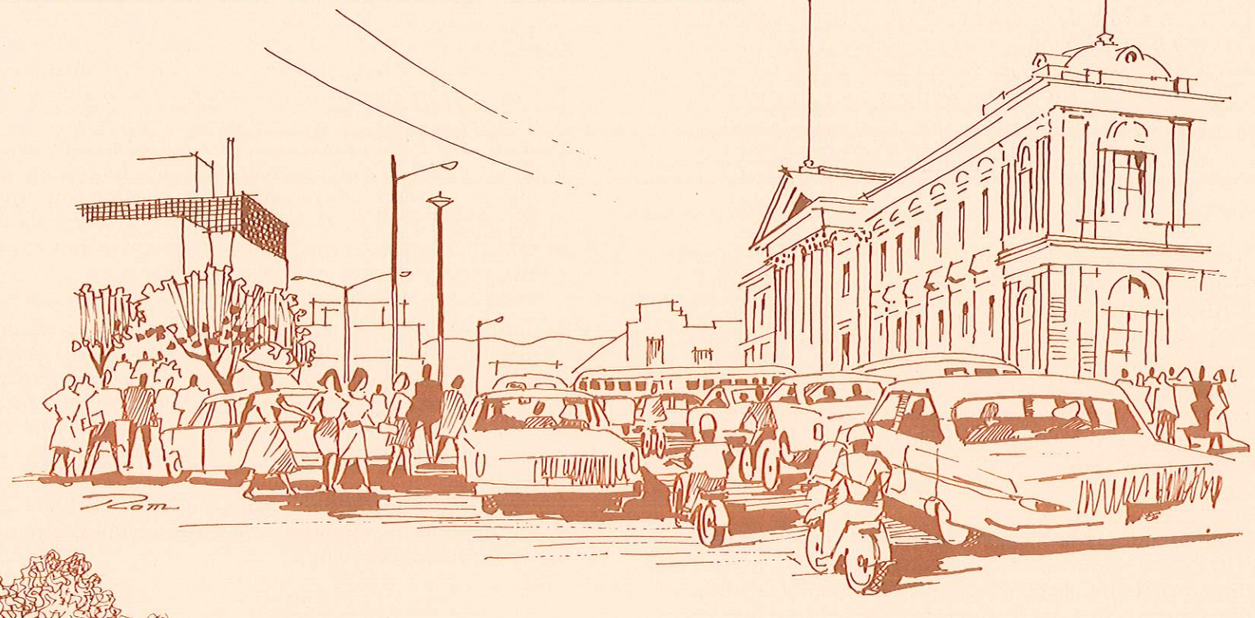
E. DEFICIENCIES AND STRENGTHS

The preceding sections portray the Metropolitan Region at the moment in its long history when the pace and magnitude of growth are vastly greater than ever before. Change has outpaced the capacity of institutions, resulting in many unmet needs and new problems. In the following section, the pattern of deficiencies and strengths is diagnosed, so that these factors can be taken into account in planning for the future.

1. Urban Homes and Neighborhoods

The homes and neighborhoods of the Metropolitan Area exhibit a striking range of quality and diversity. At the bottom of the scale are the crowded and substandard quarters which are occupied by low income families and which make up the greater proportion of the housing supply. These include the illegal subdivisions on the urban fringe; the old downtown mesones and the tugurios clinging to the flood-swept arenales. It is estimated that at least two-thirds of the population of San Salvador lives in such quarters.

CONJESTION EN EL CENTRO COMMERCIAL



15

16

DERRUMBAMIENTO EN UNA QUEBRADA

Although in human terms the deficiencies are severe among all types of low income housing, the most critical constraint on future development is the illegal subdivisions on the urban fringes. These fringe areas of small, single-room homes occupy about a fourth of the urban land. Not only are the basic dwelling units inadequate, but public services also are deficient. The systems of paved streets, water supply, and sewerage have been outpaced by the rapidity of new growth. Schools and other community facilities are missing or inadequate.

Although the mesones are, for the most part, well-provided with public services, they are characterized by the problem of severe overcrowding. Net densities in the older residential areas of San Salvador run as high as 400 persons per hectare. Crowding within dwellings also is acute; in 1966, it was estimated that 47 percent of the families of San Salvador lived in housing with three or more persons per room.

The tugurios - squatter shanty-towns built in gullies or on hilly land - are characterized by the most primitive housing conditions. Located close to the center of the urbanized area, they are frequently exposed to a danger not present elsewhere - floods and landslides, which periodically destroy houses and wipe out entire families.

In sharpest contrast to the homes of the poor are the luxurious colonias of San Benito and Escalon. These suburbs serve as high-class residential districts not only for the Metropolitan Area, but for the Republic as a whole. Spacious single-family homes, among the finest in Latin America, are served by wide, paved streets and private schools and clubs.

Between the two extremes is a wide spectrum of middle-income housing including districts of small, modern homes, such as Miramonte; older downtown residential districts, such as the Parque Infantil; and public housing projects.

While conditions vary between neighborhoods, most residential areas are threatened by the processes of urban deterioration: increasing traffic, intrusion of industry and commerce, lack of maintenance. With few exceptions, all neighborhoods are deficient in public recreational space and in modern school facilities.

2. The Towns and the Countryside

Outlying towns and rural areas of the Metropolitan Region have the assets of beautiful landscape and verdant foliage. Some aspects of the towns - old buildings, trees, and squares - have a past century charm. But, in general, the rural areas have the characteristics of a lagging region in marked contrast to the increasing modernity of the Metropolitan Area. According to a survey of municipal mayors, the greatest liabilities are the lack of schools and paved roads. Housing conditions and public services are relatively poor.

Agricultural settlements located off the main roads and distant from the municipal centers have the most primitive living conditions in the Metropolitan Region. Structures are frequently bamboo and thatch huts, and lack all modern facilities and services.

Although these towns and rural areas are relatively backward, they are not isolated, due to frequent bus service along the major highways.

3. Commerce and Industry

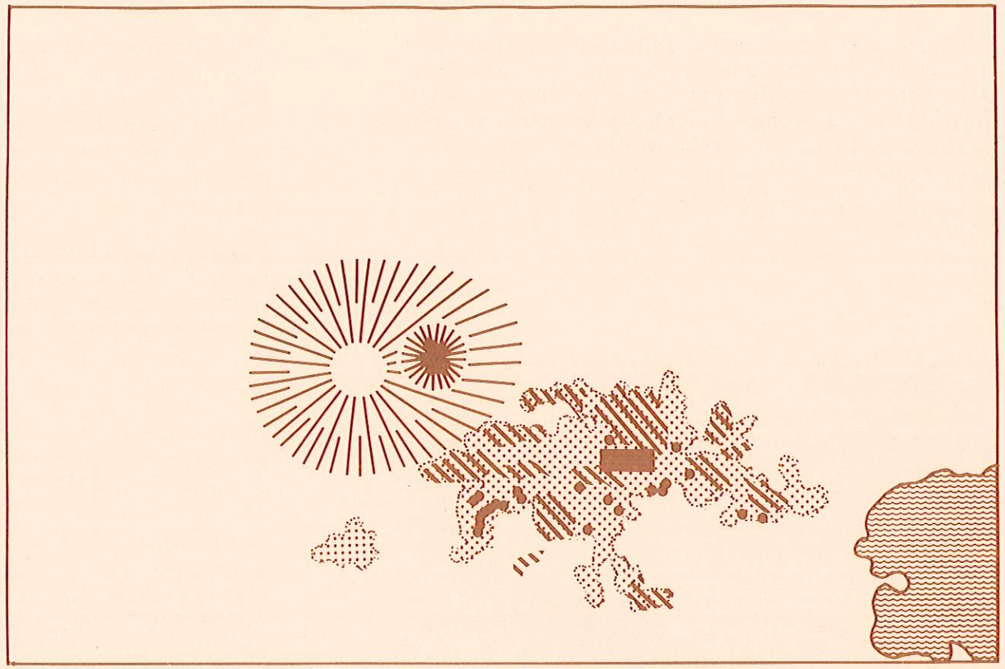
The Metropolitan Region has two focal points of modern economic vitality which are competitive with similar areas of Central America: the downtown business districts of San Salvador and the industrial districts on the Boulevard Ilopango. In addition, new commercial districts and industrial complexes of modern design are springing up in other parts of the Metropolitan Area.

While the downtown business district is a vital place, teeming with people and activity, it has many deficiencies. These include traffic and parking congestion, crowded and unsanitary markets, obsolete buildings, ugly signs, disorganized shopping areas, inadequate open space, and insufficient cultural facilities. Much improvement is necessary for the area to grow economically and to serve as an attractive regional shopping and commercial center.

In addition to an antiquated downtown, another problem is the ribbon development of commerce and advertising along major highways such as Avenida Roosevelt and the Carretera Pan Americana. Conditions of roadside blight are despoiling the landscape and adding to traffic hazards.

ZONAS DE COLONIAS ILEGALES

(17)



AREA DESARROLLADA = RMSS

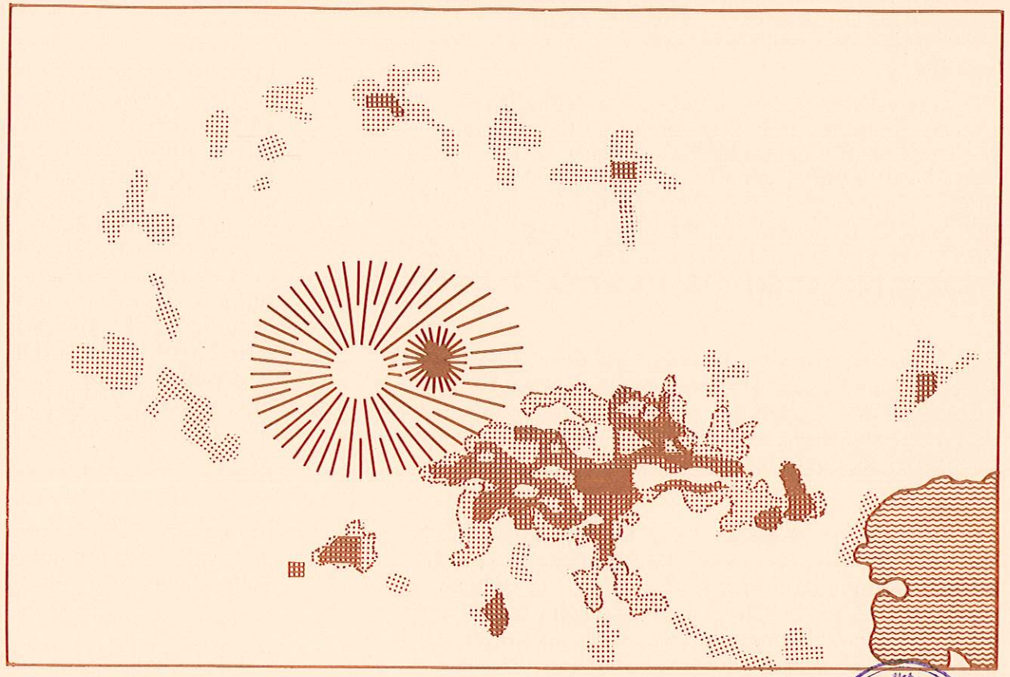
VIVIENDA MVEVA SIN PLANEAMIEN TO

VIVIENDA MARGINAL

AREA CENTRAL COMERCIAL

AREAS CON CALLES SIN PAVIMENTAR

(18)



PAVIMENTACION HASTA 1930

PAVIMENTACION DESDE 1930 HASTA 1967

CALLES SIN PAVIMENTO

While the spectacular growth of modern industry in recent years bears testimony to the economic attractiveness of the Metropolitan Area, problems have arisen. The dispersal of industrial plants has brought a mixture of land uses and heavy industrial traffic to all but a few parts of the area. Increasing traffic congestion and rising land costs are likely to constrain additional industrial growth.

4. Transportation

The assets and liabilities of the Metropolitan Area in the important sector of transportation have been brought to light in an exhaustive technical study. The greatest strength is the excellent bus system, which handles 80 percent of the daily movement of people and provides service to all parts of the Metropolitan Area and to outlying communities. Another asset is the modern International Airport at Ilopango, which has sufficient capacity for many years of service without crowding. An additional international airport on the Carretera del Litoral is under consideration for the time when the airport at Ilopango does become overcrowded.

The greatest transportation deficiency is the local street system. Inherited from past centuries, the gridiron system of small blocks and narrow streets is ill-adapted to the modern motor vehicle. Particularly in the Regional Core, traffic and parking congestion is acute, and this problem is growing in other urban cores. In addition to the problem of business centers, the inadequate system of major arterial routes is a serious liability.

Existing routes are disconnected, and of varying widths. Directions and design standards change without warning. The driveways of abutting commercial and industrial land uses and many street intersections slow traffic movements and create accident hazards.

One of the major deficiencies of the arterial system is the lack of a by-pass around the Regional Core. All north-south and east-west traffic must filter through downtown streets, where parades and religious festivals add to the normal congestion which blocks streets. It is difficult to reach the industrial district on Ilopango Boulevard and the International Airport without delay from downtown congestion.

Although urban bus service is good, the absence of adequate terminal facilities downtown is a source of confusion and annoyance. A large part of downtown congestion is caused by the numerous bus routes and curb loading. Because of the mid-day siesta, there are four periods of peak traffic movement each day.

The movement of goods presently presents no great problem. The two railroads are satisfactory for bulk goods, and trucks of numerous small shippers are not yet sufficient in number to cause traffic problems.

5. Public Utilities

Public utilities systems - water supply, electricity, communication, sanitary sewage and solid waste disposal - present a mixed picture of adequacy. In some areas, such as public water supply, the urban parts of the Metropolitan Region are relatively well served, while in others, such as sanitary sewers, great improvement is needed.

In contrast to many cities of the world, the Metropolitan Region is particularly well-off in relation to its water supply. Under the management of ANDA, the present Metropolitan Area is served by a system of deep wells that tap acquifers under layers of impervious lava. These aquifers are recharged by rainfall on the absorptive lava of the Volcan de San Salvador. Although the water sources under the present urbanized area will soon be used to capacity, there are additional acquifers in the Valle de Apopa and in the Valle de San Andres. The acquifers of the Rio Lempa furnish an additional source to the north, so that there is no shortage of water in the foreseeable future. It will be necessary, however, to pipe water from Apopa to the Metropolitan Area, and the task of keeping the distribution system abreast of new development will be a continuing one.

In terms of electric power, the Metropolitan Region is also well off. The national system of CEL provides high voltage current from Central Extermica de Acajutla and

Central Hidroelectrica del Guajoyo to the local distribution system. There is no power shortage to limit urban or industrial expansion.

FLUENCIA DE TRAFICO

(19)

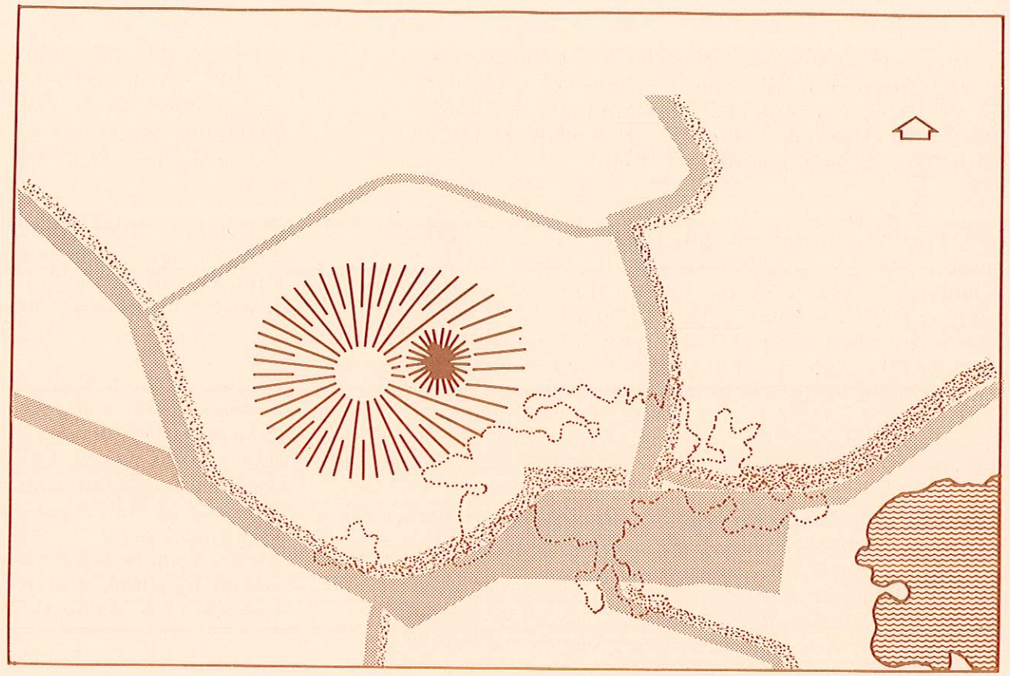
1952

1966

20,000

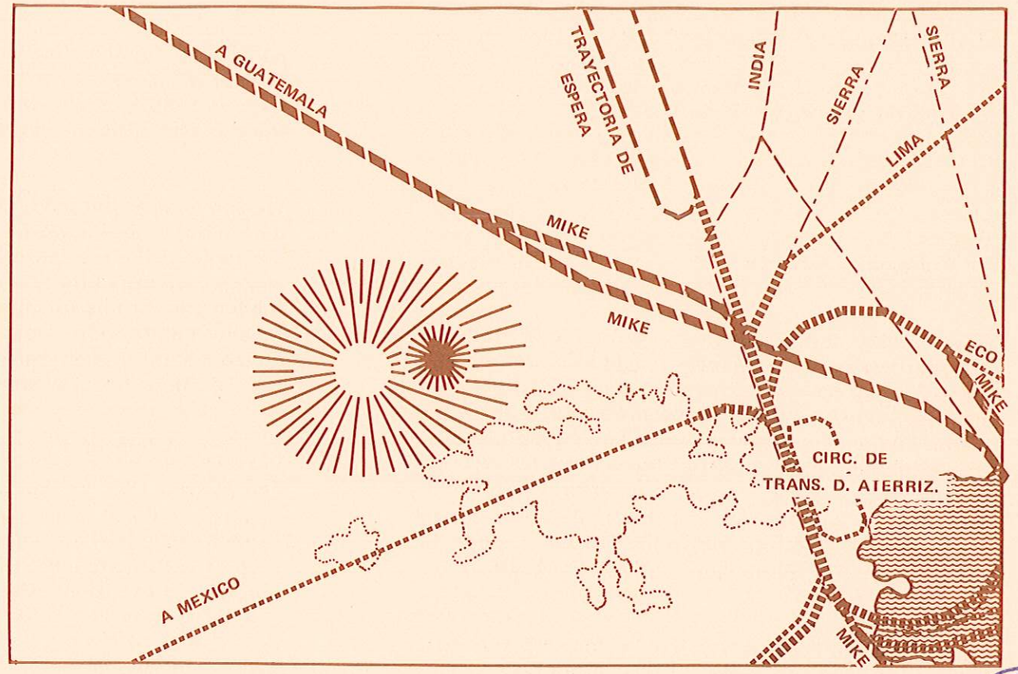
10,000

5,000



RUTAS DE ATERRIZAJE Y DESPEGUE

(20)



In recent years, communications have been modernized by major improvements to the telephone system, under the management of ANTEL. The postal service, however, still suffers from a lack of sufficient facilities, including a modern central post office.

Of all public utilities, the greatest deficiency is in the sanitary sewer system. A relatively large part of the urbanized area is unserved. Three major trunk sewers empty raw sewage into the Rio Acelhuate and the Rio Las Canas, which carry it north to the Rio Lempa. Because of this discharge of untreated sewage into surface waters or into the ground at many points in the Metropolitan Region, there is real danger of contamination of water supplies.

Storm water drainage is a problem. In the rainy season, torrential downpours cause flash floods in the natural drainage channels, the arenales. Deaths from flooding and landslides are not uncommon. As urbanized areas expand, the greater areas in roofs and paved streets increasingly cut down the absorptive power of the land and increase the volume of flood waters.

Solid waste disposal is handled in open dumps, the largest of which serves the City of San Salvador. Smoke, odors, rats and trucking from this dump are a blighting factor on the Boulevard Ilopango.

6. Community Facilities

Major health, cultural and recreational facilities for the Metropolitan Region and for the Republic are clustered in San Salvador. While there are some excellent modern facilities, many constructed in recent years, the Metropolitan Region does not yet have the well developed systems of community facilities that characterize a modern metropolis. Lack of impetus for improvement can be attributed, in part, to the fact that high income groups do not depend on public facilities, but have access to private hospitals, sports clubs and seaside homes.

Hospitals of the Republic, in particular, are concentrated in the Regional Core. Older hospitals, such as Hospital Rosales, have been augmented by the new Hospital Benjamin Bloom.

The University is the most significant new educational facility. A new technical school, now under construction at Santa Tecla, and a new Catholic College, now being planned for Antiguo Cuscatlan, will provide additional centers for higher education.

Cultural facilities include the Teatro Nacional, which is badly in need of modernization. The International Fair Grounds include the Guzman Historic Museum with a great but as yet undeveloped potential.

The Metropolitan Region has only the beginnings of a modern system of recreational facilities. There are some attractive and heavily used public open spaces, such as Los Chorros, La Toma, and Parque Balboa. In addition, there are central facilities for passive recreation such as the Parque Zoologico, the Estadio, and the Gimnasio Nacional. All public open spaces, however, amount to only 3.5 percent of the total urbanized areas (Table 2), which is only a third of a reasonable minimum standard of 10 percent.

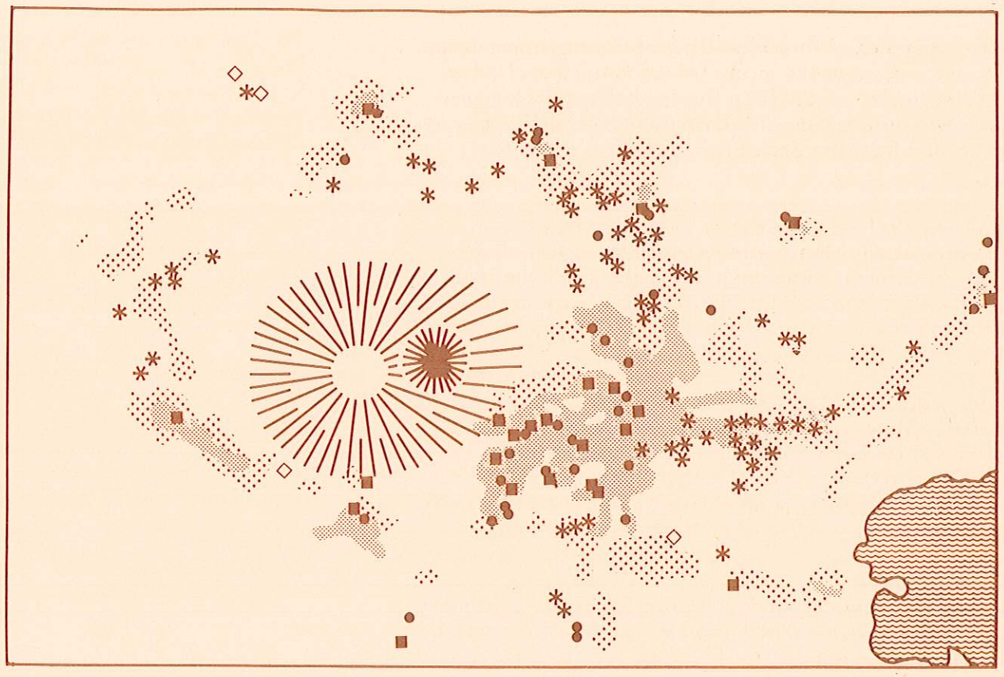
This lack of recreational facilities applies both to rural areas and to the downtown sections of the Regional Core. Rural roadsides are lined on Saturday nights by poor people seeking something to do. On fiesta days, crowds of people aimlessly wander the downtown streets. When shops are closed - except for the private movie houses - there is almost no attraction downtown.

Though outside the scope of this regional scale report, deficiencies are known to exist in community facilities at the scale of the residential neighborhoods, particularly among various public housing projects and among illegal subdivisions on the urban fringe. In addition, miscellaneous public facilities, such as fire and police stations, governmental administrative buildings and cemeteries need study and improvement.

7. Visual Appearance

The Metropolitan Region has inherited magnificently beautiful natural landscape and pleasant cityscapes and townscapes. In the treatment of a few beauty spots, such as Los Chorros, sensitivity to the natural surroundings and to excellent public design is evidenced. Some new buildings, such as government offices, churches and commercial structures, have architectural merit. However, in many ways, the natural landscape and both new and old examples of good urban architecture are being despoiled by pell-mell urbanization.

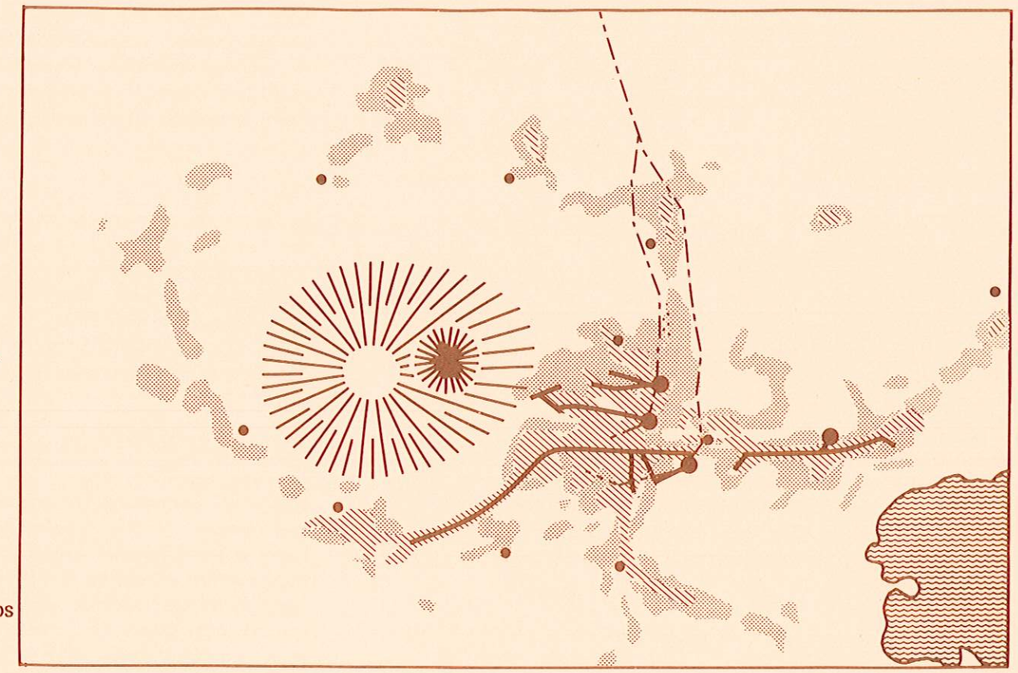
ZONAS SIN SERVICIO DE AGUA POTABLE



(21)

- POZOS PRINCIPALES
- POZOS SECUNDARIOS
- FUENTES PRINCIPALES
- TANQUES
- AREA SERVIDA POR CANERIA
- AREA SIN SERVIR

ZONAS SIN SERVICIO DE ALCANTARILLADO



(22)

- DEPOSITOS DE BASURAS
- AREA SERVIDA POR TUBERIA
- AREA SIN SERVIR
- RIOS PRINCIPALES CONTA
- COLECTORES PRINCIPALESMINADOS
- DESCARGAS

Many examples of this despoiling of the environment are apparent. One of the most obvious is uncontrolled advertising signs. These hide the landscape, overshadow downtown business streets, despoil fine boulevards, and even shine from the peak of the Volcano after dark.

Another unfortunate aspect of the new urban scene is land uses of an offensive industrial nature in inappropriate locations. The automobile junk yards that border the Carretera Troncal del Norte are an example of such bad practice.

Under pressure of development, the landscape is mistreated. Steep sites are cleared of vegetation, bulldozed and terraced to provide for industrial plants or rows of houses. On a particularly scenic stretch of the Pan American Highway an active quarry is cutting away the hillside.

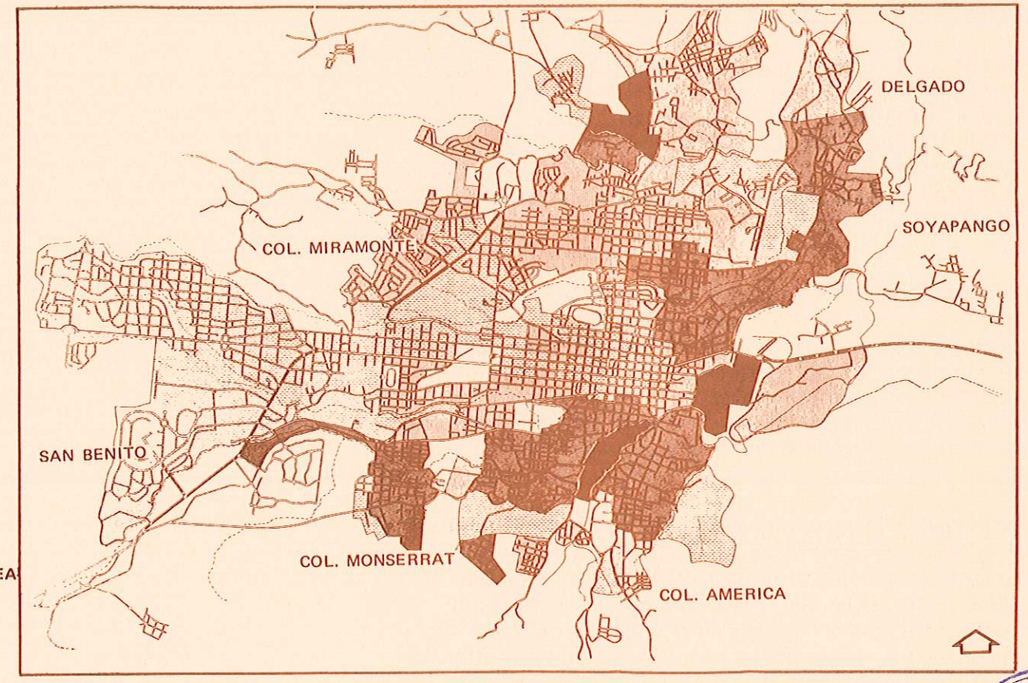
While design care is obvious in the construction of many major buildings, more attention should be paid to each building's site plan and to its design role in the overall community.

INSTALACIONES COMUNITARIAS DE IMPORTANCIA REGIONAL: SAN SALVADOR

(23)

DENSIDADES RESIDENCIALES EN SAN SALVADOR

AREA URBANA



(24)

- DE O A 50 HABITANTES/HECTAREA
- DE 50 A 150
- DE 150 A 250
- DE 250 EN ADELANTE

8. Summary

In environmental terms, the Metropolitan Region has many deficiencies and some strong points, all of which must be taken into account in planning for the future. A severe problem is poor housing in both urban and rural areas. This problem is accentuated by inadequate public utilities and community facilities, especially in the fringe areas of illegal subdivisions.

Development of new industrial areas is an obvious asset, but commercial development is hindered by the obsolescence of the downtown business district of San Salvador. While the Region has a good bus system, a disorganized system of major arterial highways and downtown traffic and parking congestion impede movement of people and goods.

Although there is a generally sound system of public utilities, these are strained to keep pace with the rapid growth. The greatest problem is disposition of liquid and solid wastes: sanitary sewage, storm water, garbage and rubbish. Flood waters frequently take lives and destroy property, and present methods of disposing of sewage and solid wastes are potential hazards to public health.

Although it is the center of health, recreational and cultural facilities for the Republic, the Region does not have fully developed systems of community facilities to serve all of its people. Among other deficiencies, it lacks sufficient open spaces and urban recreational facilities for the masses of the people. Insufficient attention is given to preserving the beautiful natural landscape and to providing high-quality urban environment in new development.

PART II
REGION-SHAPING FACTORS

ENTS

SITE

ULATION GROWTH

LABOR FORCE AND ECONOMIC PROSPECTS

SOCIAL PATTERNS

E. TRANSPORTATION

F. INSTITUTIONAL READINESS

G. FINANCIAL CAPACITY

REGION-SHAPING FACTORS

These are the key elements influencing future development of an urbanizing region that will eventually be required to accommodate several millions of people.

A. THE SITE

1. Importance of the Site

For all environmental planning, study of the site is of primary importance. The site - its lands, waters, climate, flora and fauna - is the heritage of millions of years of evolution. Its potentials and constraints establish the form and structure of urban development which, once established, persists through many generations. While economic and social planning can be location-free and cannot look too many years ahead, environmental planning is fixed to a location and must therefore take the long-range view, sensitive to its inherited natural setting.

In the Metropolitan Region of San Salvador the site - an ancient volcanic cone and its adjacent lowlands - is an unusually significant determinant of urban form. While it offers dramatic possibilities for urban development, it also sets unique constraints that must be respected.

2. The Visual Scene

The natural landscape of the Metropolitan Region is spectacular and powerful. Ancient volcanic action and millenia of erosion have endowed the Region with a unique combination of land and water forms. Mountains, hills, ravines, broken land and plains, rivers and lakes form magnificent vistas.

This superb visual environment must be conserved and enhanced, even while the pressing demands of rapid urbanization are being met.

3. The Land

The area most suitable for intensive urban development rings the great Volcano of San Salvador like a huge doughnut. Natural barriers - hills and a frozen river of lava - divide the developable land into three great valleys with physical and visual significance. One is the valley from Santa Tecla to San Martin, where the Metropolitan Area has developed, known today as the Valle de las Hamacas and in Indian times as the Valle de Quezalcoatitan.

Another valley to the north is termed the Valle of Quezaltepeque-Apopa. Still a third natural home is located in the west, termed the Valle de San Andres or the Valle de Zapotitan.

In addition to the Volcano and the major hills, there are large areas of broken land, unsuited for intensive urbanization. Another limiting feature for development are

the deep ravines or quebradas - deeply eroded natural drainage channels in the volcanic soil. Since even the best maps, which have a contour interval of twenty-five meters, cannot show these constraints to development, detailed site studies must precede urban plans in various parts of the Region.

Except for geologically-recent lava deposits to the northwest, subsoil conditions present no barriers to development.

4. The Water

The water resources of the Region are another influential factor in organizing future growth. Rainfall is heavy for six months of the year. Torrential downpours on the porous lava of the volcano recharge the deep aquifers which provide the present water supply. Surface run-off cuts deepen the quebradas and cause frequent flooding. The parts of the Region suitable for extensive urban development are divided into two large drainage basins: that of the Rio Acelhaute and Rio Las Canas and that of the Rio Sucio. Both drain north to eventual junction with the Rio Lempa, and both have abundant underground water supplies in untapped aquifers. These basins are of importance to sewage disposal as well as water supply. Two sewage treatment plants, serving extensive urban complexes, might eventually be located at the northern edge of the Region. The Lago de Ilopango - a lake formed in the crater of an ancient volcano - is an unsurpassed recreational water resource. The Lago de Chanmico forms a much smaller but highly scenic water body.

5. The Climate

The Region's elevation above sea level (700 meters in downtown San Salvador and 950 meters in Santa Tecla) produces a temperate climate, which is equitable the year around and excellent for extended urbanization. Average temperatures vary with elevation, producing a variety of micro-climates. Prevailing winds are predominantly from the northeast, but with considerable variation, so that there are no downwind locations suitable for "dirty" industry. There is occasionally some slight smog over the Regional Core, but it is claimed that wind and topographical conditions alleviate any noxious concentrations.

6. Flora

A prolific variety of tropical plants and trees distinguish the landscape. Abundant water and rich volcanic soil have produced fertile agricultural land. In terms of fertility, the Valley of Zapotitan is said to be unsurpassed in Central America.

7. Natural Catastrophic Forces

One of the most difficult regional site factors to deal with is the possibility of earthquakes and volcanic eruptions.

Located in the Valle de Las Hamacas, the City of San Salvador and its environs have experienced severe earthquakes a number of times in recent history. The likelihood of damage from earthquake varies from area to area, depending upon the character of the soil, relation to fault lines, and location and depth of epicenters. As a general rule, as one proceeds away from the Lago de Ilopango, the earthquake hazard lessens.

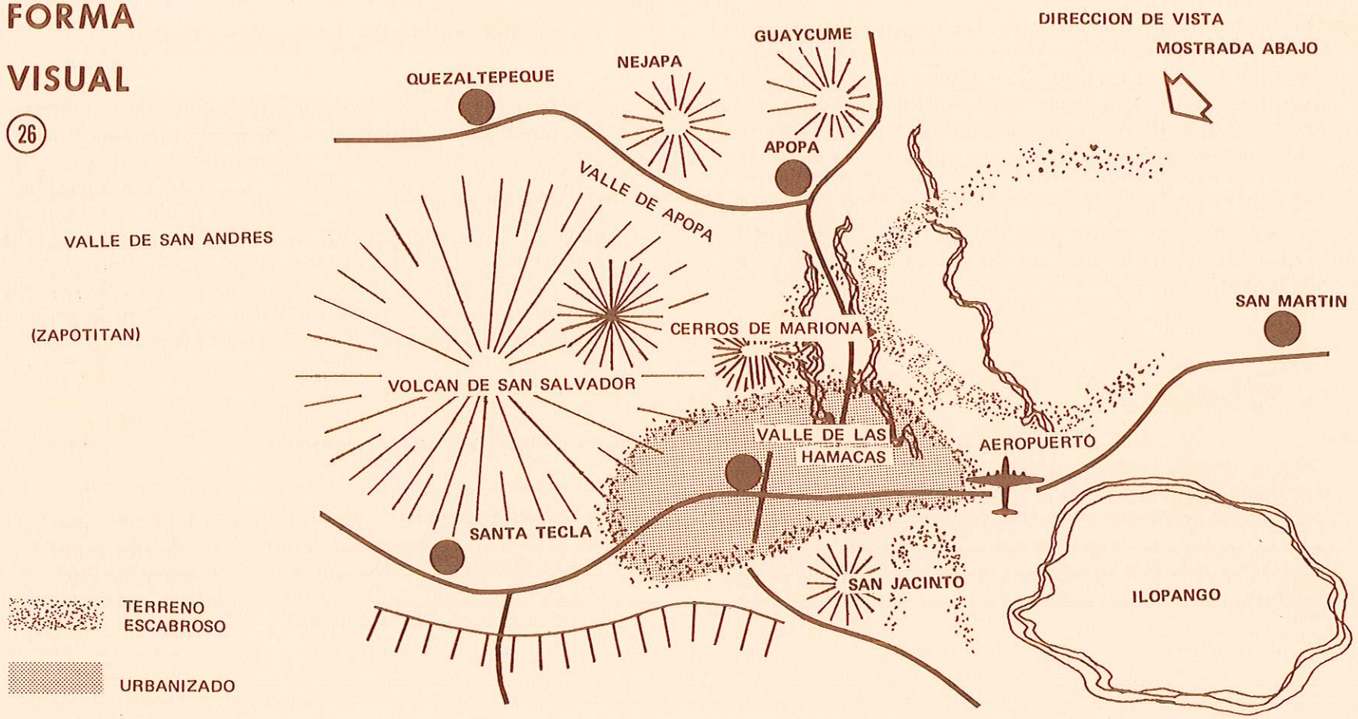
As the Region is said to have experienced earthquakes no more severe than those of San Francisco, it seems reasonable policy not to allow this factor to unduly influence the urban plan, but to rely upon earthquake-resistant construction to lessen the hazard.

When the Volcano of San Salvador, pockmarked with ancient craters, came to life last in 1917, it left a "great frozen river of lava, dark, broken, turbulent and yet motionless" upon the landscape. This lava flow is a constant reminder of the volcano's dormant power, a silent threat of the possibility of another eruption. In nearby countries - Guatemala and Costa Rica - there are active volcanos. No one can tell when and from what direction the Volcano of San Salvador may erupt again.

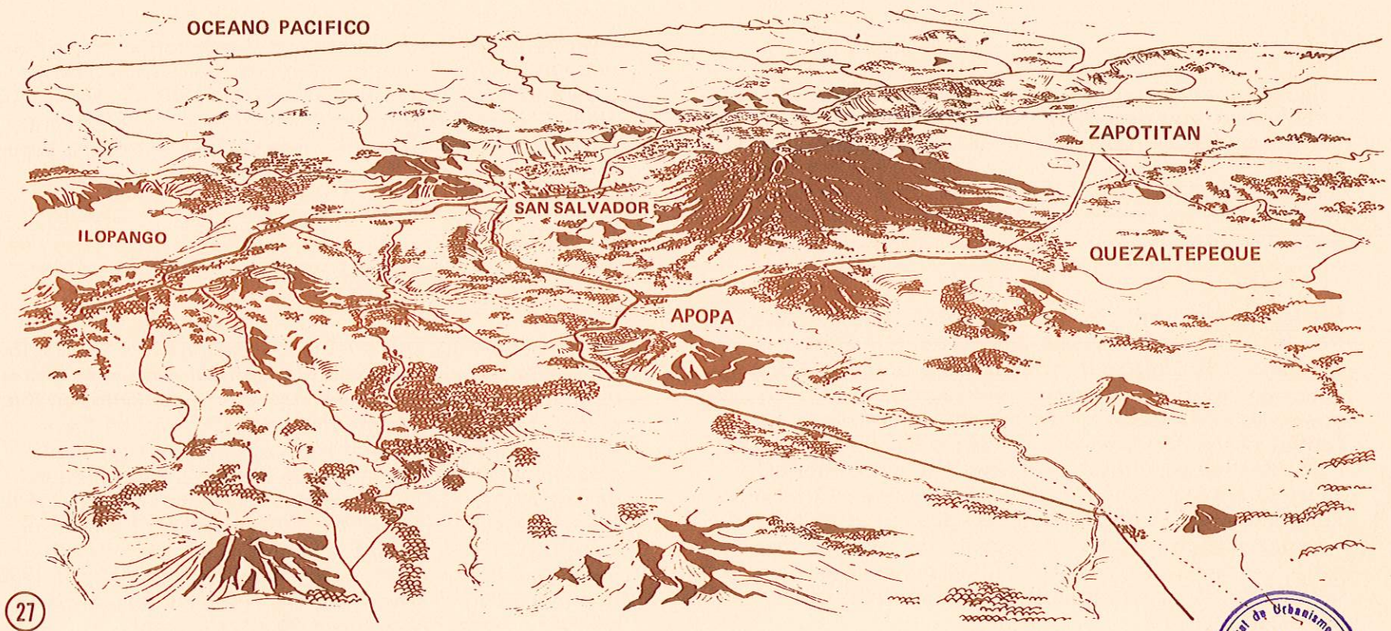
Evaluating this threat of volcanic eruption is even more difficult than evaluating the threat of earthquakes. It seems sound policy to keep intensive urbanization off the slopes of the Volcano and it seems psychologically sound to keep intensive development completely away from the lava flow for the indefinite future. There are also conservation factors justifying such policy.

FORMA VISUAL

(26)



DIRECCION DE VISTA MOSTRADA ABAJO



(27)

VISTA A OJO DE PAJARO

The severe floods of September 1968, which were marked by loss of lives and property, are evidence of a problem faced by the Metropolitan Area that will probably grow in seriousness. Replacement of open lands by paved streets and roofs of buildings is increasing the runoff of severe rainstorms which may result in exceeding the capacities of the quebradas and culverts. It is estimated that in the tugurios 1,500 homes containing over 10,000 persons are in danger of destruction from floods. Measures to deal with the problems of storm water drainage on an area basis are urgently needed.

8. Summary

Various factors of the regional site strongly affect urban development: physical and visual structure of land forms, drainage characteristics and water resources, location of prime agricultural land, the central presence of the Volcano. This is a site to be admired and respected in planning for metropolitan growth.

B. POPULATION GROWTH

1. Trends

El Salvador is now the most crowded mainland country of Latin America. In 1961, it had an average density of 125 persons per square kilometer. By 1966, pressure on the land had increased to 144 persons per square kilometer. The Republic has one of the highest rates of natural increase in Latin America - 3.1 percent per year in 1961.

In view of such statistics and past trends, a large population increase for the MRSS is forecast over the next twenty years. The Metropolitan Area is the fastest growing urban Center of the Republic. Between 1950 and 1961, it grew about 50 percent faster than the other major urban centers of the Republic; and in 1961 it had three and one-half times the population of the next largest center of Santa Ana. The population rank of the Metropolitan Area in Central America also suggests the general magnitude of future growth that must be expected. In 1961 the Metropolitan Area formed the second largest urban center in Central America, surpassed in population size only by Guatemala City.

2. Migration into the Metropolitan Region

The fact that the urban population of the Metropolitan Region is growing so much faster than other population groupings in the Republic can be attributed to one major factor: in-migration. In 1961 almost 100,000 people, nearly a fifth of the total population of the MRSS, had moved to the area from other parts of the Republic. The Department of San Salvador was the destination of the overwhelming majority of people from within the Republic; San Salvador has attracted four times as many in-migrants as the next largest urban magnet, La Libertad.

3. The Population Projection

Based on a population projection developed for the MRSS, by 1990 the Metropolitan Region will contain about 1,800,000 people. two and one-half times its 1967 population of 700,000. Rural population is expected to grow to almost 400,000 people, about double the 1967 figure.

4. The Urban - Rural Division

Distribution of the forecasted total population into urban and rural subtotals was based on the assumption that the recent trend of increasing urbanization will continue. In 1930, the rural population of the MRSS was 38 percent; by 1990, it is predicted that only 22 percent of the population will be rural if this trend continues.

5. Reasonableness of the Forecast

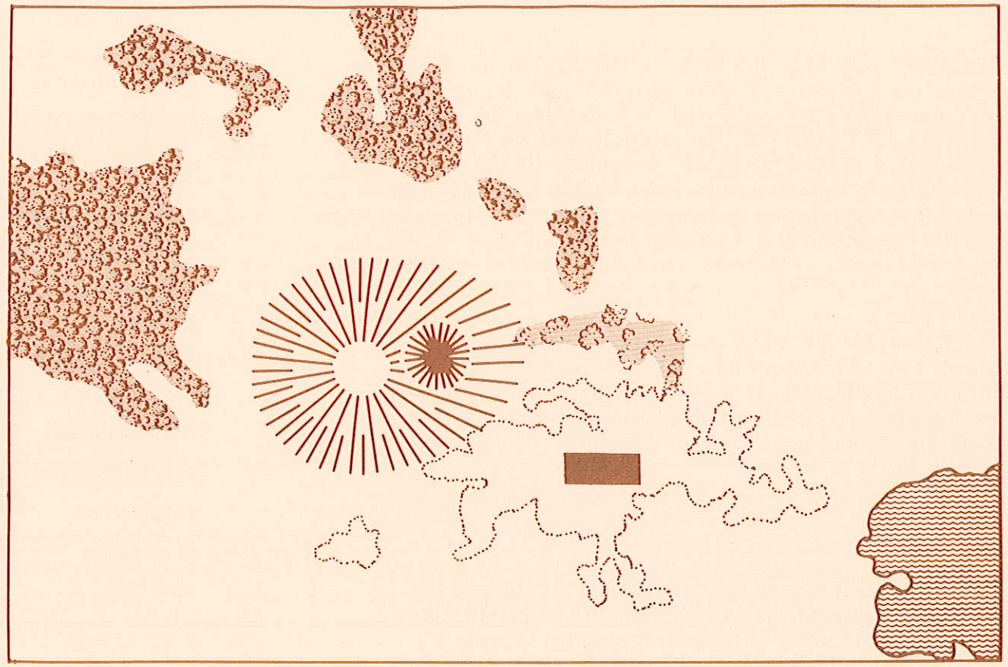
Great as the population increases expected for the Region may seem, comparison with the national projection points up the reasonableness of the figures. The population forecast of 1,800,000 for the MRSS for 1990 was on the assumption that in that year the Metropolitan Region will contain about 30 percent of the Nation's population as anticipated by the middle-range forecast of the National Planning Council. This 30 percent represents simply an extension of past trends for the MRSS has been steadily increasing as a percentage of the National total. In 1930, it contained 16.9 percent of the National population, and by 1961, the ratio had grown to 22.1 percent.

SUELO AGRICOLA DE PRIMERA CATEGORIA

AREAS CON BUENA CAPACIDAD AGRICOLA Y POSIBILIDAD DE RIEGO

AREA FRUTICOLA CON FINES DE PRESERVAR ZONAS VERDES

CONCLUSIONES RESULTADAS DE LAS FIGURAS 1 Y 2

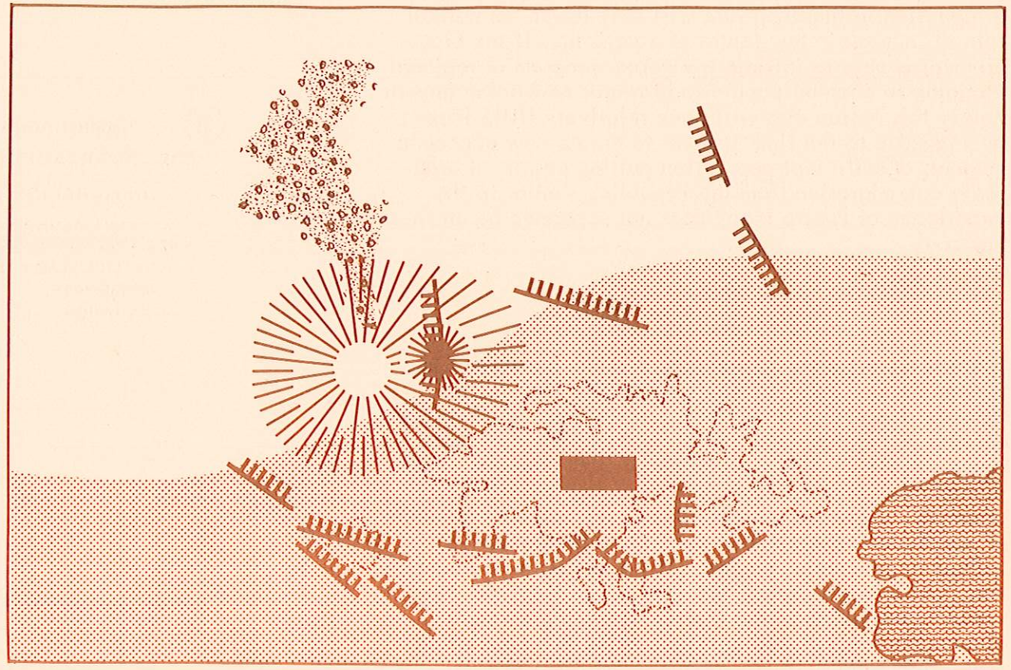


FACTORES DE TERREMOTOS Y VOLCANES

ZONAS DE TERREMOTOS

LAVA

FALLAS COMPROBADAS



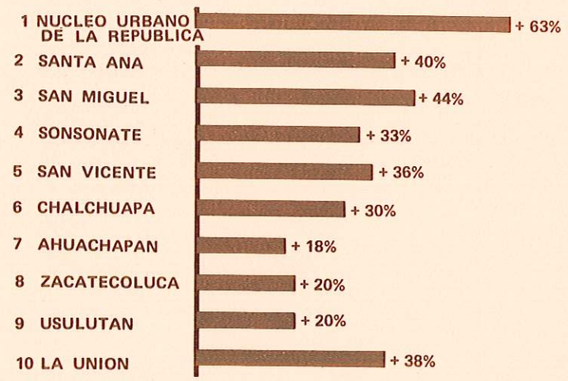
Projected growths of the Metropolitan Region and the Republic, plotted on a semilogarithmatic scale, reveal that the MRSS grows only slightly faster than the Republic. Between 1961 and 1990, the population of the Republic is expected to increase by 142 percent while the MRSS population is expected to increase by 226 percent. Translated into annual rates of increase, these are 3.1 percent for the Republic and 4.1 percent for the MRSS.

Projections for the MRSS assume a continuing and slightly higher rate of in-migration. Of the projected 1990 population of 1,807,800, it is estimated that 463,900 will be in-migrants. This will be about 25 percent of the 1990 population, compared to about 20 percent of the population in 1961.

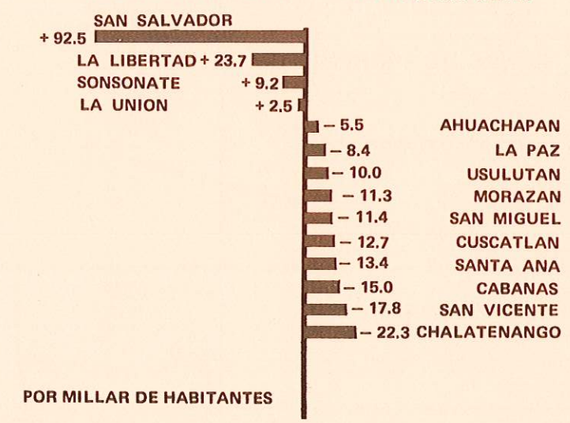
It is doubtful if any forces now evident can reduce the 1990 population of the MRSS below the projected figure. If a highly effective birth control program became a reality, it would have little impact, in view of the fact that half the 1990 population has already been born, and a reduction in the birth rate will only lower the natural rate of increase a few tenths of a percent. If the Government is able to initiate a vigorous program of regional planning to channel population towards new urban growth poles, this action also will have relatively little impact by 1990 due to the time it takes to create new economic magnets of sufficient population pulling power. Large scale out-migration from the Republic, similar to the experience of Puerto Rico, does not appear to be on the horizon.

There is no evidence to indicate that the population projection for the MRSS is overly optimistic, but there is some evidence that it may be conservative. In 1930, 39 percent of the population of El Salvador lived in urban areas. By 1961, this percentage had not changed, even though other Central American countries had started to urbanize. It seems probable that in El Salvador the shift of population balance from rural to urban has not yet started in substantial degree. If the agricultural countryside does become overloaded with population, the new waves of migration to the Metropolitan Region and to other urban centers will certainly make this population projection conservative.

(30) AUMENTO DE POBLACION EN LOS DIEZ CENTROS MAYORES DE LA REPUBLICA: 1950–1961

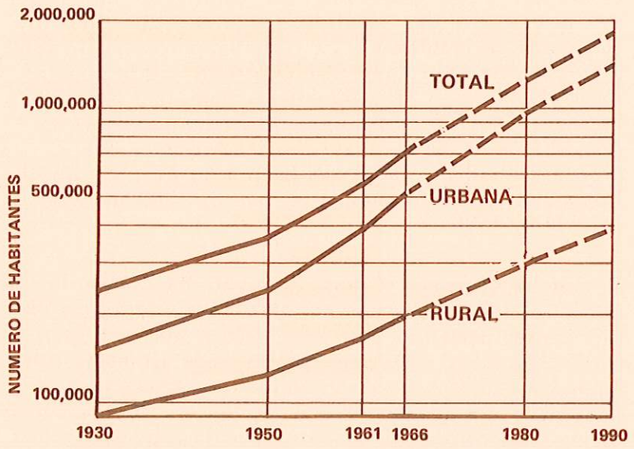


(31) INMIGRACION Y EMIGRACION NETA POR DEPARTAMENTO SEGUN FECHA CENSO 1961



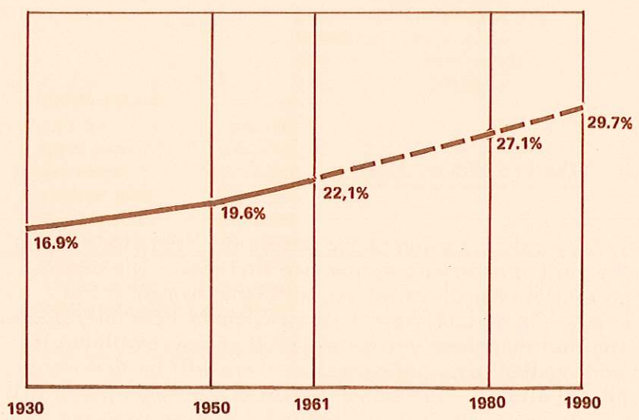
(32) TENDENCIAS DE POBLACION URBANA Y RURAL: RMSS

ESCALA SEMI-LOG

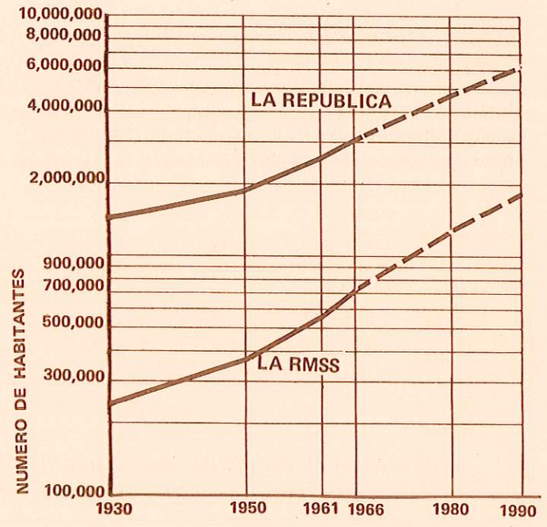


(33) POBLACION DE LA RMSS COMO PORCENTAGE DE LA REPUBLICA

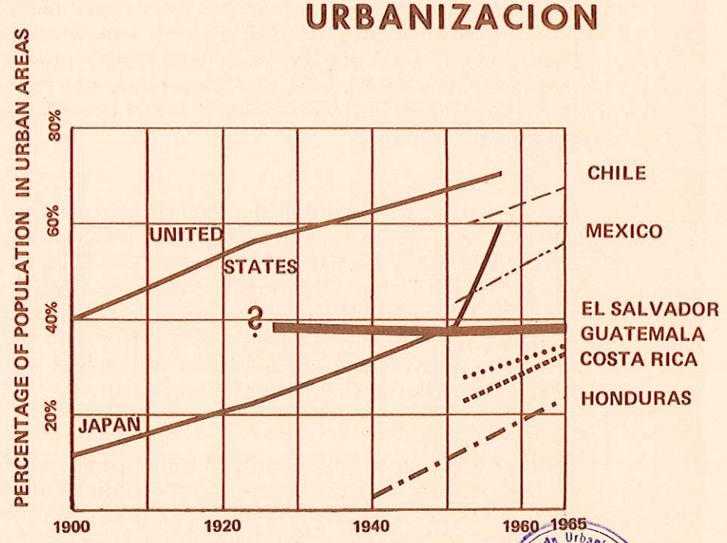
ESCALA SEMI-LOG



(34) TENDENCIAS DE POBLACION: LA REPUBLICA Y LA RMSS



(35) TENDENCIAS DE URBANIZACION



6. Summary

To summarize, using 1967 as a base year, by 1990 the MRSS must accommodate about 1,100,000 additional people. Roughly 900,000 additional people will locate in urban areas and roughly 200,000 in rural areas. No factors are now in evidence that will materially reduce these numbers. If greatly increased rural-urban migration takes place, these estimates will be low.

C. THE LABOR FORCE AND ECONOMIC PROSPECTS

1. The Labor Force Today

The human aspect of the economic prospects of the Metropolitan Region is represented by the number of people available for work. The National Census classifies everyone over ten years of age as "economically active," except for those who do not wish to work or are unable to do so, such as students, sick people, housewives, retired persons, etc. The 1961 National Census provides information on the numbers of economically active people in that year from which estimates of present and future numbers are derived.

In 1966, it is estimated that the labor force amounted to 246,000 persons, 35 percent of the total MRSS population of 705,000. Of the 338,000 men, 171,000, or 51 percent, were in the labor force, and of the 368,00 women, 75,000, only 21 percent, were available for work. Assuming that the average family size is five persons, there was an average of 1.75 workers for each of the 141,000 families in the Metropolitan Region.

Of the various economic sectors in which people worked, agriculture was the most important, accounting for 28 percent of the occupations of the labor force. Services were next in importance, accounting for 27 percent. Manufacturing was third in importance, accounting for 20 percent. An additional fourth of the labor force worked in construction, commerce and transportation.

2. The Future Labor Force

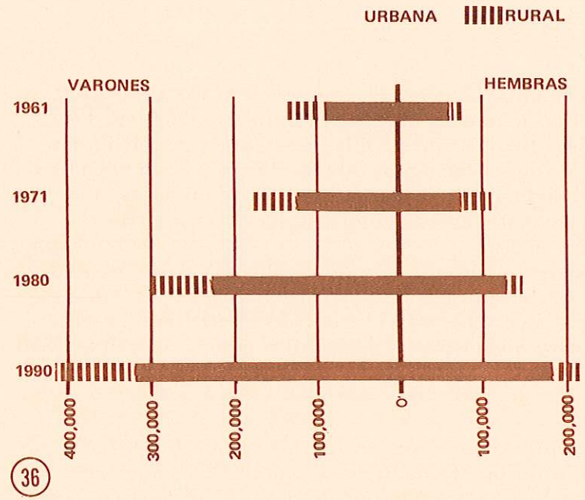
Estimates of future numbers of people who will be looking for jobs are based on the assumption that the 1961 ratio of workers to total population will continue to prevail for the next generation. While this precise ratio is unlikely to prevail, it is sufficient for planning purposes. In 1980, therefore, an estimated 437,000 persons will be looking for work; of these 295,000 will be males and 142,000 females. By 1990, these totals will have increased to 621,000, 418,000 men and 203,000 women. The growth in the labor force will keep pace with the growth in population, increasing 75 percent by 1980 and 250 percent by 1990.

In terms of economic sectors, however, the occupations of the future labor forces are not at all likely to follow the distribution pattern of 1961, for some sectors will grow faster than others. As a basis for a crude estimate, it has been assumed that growth in agricultural occupations will keep pace with growth in rural population; that manufacturing occupations will increase four times by 1990; and that the residual labor force increment can reasonably be distributed among the other economic sectors much as it is today. On this basis, by 1990 agriculture will still make up 20 percent of the occupations; but manufacturing will have increased to 32 percent.

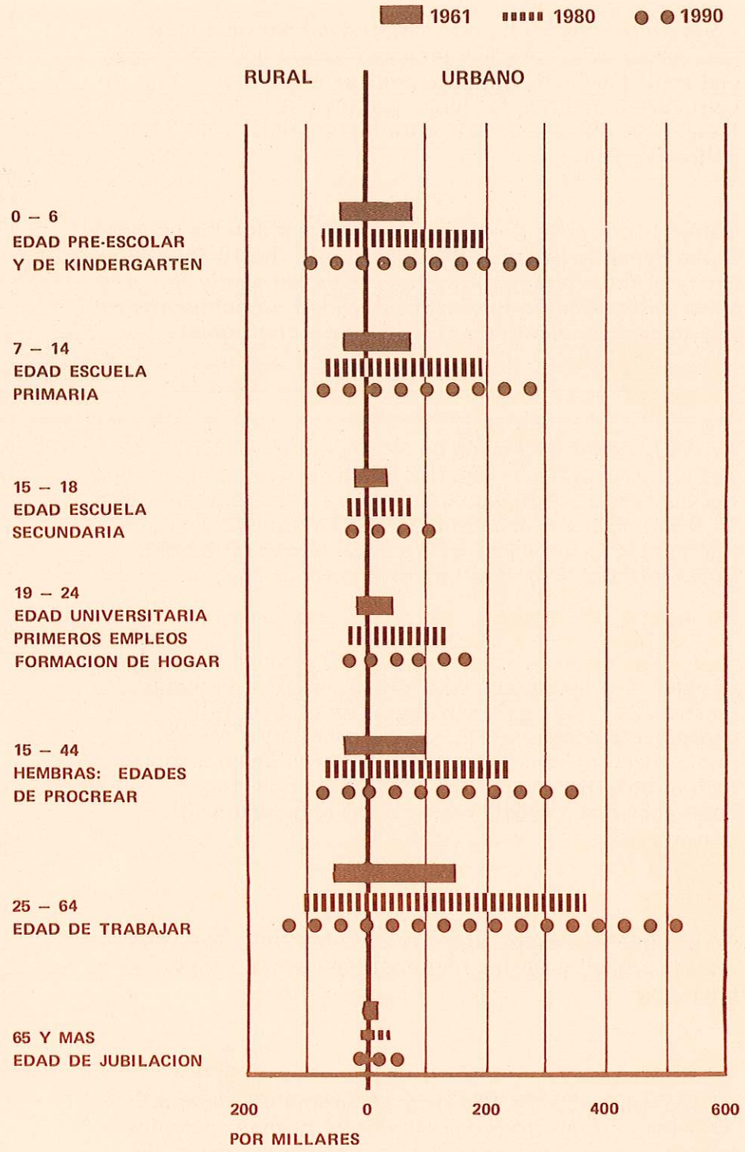
3. The Problem of Jobs

Today, only a portion of the people available for work in the various economic sectors can find jobs. The exact amount of unemployment and underemployment is not known; in agriculture the job problem is especially acute. The fact that there will be 621,000 persons available for work in 1990 does not mean that there will be that many jobs available. Underemployment and unemployment will be even more widespread than today, unless ways are found to provide many new jobs. Consequently, economic development that provides great numbers of new jobs and assures decent family incomes is of critical importance.

AUMENTO DE LA MANO DE OBRA EN LA REGION METROPOLITANA DE SAN SALVADOR



NUMERO DE HABITANTES: COMPONENTES ESCOGIDOS DE LA POBLACION



4. Economic Prospects

A review of the major economic sectors points up the potentials for creating new jobs:

Agriculture - Agriculture is now divided between large haciendas, which produce primarily coffee and sugar cane, and small landholdings which produce a subsistence diet of corn, beans and rice for large numbers of persons. None of these crops offers economic growth potential for the Metropolitan Region.

Coffee is primarily an export crop, upon which the economy of the Republic has been dependent since the 1860's. Prosperity of the entire Republic has fluctuated yearly in accordance with the international market for coffee and with the success of negotiations for a share of the market.

In 1960, coffee still made up 69 percent of exports. Reduction of coffee production in favor of other high-value agricultural products would be an economic gain. Another essential means of increasing agricultural production and producing more jobs on the large estates is to bring under-utilized lands into intensive cultivation.

In order to achieve crop substitution, whether by large landholders or by small subsistence farmers, a well conceived program of assistance is necessary. Market studies need to be conducted and information on matters such as potential demand and expected prices for new crops publicized widely among both large and small farmers.

Of possible new crops, the production of fruits and vegetables, primarily for the Metropolitan market, is the most promising.

A 1967 survey by the Ministery of Agriculture showed that 94 percent of the fruits and 63 percent of the vegetables consumed in San Salvador had been grown outside of the Metropolitan Region. The Valley of Zapotitan will be a particularly rich site for truck farming, if planned irrigation and drainage projects are carried out.

Large Scale Manufacturing - The greatest promise for rapid economic development is offered by organized manufacturing, which makes use of modern methods and machinery. Since 1960, the increase in manufacturing activity has been very impressive. According to the Central Reserve Bank, value added in manufacturing in the Republic has increased from ₡ 207 million in 1960 to ₡ 345 million in 1967 - a compound growth rate of 11 percent a year. The general index of the volume of manufacturing output increased at an annual rate of 13 percent in the same period. The Metropolitan Area is responsible for most of this National increase. The new industrial productivity is based on a high ratio of technology to manpower which has been made possible by a transfer of local profits from coffee, cotton and sugar and by an inflow of foreign private capital.

As a large part of new investment has been in manufacturing with a high productivity per man, this sector does not offer the prospect of large increases in jobs in the near future. The recent growth rate for the number of salaried workers in manufacturing has been only five percent a year, while that for other non-agricultural sectors has been seven percent.

These two relative growth rates illuminate an important point: even though modern manufacturing does not produce many jobs, the higher steady incomes it furnishes its workers make possible substantial employment increases in the non-agricultural service sectors.

In the Republic as a whole, the value of manufacturing production increased 80 percent between 1962 and 1967. By far the greatest part of this increase can be attributed to the Metropolitan Area, where old firms have been expanded and new ones established. Food products, the leading manufacturing sector and the largest employer, show the smallest percentage increase in the value of product, only 14 percent. Textiles, shoes and clothing have nearly doubled in the five year period and chemical products have increased two and one-half times in value. Machinery and metal products, as a group, have increased three times in value.

Small Scale Artisan and Handicraft Production - These activities offer great promise as a source of employment, as they are labor-intensive and do not require large resources of investment capital or sophisticated management skills.

Table 4

THE LABOR FORCE: ESTIMATES OF ECONOMICALLY ACTIVE POPULATION OF THE METROPOLITAN REGION OF SAN SALVADOR BY SECTOR: 1966, 1980, AND 1990

Sector	1961 number	1961 percent	1966	1980	1990
Agriculture	54,000	28.2	69,000	102,000	125,000
Manufacturing	39,000	20.4	49,000	137,000	200,000
Construction	15,000	7.8	20,000	32,000	47,000
Commerce	24,000	12.6	31,000	48,000	75,000
Transportation and Communications	7,000	3.8	10,000	15,000	25,000
Services and Miscellaneous	52,000	27.2	67,000	103,000	149,000
Total	191,000	100.0	246,000	437,000	621,000

Services - This sector is made up of a wide variety of activities that do not involve the production or handling of goods. It includes government employment and professional services to business and consumers such as those provided by doctors, lawyers, household help, restaurants, repair establishments and many others. This is another sector that must be expected to provide a great number of new jobs as, in general, it does not demand much capital investment and depends primarily on the skills and enterprise of small entrepreneurs.

Transportation and Communication - Since the Metropolitan Region is located at a transportation crossroad of Central America, it stands to benefit from increased movements of people and goods in the expanding international economies. An increased population and labor force within the MRSS will mean an ever-increasing amount of internal travel. Consequently, transportation should be a relatively dynamic sector of the economy, capable of supplying a significant number of new jobs to skilled workers. Increased volume of communications will add further skilled jobs in fields such as telephone, radio and television, and postal services.

Table 5

GROSS VALUE OF MANUFACTURING PRODUCTION IN THE REPUBLIC

1962 and 1967

	1962	1967
	(IN MILLION OF COLONES)	
Traditional Industries	442.5	680.2
Food Products	240.6	332.9
Beverages	37.2	58.8
Tobacco Products	21.2	23.8
Textiles	44.8	84.6
Shoes and Clothing	66.6	122.2
Lumber	2.2	2.4
Furniture	5.1	10.8
Printing	9.3	17.5
Leather and Its Products	6.5	7.6
Miscellaneous	9.0	19.6
Intermediate Industries	51.4	180.5
Paper and cardboard	4.3	11.6
Rubber Products	4.2	6.8
Chemicals and Products	29.5	78.7
Petroleum Products	—	47.5
Nonmetallic Mineral Products	13.4	35.9
Mechanical Industries	19.2	61.6
Basic Metal Products	0.8	9.5
Metal Products	6.8	14.8
Machinery (except electrical)	1.8	5.3
Electrical machinery	1.8	20.7
Transportation Machinery	8.0	11.3
Gross Value of Industrial Production	513.1	922.3

5. Additional Studies Needed

Additional detailed technical studies of economic prospects are needed. An in-depth economic base analysis of the Metropolitan Region would define, more precisely, the present economic structure and the markets served, whether Regional, National or Central American. Other studies would reveal the regional growth prospects and the economic potential of the MRSS within the Central American common market. Such studies would complement the studies of the National economy carried on by CONAPLAN, even though they would have a regional rather than a National point of departure.

6. Summary

The present labor force of the MRSS amounts to about 246,000 people, 35 percent of the population. Although no data are available on the precise number of jobs open, extensive underemployment and unemployment are known to exist. The number of people constituting the labor force will keep pace with population growth and will total approximately 621,000 by 1990. Today, agriculture is the largest sector, but in the future it will decrease in importance, while large scale manufacturing will gain. Neither sector of economic activity, however, can be counted on to provide great numbers of additional jobs, and the fields of small scale artisan and handicraft production, commerce, transportation, communications, services and construction must be relied upon. Providing a sufficient number of jobs for the growing labor force is the most critical single problem faced by the Metropolitan Region. A thorough technical study of the present economic base and a program for its accelerated development are necessary.

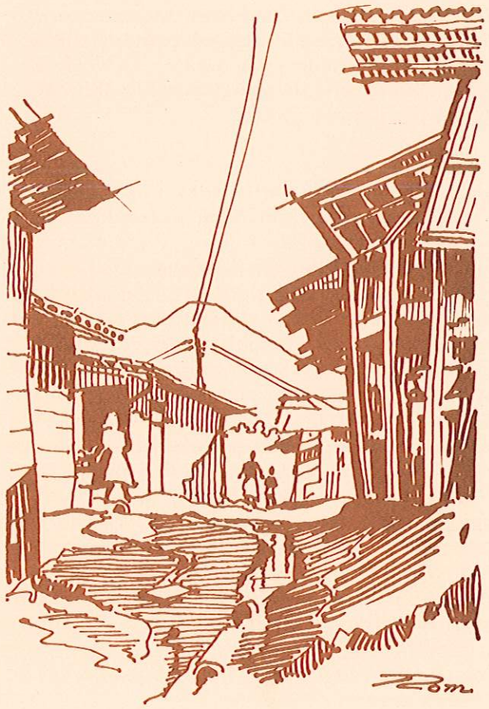
D. SOCIAL PATTERNS

1. A General View

An ever-increasing number of people will in the future need to be accommodated in the Metropolitan Region. Will this future population be substantially the same in character to today's population? Will the social patterns of 1980 and 1990 simply be today's conditions magnified?

Determining future social patterns is far more complex than making numerical population projections. Although few reliable social data are available, some of the probable characteristics and habits of the future population can be anticipated in very general terms on the basis of the fragments of data available and on knowledge of urban social change in similar Latin American situations. In the following sections, estimates of future population characteristics and social conditions are described for the urban and rural components of the population.

EL TUGURIO



The three present major population classifications used are:

Low Income Group - This group is classified as "low" socially because it has the lowest level of conditions in housing, education, health, recreation, communication, etc. In the last twenty years, the attitudes of the low income group have changed, but these attitudes still reflect the world-wide characteristics of the poor: apprehension, fear and frustration. Despite these negative attitudes, the poor in the MRSS have demonstrated a great deal of dynamism in dealing with their needs - as shown in the illegal subdivisions and the tugurios. The Development Plan must find new ways to channel this dynamism and make it favorable to future urban development.

Medium Income Group - Characteristic of this group is acceptance of the status quo, even at the expense of repressing desire for change. In the MRSS and in the country it is the small middle class that accrues most of the social benefits of economic development.

High Income Group - This group exhibits a dichotomy in change attitudes. It defends certain positions for reasons of tradition, but its economic situation permits rapid changes in everyday life. This class has major responsibility to promote improvement of the urban environment for all Salvadorans.

2. The Urban Population

Sex Distribution - In 1961, the urban population of the Metropolitan Region was composed of 180,000 males and 209,000 females, a 46:54 percent ratio. The preponderance of females was undoubtedly the result of high female in-migration. There is no reason to believe that this uneven ratio will disappear in the next generation. If the ratio for 1990 is estimated at 49:51 percent, then the urban population in 1990 will be made up of 694,000 males and 725,000 females.

Age Distribution - Although the absence of detailed and accurate data on migration and on births and deaths makes it impossible to forecast age groups accurately, on the basis of present information it can be assumed that the 1990 age distribution pattern will be substantially the same as 1961. The following projections indicate the increases in urban age groups:

7-14 age group (primary school group) up from 52,000 in 1961, to 156,000 in 1980, to 227,000 in 1990.

15-44 female age group (child-bearing group) up from 98,000 to 241,000 to 345,000.

65 and over age group - up from 13,000 to 33,000 to 48,000.

Family Characteristics - While specific data are not available on family characteristics, demographic studies have determined that the average family size is five persons. Birth control influence and more emphasis on education and on recreation will tend to reduce family size.

Income Levels - Although no thorough studies of family income have been made, an estimate based on a small sample survey of the City of San Salvador suggests that an overwhelming proportion of families are in the low-income group. About three-fourths of the 51,000 families in the City earn less that ₡ 3,600 (USA $1,400) a year. Median annual family income is probably considerably less than this amount.

Even if family incomes as a whole go up, these ratios are unlikely to change substantially in the next generation. As the number of people in the upper income levels increase, the constant stream of poor in-migrants from the countryside will augment the low-income group.

Education Level - In the Department of San Salvador, 834,741 persons, 49.2 percent of the adult population, are presently unable to read or write. The problem of illiteracy will completely disappear if educational programs include the participation not only of the government, but also of the private and popular sectors.

Social Problems - Basic data, scanty as they are, suggest the nature and scale of the human problems involved. The basic social characteristic of the Metropolitan Region is a vast syndrome of poverty. The common denominators of the people of the downtown tenements, the shanty-towns in the gullies, and the illegal subdivisions on the urban fringe, are the same: low income, lack of education and skills, frequent unemployment, inadequate nutrition, bad health, high accident rates, large families with high infant mortality, incipient juvenile delinquency and crime, to mention only a few. Problems of the poor are compounded by the absence of strong family traditions upheld by social custom and religious ties. It is a system that recreates itself from generation to generation. Only the fortunate and the unusual move upward on the social and economic ladder.

Prospects of substantially alleviating the situation in the next generation are not encouraging. If 76.4 percent of the urban population is now in the lowest income group, this amounts to 38,900 families. Assuming that little or no change in the present income distribution is likely by 1990, in that year there will be approximately 183,500 families in the lowest income group.

Social Groups - Some changes in the social composition are occurring. Although not significant in total numbers, new leadership and special interest groups have been emerging which are meaningful for the future of the Region. The two basic population groups of Spanish and Central American culture have been augmented in recent decades by in-migrants to the Republic from other parts of the world, the middle East, Eastern Europe, and the Far East. Leaders of these groups have come to occupy important positions in trade and commerce. Growth of this new "merchant class" has been paralleled by the growth of new industrial interest, financed in part by local capital based on agricultural wealth, and in part by foreign capital. As such upper middle class sectors of the society grow, new lower middle class sectors also are emerging in strength. These consist of the white-collar clerks and office workers of trade, commerce and government, and the blue-collar industrial workers in manufacturing goods, handling, and transportation. As the economy modernizes, the ranks and power of such groups can be expected to expand.

38

ASPECTO ESCENICO RURAL

TENENCIA DE LA TIERRA EN ZONAS RURALES

39

LAS GRANDES PROPIEDADES

AREAS CON TENENCIA SUB-DIVIDIDA

1 HA — AREA PROMEDIO DE LAS PROPIEDADES

AREA UBRANA

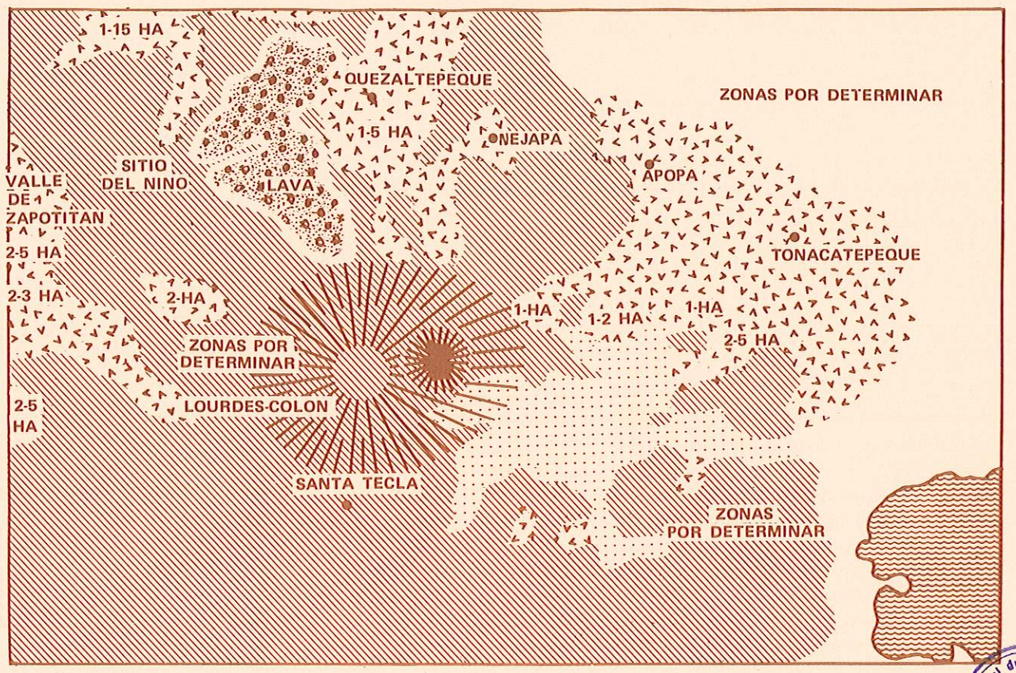


Table 6.

ESTIMATED DISTRIBUTION OF FAMILIES BY INCOME GROUP

METROPOLITAN AREA: 1968

Income group	Annual income	Percentage of families	Number of families* (to nearest 100)
Upper	more than ₡ 48,000	0.3%	200
Upper middle	₡ 24,000 - ₡ 48,000	2.7%	1,400
Middle	₡ 6,000 - ₡ 24,000	7.3%	3,700
Lower Middle	₡ 3,600 - ₡ 6,000	13.3%	6,800
Low	₡ 2,400 - ₡ 3,600	62.8%	32,000
"Marginal"	less than ₡ 2,400	13.6%	6,900
Total	-----	100.0%	51,000

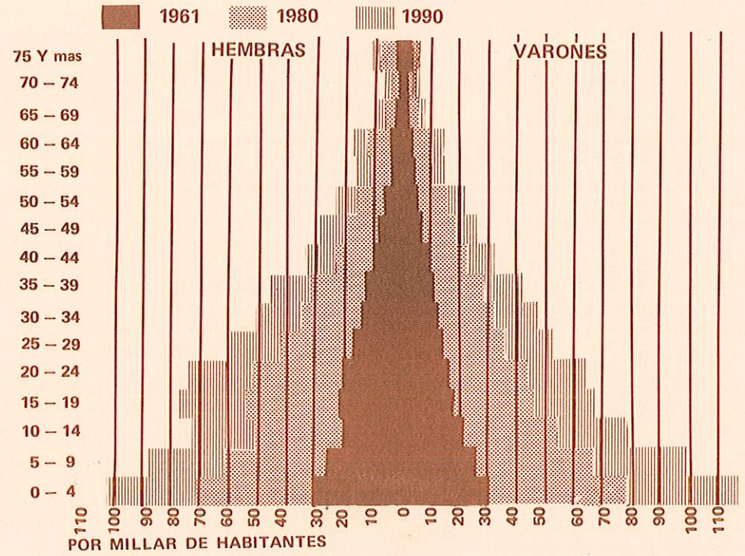
* Average of 5 persons per family

Voluntary associations based on special interests, trade associations, neighborhood improvement associations, unions, professional organizations, and others, can be expected to flourish. In a changing economy and society, stresses and conflicts among groups are bound to develop. Some mechanism must be activated to reconcile conflicting interests and to enlist cooperation towards overall National and Regional goals.

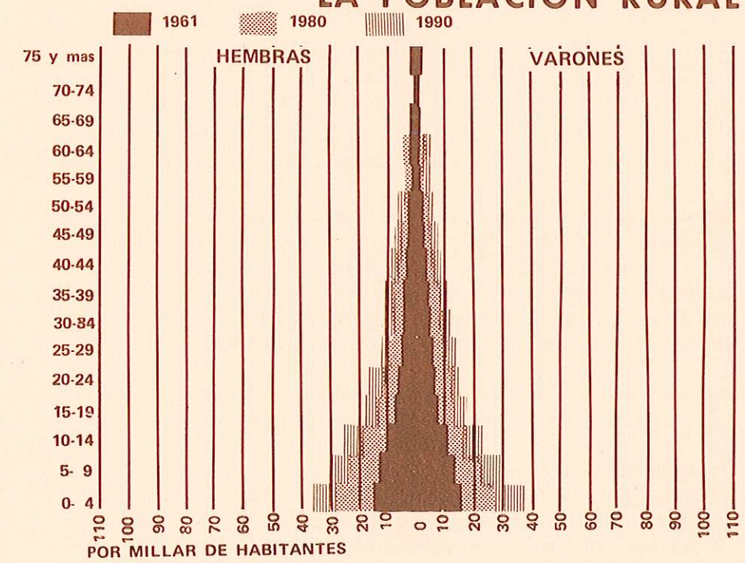
3. The Rural Population

Sex Distribution - In 1961, the rural population of the Metropolitan Region was composed of 84,000 males and 82,000 females, a 51:49 percent ratio. Assuming that the ratio is 50 percent by 1990, in that year there will be 195,000 males and an equal number of females.

(40) DISTRIBUCION POR EDAD DE LA POBLACION URBANA



(41) DISTRIBUCION POR EDAD DE LA POBLACION RURAL



Age Distribution - The projected age pyramid for the rural population shows a proportional increase for each age group in the next generation. Review of the projections for some significant age groups of the population show the magnitude of increases to be expected:

7-14 age group (primary school group) - up from 26,000 in 1961 to 56,000 in 1980 to 72,000 in 1990.

15-44 female age group (child-bearing group) - up from 33,000 to 62,000 to 80,000.

65 and over age group - up from 5,000 to 9,000 to 12,000.

Although increases in rural numbers are not as dramatic as those for the urban population, the implications for additional social services are great. Dispersal of rural population over the countryside complicates the problem of service.

Family Characteristics - It has been assumed for working purposes that the average family size is five persons and that this will not change significantly in the next generation.

Income Levels - No data are available on rural incomes. Unquestionably, however, they are among the lowest in the Metropolitan Region. Cash incomes are dependent upon the precarious sales of home grown products in the urban markets and on seasonal employment on the haciendas which lasts only several months each year.

Educational Levels - In the Department of La Libertad, only 36 percent of the 1961 rural population over 10 years of age was literate, able to read and write a simple paragraph. In the Department of San Salvador the literacy ratio was 47 percent. Prospects for increased literacy of the coming rural generation are not encouraging. In 1961, in the Department of La Libertad only 32 percent of the child population between the ages of 6 and 14 was at school. In the Department of San Salvador 46 percent was at school.

Social Problems - The rural population of the MRSS is characterized by the same syndrome of poverty as the urban population. While proximity to the open countryside may be advantageous in some respects, the distances from social facilities and employment centers and frequent lack of sufficient cash even to buy transportation, place the rural population at cruel disadvantage.

Types of Agricultural Workers - There are four types of agricultural workers: (1) those who live on their own small holdings, (2) tenant farmers, (3) workers who live in colonia on the large estates, and (4) seasonal migratory workers.

Those who live on their own holdings are, by and large, faced with the problem of inadequate land. In 1961, in both the Departments of La Libertad and San Salvador, of a total of 33,000 farms, 31,400, 95 percent, were below the 10 hectares in size which is considered miminum for adequate family income. These small farms occupied only 18 percent of the cultivated land in the two Departments and are concentrated in several areas:

- The Ciudad Delgado-Tonacatepeque area
- the areas immediately north and south of Quezaltepeque
- the area around San Juan Opico
- the area of the Valle de Zapotitan, west of Lourdes.

Between 1950 and 1961, the number of small farms under 10 hectares in size in the two Departments increased 37 percent while the number of larger farms actually declined. Agricultural land is becoming ever more divided into small, inefficient farms as a result of demographic pressure.

The second group of agricultural workers, tenant farmers, pays rent in the form of cash or crops. The fact that contracts are generally for short-term periods means that the insecure tenants fail to invest in the land.

The third type of workers, who live in colonia on the large estates, have no rights in their land and are dependent on the will of the large land-owners. The largest of such groups consists of 1,000 families.

The fourth group, migratory seasonal workers, adds at least 20,000 people to the population of the Metropolitan Region for three or four months every year. It is estimated that about 2,000 workers come to the area of Quezaltepeque, and another 2,000 to the area of Lourdes and Santa Tecla, chiefly for the coffee harvest.

These workers and their families, who sleep in the town streets, in shacks alongside the roadway, or simply under the trees, are the most disadvantaged of all rural people.

As the rural population of the Metropolitan Region is expected to about double by 1990, extraordinary measures of agricultural improvement will be necessary even to maintain the present standards of living, much less improve them.

4. Summary

The rural population of the Metropolitan Region has many acute and complicated social and economic problems to which there are no simple solutions. Present problems will be compounded by a 100 percent increase in population by 1990.

E. TRANSPORTATION

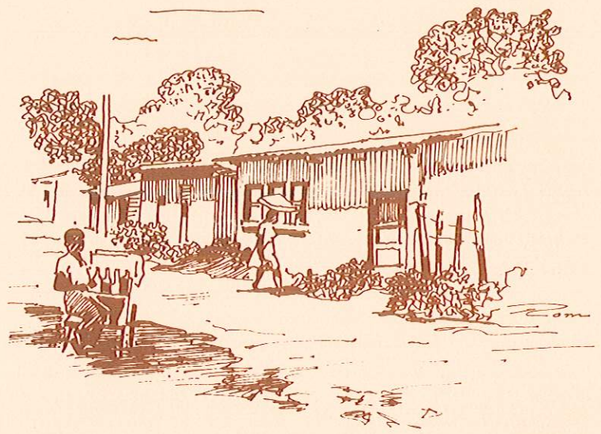
1. The General Picture

Of the region-shaping factors, transportation is among the most significant; the movement of people and goods is related not only to the growth of population, but also to economic advance and to increases in the standards of living. An estimate of the dynamic nature of the changing transportation picture in the Republic is provided by a projection of the number of motor vehicles, which will increase seven times between 1962 and 1984. A review of some of the important effects of transportation growth upon the Metropolitan Region follows.

2. The Transportation System as a Major Determinant of Urban Form

The transportation system is one of the urban elements with the strongest ties to all land uses. Its relationships can be seen most clearly when compared as:

transportation vs. the urban pattern;
transportation vs. urban density; and
transportation vs. land uses.



(42) CALLE DEL BORDE URBANO
(43) CAMINO RURAL

Transportation vs. the urban pattern - A basic human need is proximity to centers of activity. In an ever-expanding community, where the urbanized area is constantly growing, the transportation system becomes the substitute for proximity.

Historically, facilities of the original "compact" city were basically accessible on foot. As non-motorized modes of transportation such as ox-carts and wagons became dominant, the city grew larger while retaining its compact, circular form. The "star" city was the next step in development. Connections with the surrounding region by means of improved modes of transportation made development along these corridors of movement feasible, allowing the inhabitants of these new areas accessibility to the center.

The advent of the automobile, and its versatility, made possible the filling-in of the star-shaped community, and a much enlarged version of the original circular form was attained. The city of San Salvador and its immediate surrounding communities are in this stage of development, although the basic circular shape is modified by topography and land ownership patterns.

While legal controls are useful in determining new urban growth, the type of transportation provided and its location in the physical space is a much stronger determinant of the development pattern. The prime objective in planning a future transportation system is to identify and reinforce optimum patterns of development.

Transportation vs. urban density - In strict economic terms, the value of the land is proportional to the intensity of use. Therefore, the urban core of a community should have the highest densities of all land uses, decreasing in intensity toward the periphery. San Salvador has these classic characteristics - with variations again due to topography, to land ownership patterns, and to the development programs of other sectors. The transportation network, if not related directly to the urban density pattern and to the land use pattern, will be either under-utilized or over-utilized.

Transportation and land use - Each type of land use has specific need of the transportation system. Certain types of land uses depend more on particular modes of transportation than on others. Industry related to air cargo tends to locate near airports, commerce geared to the automobile tends to locate near intersections, and heavy industry tends to locate near the railroads. This leads to a natural "zoning" of land use activities in relation to the transportation system.

3. Movement Within the Region

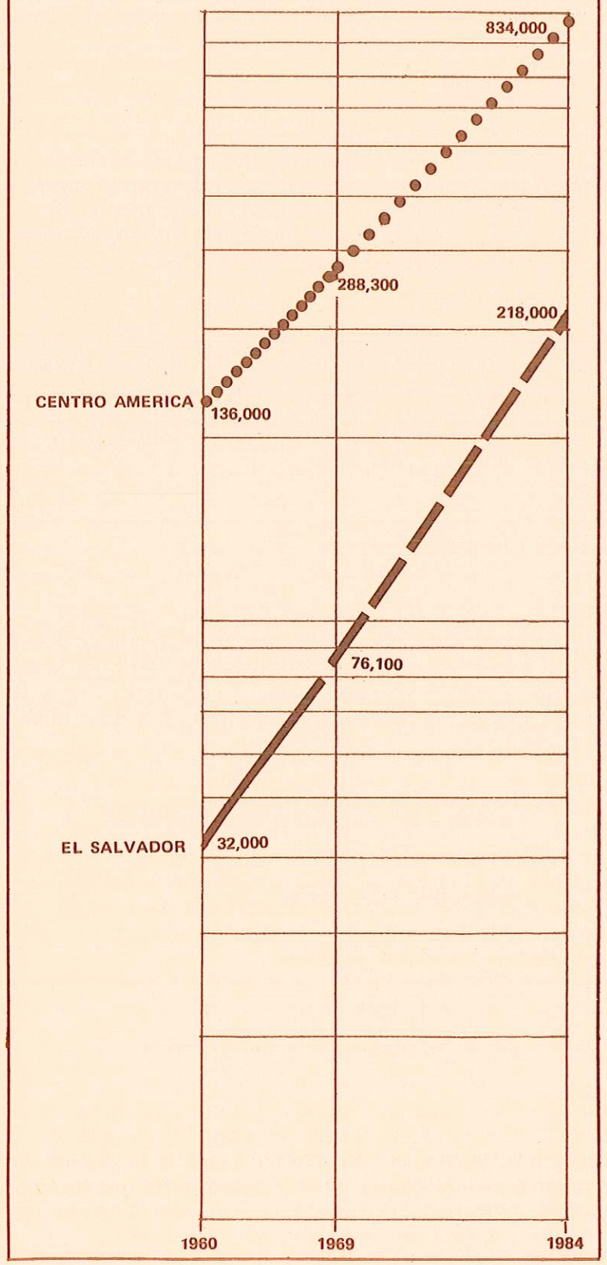
A good measure of transportation demand is number of "trips", a trip being one movement of a passenger vehicle from an origin to a destination. It is estimated that each day in 1967 1,068,000 such vehicle movements or trips were made in the Metropolitan Region to carry people from place to place - from home to work, for shopping, for recreation, etc. By 1980 it is estimated that the number of such internal trips will be 2,003,000 - just about double the 1968 figure.

The major destinations of vehicle trips are in the Regional Core and its adjacent districts. A relatively small proportion of home-work travel involves through trips not bound for the downtown districts.

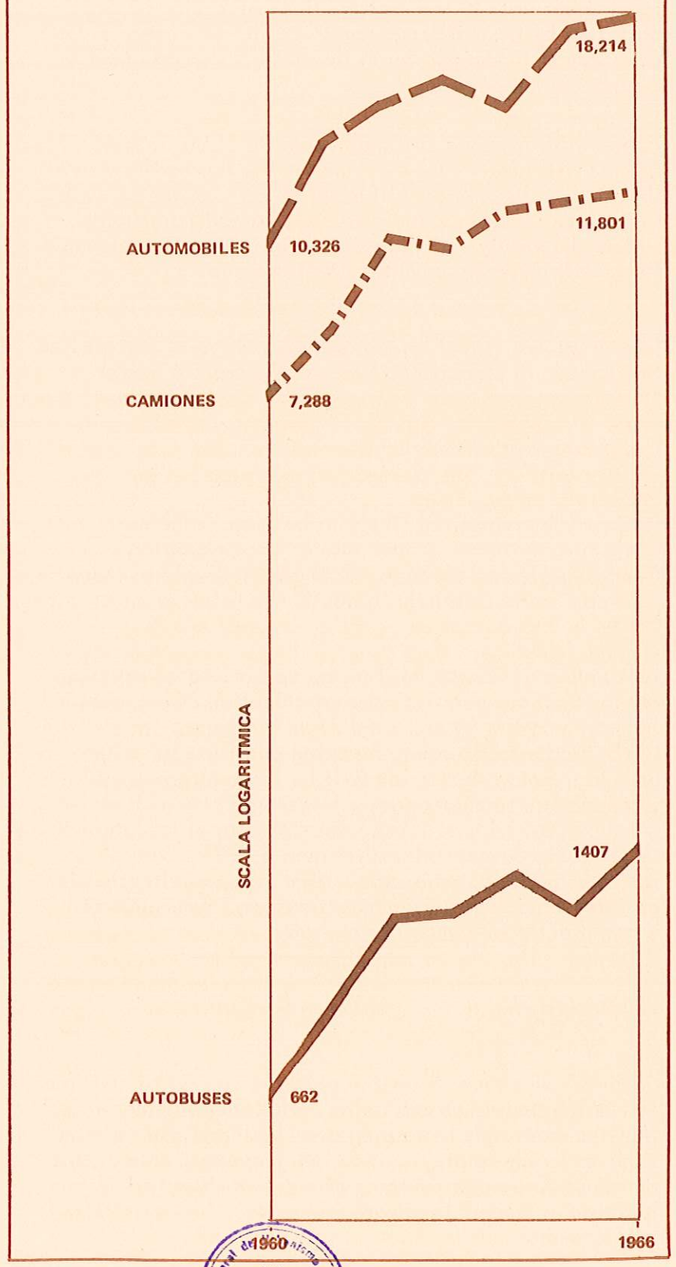
4. The Future of Private Automobiles

Automobiles are the most numerous and fastest growing of all types of motor vehicles in the Metropolitan Region. In 1966, there were about 18,200 automobiles in the Region, up from 10,600 in 1960. If they continue to increase at the 1960-1966 rate, there will be about 48,250 vehicles in the Region by 1980 and about 68,950 in 1990.

44 TENDENCIAS EN RELACION CON LOS VEHICULOS MOTORIZADOS EN LA NACION Y EN CENTRO AMERICA



45 TRENDENCIAS RELACIONADAS CON LOS VEHICULOS MOTORIZADOS EN EL DEPARTAMENTO DE SAN SALVADOR



5. The Transit System

Eighty percent of all home-work trips are made by public transit with the overwhelming number of passengers carried by bus. About 1,500 buses carry about 150,431,000 passengers per year in the Metropolitan Area alone. Transportation by bus will continue to be the chief way of getting around in the Region in the future, and probably of increasing importance.

Home-work trips are the major purpose of bus travel. Two factors will affect such movement: the increasing size of the Metropolitan Area will make it less possible to walk to work as many now do, and the enlarged labor force, which, hopefully, will grow at a faster rate than population, will mean more workers on the move.

Inter-regional travel by bus, for all purposes, is expected to increase in proportion to gains in local bus travel.

6. Movement of Goods

Dramatic increases are likely to be seen in the movement of freight by truck. In the future, the proportion of freight carried by truck in the Region is likely to increase, as the railroads continue to decline in relative importance.

Not only will freight volumes go up but, based on experience in other countries, the organization of the trucking industry and the type of vehicle will change. In addition to the many small companies using small trucks, which are now in the majority, there will be large international and inter-regional haulers using larger vehicles and trailer trucks. Two factors (1) the development of an international highway network rather than a rail network, and (2) increased industrial production and specialization in an integrated Central America economy, will generate heavy freight movement by highway.

7. Air Traffic

Statistics on trends in airline passenger travel to and from San Salvador are not available. However it is known that such travel is increasing and will certainly continue to do so in the future. Air freight movements have gone up about 25 percent in the period 1954-1964, all of this increase occurring in export shipments. This trend also will continue.

The new International Airport at Ilopango will be adequate for the next generation. It is possible to extend the runway to the north by carrying it on a bridge over the quebrada, and land has been purchased by the airport authorities for this eventuality. In general, flight paths of commercial passenger planes do not now significantly conflict with urban growth around the Volcano.

8. The Railroads

The two railroads are of declining importance in the Metropolitan Region. In the period 1960-1963, freight movements declined about 8 percent. Passenger movements are not significant and it is clear that the railroads cannot compete with bus lines for commuters.

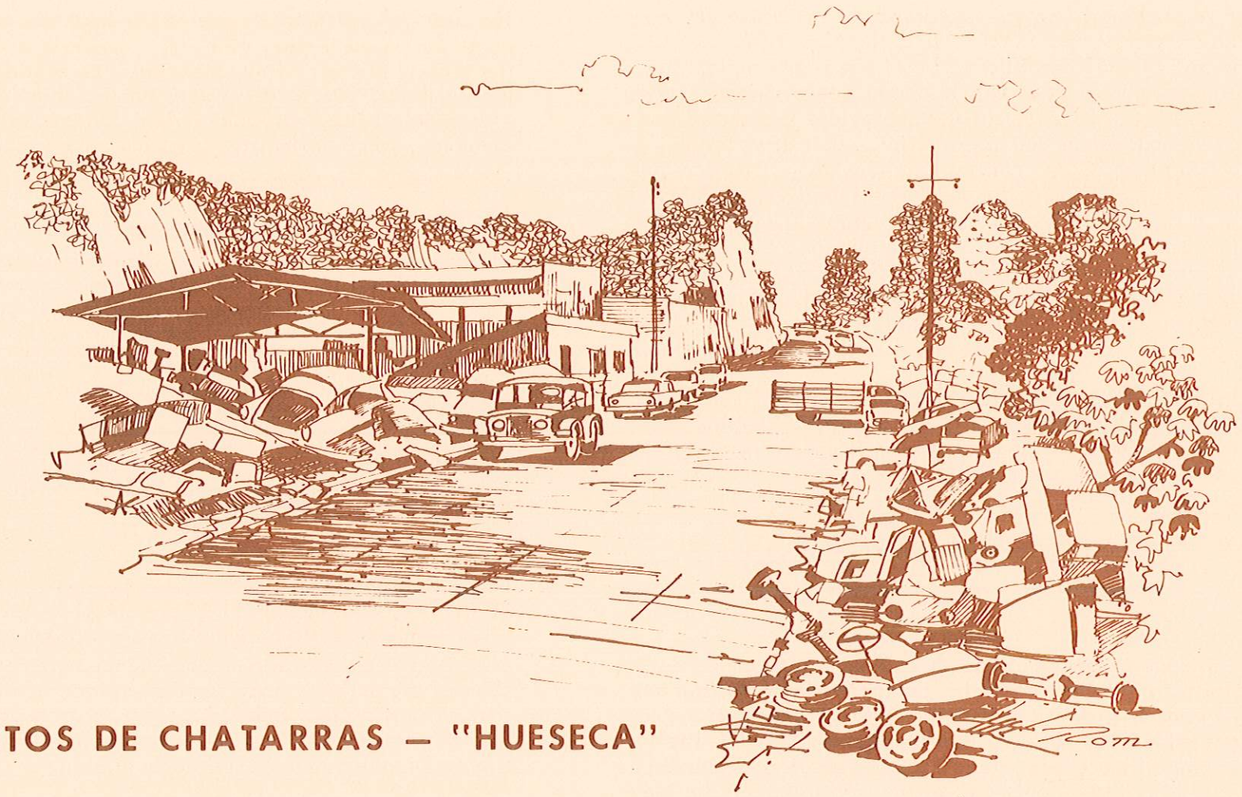
Increased efficiency in freight service and a better land use pattern would likely result if the terminal facilities to the east of the Regional Core were relocated. Although the railroads will continue to be useful in moving heavy goods, they will not be a dynamic influence in shaping Regional development.

9. Land Use Implications

Great increases in the movement of people and goods will call for corresponding increases in emphasis on design and operation of streets and highways, parking facilities and transportation terminals. In addition, this will result in increasing demand for a variety of related land uses including:

- bus terminals and bus storage facilities
- vehicle repair facilities
- automobile sales rooms
- gasoline stations
- trucking terminals
- automobile junk yards
- off-street parking lots and structures

Although such uses are now present, they will become a much more prominent element. Controls on their location and characteristics must therefore become an important aspect of land use regulation.



(46)

DEPOSITOS DE CHATARRAS — "HUESECA"

10. Summary

The need to move people and goods will be one of the most dynamic influences in shaping the Development Plan. Key elements to plan for are an expanded bus system to handle large masses of commuters and trucking facilities to move volumes of goods. If present trends in automobile ownership continue, the provision of off-street parking facilities in the Regional Core and in other urban nodes must also be planned on a large scale.

Present air transportation needs are adequately provided for. Rail transportation is of decreasing importance, although it will continue to be of value for moving bulk goods. New categories of land uses brought about by increased transportation movements must be taken into account in land use planning.

F. INSTITUTIONAL READINESS

1. Metropolitan Planning Powers

To be most effective, governmental efforts to shape and guide large-scale urbanization must be coordinated through a centralized planning effort. A detailed technical study of this series has previously analyzed the nature and adequacy of such centralized planning for the Metropolitan Region.

There is, at present, no planning agency dealing with the Metropolitan Region, as an entity. What metropolitan planning is done is carried on by several agencies of national scope, which focus their efforts on the Metropolitan Area because of its overriding importance in the affairs of the Republic.

Three national laws give substance to the urban planning function now carried on. First, the "Law of Master Plans" of 1955 describes and authorizes urban planning. Second, the "Law of Urbanism and Construction," dating from 1951 and revised in 1956, provides for controls over subdivisions and construction. Both laws assign urban planning and control functions to the "Direccion de Urbanismo y Arquitectura" of the Ministry of Public Works. Third, the "Law of the National Council for Economic Planning and Coordination" of 1962 deals with economic development at national and regional levels. This 1967 law established the National Planning Council and empowers it to carry out both functions.

In view of this legislative history, some physical urban planning functions reside in the Ministry of Public Works, while regional economic planning functions reside in the National Planning Council.

2. Governmental Institutions with Metropolitan Functions

Although by law, both governmental organizations have overall planning responsibilities in the Metropolitan Region, in practice many other functional agencies exert powerful influences which are not coordinated at the metropolitan level. These agencies again are national ones which focus only part of their attention on the Metropolitan Region.

In some functional areas, such as water supply and housing, a single agency is involved in each. In others, such as transportation, several Ministries and operating departments are involved.

3. Role of the Municipalities

While many national agencies exert strong but uncoordinated influence on the development of the Metropolitan Region, the powers of the Region's component municipalities are weak. Controlling only a very small amount of public investments, and providing few public services, twenty-one of the twenty-two municipalities have virtually no voice in important matters of development. The exception of course is San Salvador which is involved in local programming and public services in the few areas not controlled by national Ministries.

4. Major Shortcomings

The total institutional framework for the planning and development of the Metropolitan Region has serious shortcomings. Some of the most important problems are:

Location of Urban Planning at a Low Hierarchical Level in the Central Government - At the national level the coordination of sectorial ministries is provided for through the National Planning Council, which occupies a top echelon position in the governmental hierarchy, free from "line" operations. The urban planning function, however, is located several echelons down in the governmental hierarchy. As simply one of many sections of a specialized functional ministry, it lacks the leverage position to effectively influence the other powerful national Ministries and autonomous agencies which make vital decisions concerning the Metropolitan Region.

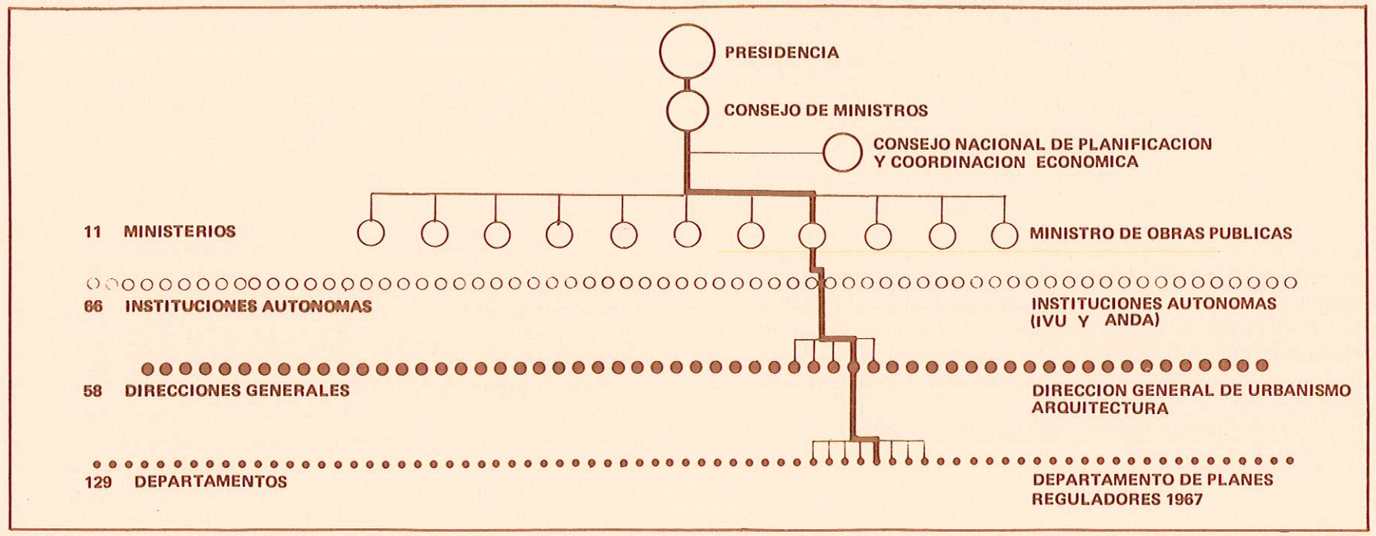
Discontinuity of Planning Efforts - Several significant efforts have been made in the past fifteen years to establish strong urban planning of a physical nature within the Ministry of Public Works in accordance with the provisions of the national enabling legislation. Although several master plans were completed, they tended to be only paper plans since funds to support a staff for a continuing planning process were unavailable.

Limited Scope of Planning - The plans made dealt primarily with middle range land use and circulation measures for the Metropolitan Area. Large scale regional considerations, basic economic, social, and institutional factors, as well as short range programming and budgeting measures for the Region, were not sufficiently taken into account.

Such measures as development and enforcement of land use controls and, more significantly, the translation of plans into investment programs and specific projects, were not carried out.

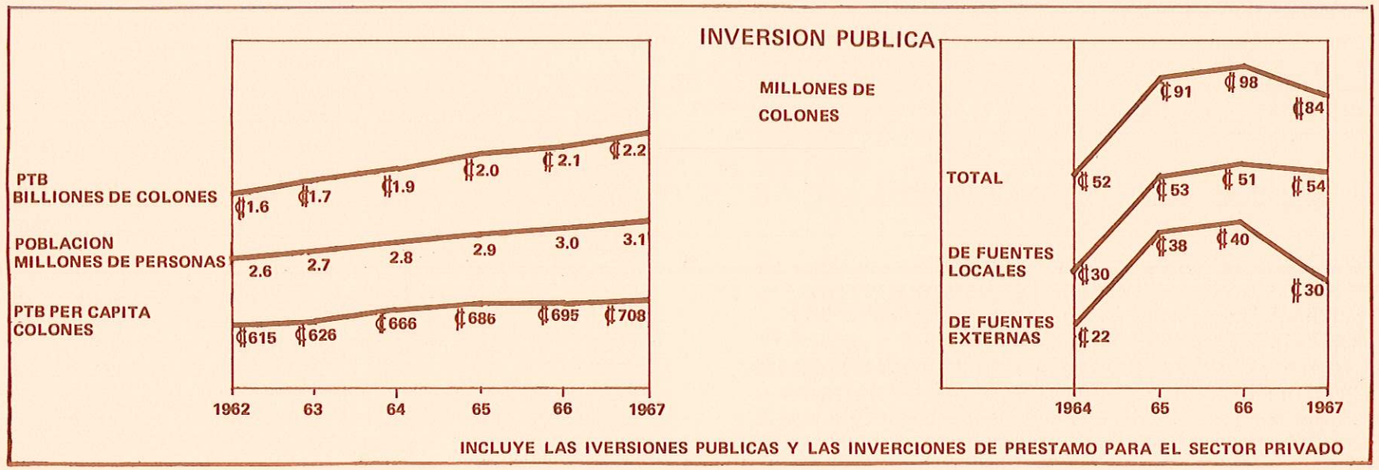
Absence of a Development Policy for the Metropolitan Region - In its seven years of existence, the National Planning Council has as a practical matter concentrated its efforts on aggregate and sectorial planning for the Republic as a whole.

(47) NIVELES DE LA JERARQUIA DEL PODER EJECUTIVO EN RELACION A LA PLANIFICACION URBANA: 1967



(48) INVERSION PUBLICA RELACIONADA CON LA POBLACION Y A PTB: LA REPUBLICA

ESCALA LOGARITMICA DOBLE COMPARATIVA



INCLUYE LAS IVERSIONES PUBLICAS Y LAS INVERCIONES DE PRESTAMO PARA EL SECTOR PRIVADO

Because of the urgent need to build the national planning mechanism, it has not been possible to give sufficient attention to the development of spatial planning efforts for the regions of the Republic. The organization of all functional ministries on a national level has also made it difficult to develop coordinated policies with a specific regional focus. Consequently, the national regional planning powers available for coordinated planning of the Metropolitan Region have not been utilized.

5. Summary

Urban and regional planning efforts have been inadequate, sporadic and largely ineffective. Existing planning legislation exhibits a number of limitations and weaknesses and has largely not been implemented. The urban planning function has been discontinuous and located at the very lowest hierarchical level in the administrative structure of government. Consequently, it has not had effective power to influence the host of agencies involved in metropolitan development.

Although excellent work has been done in terms of global and sectorial planning, little recognition has been given to the importance of spatial policies for urban or regional development. Past planning efforts have been too weak to deal effectively with the strong forces shaping urban development. Substantial strengthening of the institutional framework for planning and development is necessary to achieve more effective results in the future. Recommendations for such strengthening are described in a separate report of this program.

G. FINANCIAL CAPACITY

1. Extent of Public Investments in the MRSS

The Metropolitan Region has a disproportionate share of the Republic's economic activity and claims a correspondingly large share of the public investment of the Republic. Of a total National investment for public projects of 244.8 million colones in the period 1964-1967, 118.8 million colones or 49 percent was for the Metropolitan Region. Regional investment did not follow a consistent annual pattern, but varied from a high of 52.8 million colones, 78 percent of the National total in 1965, to a low of 9.9 million colones, only 16 percent of the National total in 1967.

About 95 percent of public investments are made directly by National agencies organized according to functional sectors. These consist of the various Ministries, such as Public Works, Education, Health, and special purpose agencies dealing with such matters as water supply and housing. Municipalities in El Salvador do not have separate financial resources; and the governments of twenty-two Metropolitan municipalities make only five percent of public investments and this for such minor matters as street lighting.

2. Sources of National Public Investments

National public investments are financed in two ways: from local sources, borrowing and current tax revenues, and from external sources, borrowing from other countries or international lending agencies. For the four-year period 1964-1967, internal sources accounted for 60 percent of all investments, including both public projects and loans to the private sector, while external sources accounted for 40 percent. For the first three years of this period, external sources consistently provided about 42 percent of total annual investments, but in 1967 it dropped to 36 percent.

Table 7

PUBLIC INVESTMENT IN THE MRSS AND IN THE REPUBLIC*

(In millions of colones)

Year	Public Investment in the MRSS	Public Investment in the Republic	MRSS as a Percent of the Republic
1964	9.8	36.9	27%
1965	52.8	67.7	78%
1966	46.3	79.4	58%
1967	9.9	60.8	16%
Total 4 Years	118.8	244.8	49%

* Includes investments for public projects only, excluding investment loans to the private sector.

3. Prospects for Internal Financing

Future public investments for the MRSS cannot be reliably forecast, since this is a matter of National policy involving high level economic and fiscal considerations. A mechanism for determining the annual levels of National public investments in relation to other economic considerations is being developed in the economic macro-model of the National Five-Year Plan. However, in the absence of regional planning at a National level, there is no expressed policy for allocation of investments to the Metropolitan Region as contrasted to other regions of the Republic. In spite of such limitations, it is possible to obtain an idea of future investment prospects for the Metropolitan Region by considering the economic situation of the Republic.

The annual gross national product is accepted as a crude guide of a nation's economic well-being. In El Salvador, the GNP (PTB in Spanish) grew from 1.6 million colones in 1962 to 2.2 million colones in 1967, a 38 percent increase in five years. But, in the same period the Republic's population grew from 2.6 million people in 1962 to 3.1 million people in 1967, a 19 percent increase in five years. Thus population increase tended somewhat to offset economic gains. In 1962, the GNP per capita was ₡ 615, and by 1967 it had grown only to ₡ 708.

These trends provide the general frame of reference for future public investments financed by internal sources. There are no prospects in the near future for drastic increases in public investments unless taxes are also raised drastically.

4. Prospects for External Borrowing

Bilateral aid for development between individual countries, especially grants and low-interest loans, is not keeping pace with the need. In 1965, the Development Assistance Committee of the Organization for Economic Cooperation and Development set a target of one percent of national income for international aid from developed countries. This goal has not been realized by the sixteen member nations. The trend of investment in developing countries, especially on the part of the USA, is away from grants and toward commercial loans which carry a higher rate of interest. Debt service on such loans would be an increasing burden on the Republic in the future if such loans are used for investment in public projects. USAID, at present, is concentrating its investments in the field of education with instructional television (ITV) in classrooms throughout the Republic.

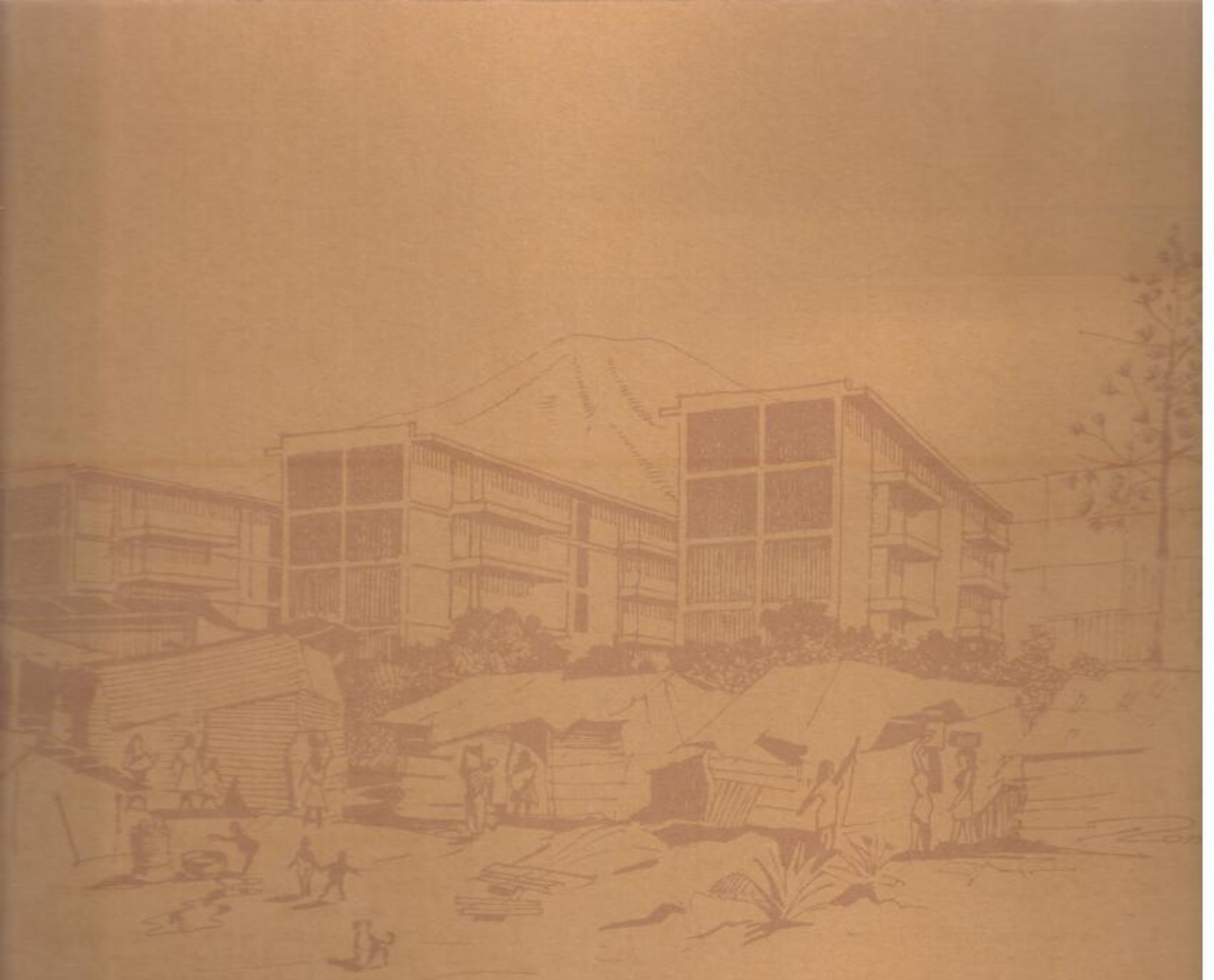
Assistance for Metropolitan investments through international financing agencies may be a strong possibility, especially since such agencies have recently become interested in the role of urbanization in national development. Agencies that might fund individual projects include the World Bank, the International Development Bank and The Central American Economic Integration Bank (BCIE), which was specifically designed to be the financing institution to help promote economic integration of Central America.

This Metropolitan Development Plan provides a guide for the determination and justification of projects to be funded by external borrowing.

5. Summary

In recent years, public investments in the MRSS have averaged about half the National total, but with great variations from year to year. About three-fifths of National public investments have been financed by local sources and about two-fifths from sources outside the Republic. Prospects for internal financing are related to the gross national product. Although the GNP is increasing, much of the effective annual gain is cancelled out by population increase. External sources for financing public improvements are uncertain, and international financing for development assistance are falling below the goal of one percent of the national incomes of developed nations.

Both internal economic conditions and the current international setting are unfavorable to an increase in public investments. The hard facts of the times: limited funds, a national economic growth rate offset by population increase, an existing backlog of social needs, expected population increase in the millions, all point to astute investment policy as the strategic tool for Metropolitan development. Two things are necessary: (1) all possible sources of funds must be explored and utilized; (2) priorities for public projects must be based upon maximum leverage for securing economic growth and meeting the most pressing social needs.



RGUEIO Y EL PROYECTO DE IVU

PART II
VELOPMENTAL GOALS AND POLICIES

NTENTS

DEVELOPMENTAL GOALS AND POLICIES

A. PLOTTING THE COURSE FOR THE FUTURE

Identification of goals is essential in guiding development. The term "goals" is defined simply as desirable achievements to be realized in the future. Since such realization often occurs only over extended periods of time, the term "policy" is defined as desirable paths to follow in guiding the process of development towards the goals.

Recommended policies for the MRSS are derived from several sources: The National Five-Year Development Plan is one major source. A field survey of personal and national aspirations of major socio-economic groups is another source. Urbanization experiences and concepts used in other developing countries are another basis for policy formation. Still another vital source was the insight of experienced experts who served on the consultant team.

In shaping policies for the MRSS, its development has been related to that of the Republic as a whole through measures that can be carried out by the Central Government. Although the approach is a comprehensive one, embracing economic, social and physical development, the focus is on the physical - organization of the space of the Metropolitan Region and conservation and improvement of the quality of environment.

B. PROVIDING DEVELOPMENTAL LEADERSHIP FOR THE REPUBLIC

1. The Metropolitan Region as a Policy Instrument

The National Five-Year Development Plan has as major goals a higher standard of living and improvement of social conditions for the mass of the Republic's people. One policy directed towards these ends is modernization of the productive and institutional infrastructure. Stimulation of private enterprise and involvement of all economic and social sectors in the development process are further policies directed towards these goals.

How can the Metropolitan Region become an instrument to promote national goals and policies? A review of the preeminent roles the Region plays within the Republic provides the answer. First, it is the center of government. Second, it is the headquarters of business and agricultural management. Third, it is the region of the greatest and most rapid industrial development. Fourth, it is the major destination of disadvantaged migrants from the countryside. By all tests, the MRSS is the most important single region in the Republic, and its successful development is essential for achievement of national development goals.

National development and regional development are not forces in competition. Rather they are complementary and mutually reinforcing. Along with other Central American urban centers, the Metropolitan Region is spearheading the change from a traditional to a modern society. The appropriate policy therefore is to capitalize upon the Region's leadership qualities. This catalyst or spearhead role involves leadership of three types:

as a specialized growth center of production and management in Central America;

as a "developmental-service" center for all the Republic;

as a place of residence where great numbers of people find economic opportunity and personal expression.

In each of these leadership roles the MRSS must grow and remain preeminent. Ultimately, however, its growth must be complemented by the development of the other urban centers in the Republic in accordance with their maximum economic potential.

2. Leadership Role One: The Republic's Major Growth Role

Today, the MRSS is the key area of the Republic in which the urbanization process can deliberately promote economic development through efforts of the private sector.

The MRSS is the most attractive region for enterprises seeking an urban environment. There are a number of reasons for this: one is the increasing size and sophistication of the labor force. Another is the increasing array of so-called external economies available to all firms in the area.

External economies occur when local demand for services becomes great enough for private firms or government to supply such services cheaply. Having this demand, the MRSS enjoys better and cheaper public services than other urban centers in the Republic. In addition, firms needing sophisticated services from other business firms find a greater array at lower cost in the MRSS than elsewhere.

Urbanization also facilitates the multiplier effect. Proximity and abundance of business opportunities stimulate additional enterprises which otherwise would not develop. Numerous specialized firms create an interacting system that grows with the evolution of the national economy.

In order to promote economic growth, future urban development in the MRSS should seek to preserve the present advantages for the private sector and to provide additional advantages.

3. Leadership Role Two: A Development-Service Center

As the national center of government, economic management, and culture, the San Salvador Region today attracts a disproportionate amount of the Republic's wealth and economic activity, including skills and raw materials. The remainder of the Republic benefits only to a limited extent from such concentration.

In the future, emphasis should be placed on strengthening the role of the MRSS as a national center of developmental services for the people of the Republic as a whole. Many social services now centered in San Salvador, agricultural extension services, mass educational and public health programs, technical and university training, already embody this developmental-servicing function. This concept should, however, apply not only to government and education, but to the private sector as well. Training courses, demonstration programs, and branch plant locations are among the means the private sector can use to extend modern practices throughout the Republic. Creative means for extending and intensifying the sound work now underway must be discovered and utilized.

Environmental planning helps reinforce a development-servicing policy in that it deals with interregional transportation and communication linkages and with regional institutions and social facilities that also serve the Republic as a whole.

4. Leadership Role Three: Integrating the Disadvantaged

Just as the Metropolitan Region has a role in generating economic and social benefits for redistribution to the lagging regions of the Republic, it also has a parallel role within its own boundaries. This role encompasses integration of low-income, disadvantaged families into the economic and social structure of the urban area.

The ever-growing stream of newcomers from small towns and rural areas, and the growing numbers of residents of low income, mean that the Metropolitan Region will have to mobilize to meet their mounting educational, health, welfare, and employment needs on a continuous basis. The problem, however, is more complex than can be solved by construction of more facilities, provision of more services by the Central Government, and the creation of more jobs by the private sector. All groups in the community must be made to feel that they are part of the metropolitan community and have a voice in its affairs. The building of a pluralistic society, with abundance of opportunity for all its members, should be an important social policy.

Environmental planning has a large role to play in social development, especially at the scale of the home and neighborhood. Particularly in areas of the mesones, the tugurios, and the urban fringe environmental measures along with economic and social programs are needed to better the lot of poor people.

5. Creating Additional Growth Roles Through Regional Planning and Programming

Particularly in relation to the Central American Common Market, it is necessary to determine whether some of the growth in population and economic activity can and should be channelled into other parts of the Republic. Experience elsewhere in the world suggests the formation of a hierarchy of urban centers - a national system of cities of different sizes serving different national, regional, and local functions.

This will not happen simply by improving conditions on the land and in the small towns. More jobs in agriculture and in scattered small industries and crafts are not sufficient national effort.

A national effort designed to speed up the emergence of such a hierarchy of centers should be a concern of national economic planning. Accordingly, there should be an intensification of unified planning of the "national space," closely integrated with the economic and social developmental planning now being carried on by CONAPLAN.

6. Summary

The general goals for the Republic stated by the National Five-Year Development Plan are appropriate goals for the MRSS. Because of its economic and social importance, the Metropolitan Region forms an important instrument for furthering national development. Three leadership policies are recommended:

> to speed up economic growth by taking advantage of the benefits of urban size and complexity present in the MRSS;
>
> to spread social and economic benefits throughout the Republic by building up a "developmental-service function;
>
> to integrate rural in-migrants and resident poor people into the urban society.

In addition, a fourth overall policy is proposed:

> to create a hierarchy of growth centers in the Republic that will divert excessive population growth from the Metropolitan Region and extend their influence to all parts of the Republic.

In the sections following, these blanket policies are elaborated. In addition, policies are stated for the conservation of the unique natural endowment of the Metropolitan Region.

C. STIMULATING ECONOMIC DEVELOPMENT

While additional economic research, including in-depth economic base and growth analysis, is needed to establish detailed economic development programs for the MRSS, certain general policy guidelines can be suggested now.

1. Promoting Selective Industrialization

One area calling for a strong policy is selective industrialization, the promotion of large-scale industries particularly suited to the MRSS.

Although El Salvador is correctly thought of as an agricultural country - some 70 percent of its exports are still agricultural products - agriculture is incapable of providing an adequate living for the future population. Agriculture cannot provide the income needed and, as a source of foreign exchange to purchase manufactured goods, it is extremely vulnerable to shifts in world markets. Consequently, there is a need to industrialize as rapidly as possible, both to serve internal markets and to reinforce the Republic's balance of trade. Because of its urban advantage, the MRSS is by far the most suitable location for extensive industrial growth in the Republic.

The types of industries now present - food, tobacco, beverages, textiles and clothing, furniture and household goods, metal and electrical products, transportation equipment, machinery, and paper products - offer clues to those industries which will find the MRSS to be an advantageous location in the future.

Among the industries considered particularly appropriate are those related to agriculture, those that produce for the Central American Common Market, and those that produce import substitutes.

An effective industrial development program for the MRSS must be fashioned of many elements. Like "Operation Bootstrap" in Puerto Rico, it must employ a variety of measures, such as aggressive promotion, tax write-offs, worker training, equipment depreciation, cheap land, tax exemption and import privileges.

Spatial planning has an indispensable contribution to make in developing a favorable industrial climate. In the next section, specific policies dealing with public assistance to private industry are recommended. In the Spatial Development Plan, the Metropolitan Region's potential for industrial development has been given heavy emphasis.

2. Encouraging Small-Scale Industries and Crafts

Encouragement of large-scale industry is just one aspect of promoting manufacturing. In addition, emphasis must be placed on small-scale industry, including both machine products and handicrafts.

There are two reasons for promoting such small-scale production. First, large-scale industry tends to employ few workers; it is likely to be "capital intensive" and not "labor intensive". It also takes a considerable number of years to build up a complex or large-scale industry. Thus, it is necessary to encourage labor-intensive, small-scale industry and handicrafts simply to provide the massive employment opportunities which large-scale industry cannot furnish.

Second, specialized skills and creative entrepreneurship are important elements in creating a viable urban economy. Business management skills and trained workers and supervisors are needed for large scale industry. Small-scale industry acts as a training ground for this kind of industrial labor force.

3. Strengthening Trade and Commerce

The goods-handling and service sectors of the economy have different locational requirements than does large-scale industry. While industry requires cheap land and ready transportation, which imply outlying locations, trade and services tend to group in intense clusters, in or near central business districts. As a major commercial and management center of Central America, the Central Business District of San Salvador - called the Regional Core - is the most strategic single locale in the Republic for the growth of trade, commerce, and services. Here are located executive offices of major industries and agricultural producers. Also centered here are businesses that cater especially to industry and business firms, such as advertising agencies, airlines offices, banks, lawyers, printers, trade associations, wholesale dealers, and a host of other highly specialized activities. Small-scale manufacturing and repair businesses are also present. In addition, there are establishments that cater directly to the ultimate consumer: markets, retail stores of all types, doctors, dentists, theaters, restaurants and bars, tailors and others.

Nevertheless, the Regional Core has many deficiencies which tend to limit the efficiency and stunt the growth of such business and household service activities. Drastic downtown modernization is necessary so that private sector activities may grow vigorously. Therefore, redevelopment of the Regional Core is a key economic development policy to be followed in the national interest.

As a first step, a thorough analysis must be made of the Regional Core's present economic functions, and an economic program developed to encourage functions most appropriate to this central location. The urban renovation program should be geared to achieving the greatest economic return. Such a renovation program is discussed in more detail below.

POBLACION URBANA DE LA REPUBLICA EN EL AREA METROPOLITANO

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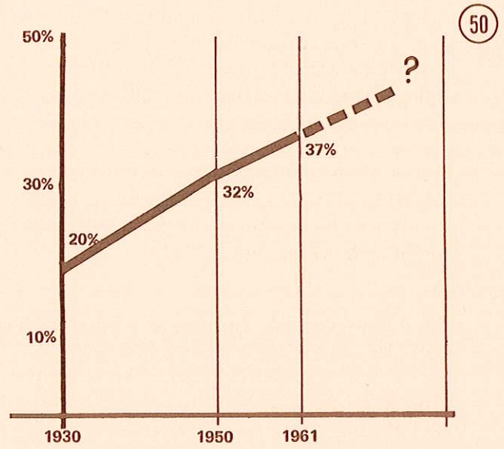

PATRONES DE UBICACION PARA LAS PRINCIPALES CLASES DE ACTIVIDADES URBANAS

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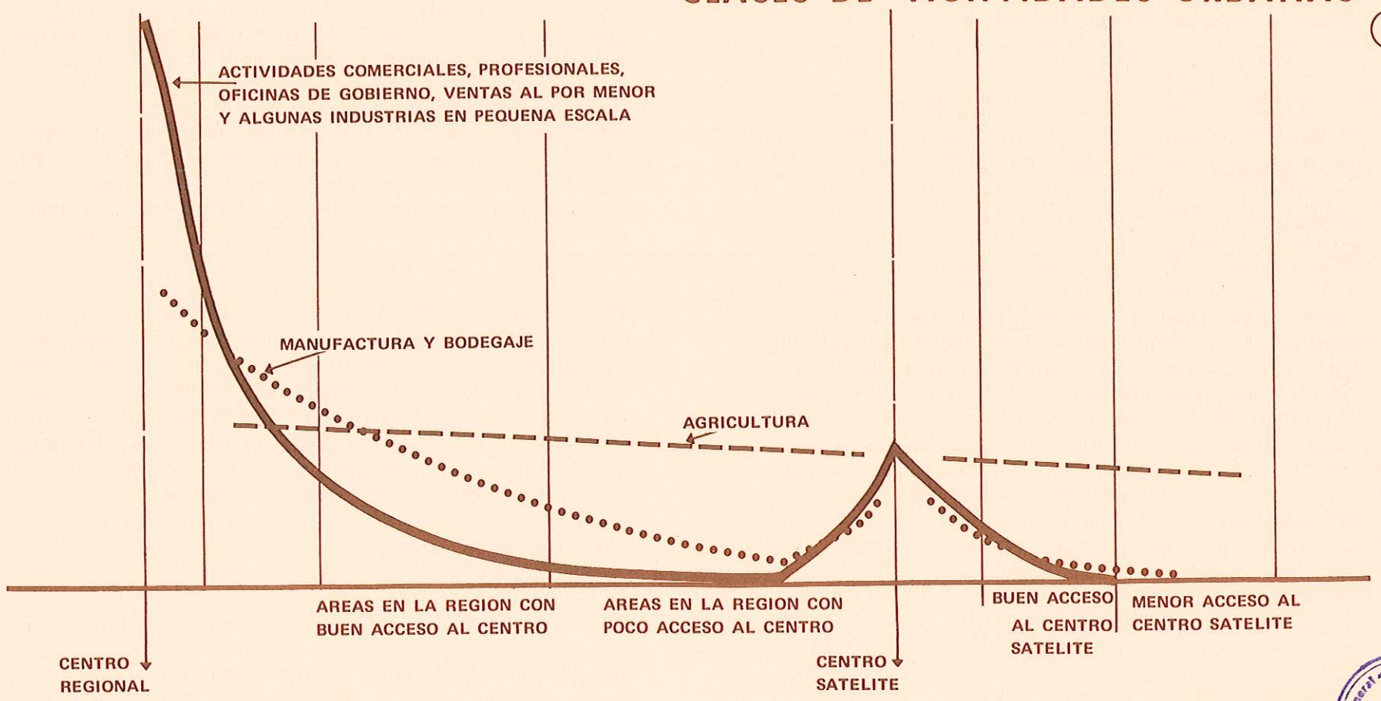


In addition to the Regional Core, outlying business centers are also important in the Metropolitan Region's economy. They provide commercial and service centers for the various residential districts. Many activities now located in the Regional Core, such as general markets, can better be located in such outlying centers.

Some decentralization of functions from downtown is already occurring. Accordingly, such secondary centers also must be properly planned as one aspect of an economic development policy.

4. Encouraging Tourism and Conventions

The Metropolitan Region can be especially instrumental in adding to the invisible exports of the Republic if it develops its potential to attract tourists and businessmen. Such factors as equitable climate, a good highway network, scenic resources, central location in the Common Market countries, and an excellent airport are all in its favor. Policies for redeveloping the Regional Core and for conserving the natural endowment are important in developing the considerable potential of the Metropolitan Region as a tourist and convention center.

5. Modernizing Agriculture

Although agriculture is only a relatively small part of the economy of the Metropolitan Region, several factors justify a policy of agricultural improvement. The MRSS has a significant portion of the prime agricultural land in the Republic. Three of its crops - coffee, beans and corn - are important to the national balance of trade. While coffee has always been an export item, beans and corn have actually had to be imported into the Republic in recent years. Proximity to urban markets favor production and marketing improvements for fruits and vegetables. Finally, agriculture offers an employment alternative to low-wage employment in cities.

In addition to economic reasons, encouragement of agriculture is also important for social and environmental values. A policy of encouraging people to work on the land does limit to some extent the flow of population to the urbanized parts of the Metropolitan Region. Also, proper use of open lands for agricultural production in accordance with their capability is an important measure in minimizing soil erosion.

As an agricultural policy, the most productive lands should be retained in agricultural use and protected from urban encroachment.

D. SUPPORTING ECONOMIC DEVELOPMENT BY PUBLIC ACTION

1. Providing Public Services

From the point of view of the private entrepreneur, the provision of public services is the government's chief assistance to his profitable enterprise, by providing highways, water supply, waste disposal, electrical power, and other facilities and services. Some elements, such as highways, the entrepreneur himself simply could not furnish. Others, such as electrical energy, he could furnish only at greatly increased cost per enterprise.

Other economies arise through urban location. In this way the entrepreneur can benefit from proximity to labor supply, to markets, and to other firms, which provide him with specialized services, linkages, and complementary functions.

Thus, the prime role of the public sector in stimulating a mixed economy is to provide those crucial external economies that help the private sector to flourish. Conversely, it is also government's role to prevent or eliminate external diseconomies that add to the costs of doing business. In terms of the MRSS, prevention of external diseconomies includes such measures as dealing with downtown traffic congestion, minimizing transportation costs for moving people and goods, and reducing danger of loss from fire, flood or earthquake.

As policy, then, government must seek to promote external economies and to prevent or minimize diseconomies for private entrepreneurs in all its urban development and renovation measures.

2. Relating Social Programs to Economic Policies

In a modernizing country such as El Salvador, private entrepreneurs face a problem no longer present in more mature economies, the absence of a skilled labor force already well oriented to urban life and industrial processes. Government must, therefore, take steps to develop the human resources needed in a modern economy. Because increased productivity in both private and public sectors is a primary national goal, it is logical that social policy should contribute to this end. This point of view sets a high priority on those social programs which are directly supportive of economic growth. These include basic goals, such as the achievement of basic standards of health and literacy, as well as more sophisticated goals for manpower planning and advanced technical training.

Environmental planning has much to contribute in relating social programs to economic development policies. It stresses the provision of housing and community facilities to support economically productive enterprises, such as industrial districts and commercial centers. A large-scale example of such coordinated action is the recommended new growth node to the north, discussed later.

3. Facilitating Transportation

It has been pointed out that providing modern transportation is a critical function of government in support of economic growth. As a basic principle, all components of transportation should be looked at as a system and a balanced transportation policy developed.

Of the several transportation components, highways are a key element. As the urbanized area expands, modern highway links between sectors will be necessary to move people and goods. In the case of new growth, the location and timing of highway construction is a means of guiding industrial and commercial development.

Another key element of transportation policy is public transit. Substantial reorganization of present public transit is necessary if a modern transit system is to be developed. This must include tighter governmental control over operations, coordination of scheduling and rate structures and redefinition of routing to provide interchange areas. Studies may show that ultimate government operation of mass transit as a public service is needed, rather than operation as a private, profit-making mechanism.

The provision of cheap mass transportation has three major advantages:

It makes a wide choice of job opportunities available to great masses of people;

It provides the private entrepreneur with a regional labor force;

It can delay dependence on the private vehicle until adequate facilities can be provided. To do this, however, it is necessary to operate urban mass transit on a service basis rather than a solely profit basis.

Among the most important recommendations made later in this Document are those relating to the highway system and to mass transportation facilities.

4. Modernizing Communication

A characteristic element of an urban area is the exchange of information on a vast scale. It can be argued that the capacity of communication channels is a controlling element of urban growth. Therefore to speed up economic and social development, improved communication facilities of all types will be required.

Advantages of good communication in relation to developmental goals are obvious. Modern communication systems - telephone, mail, telegraph, and broadcast media - are indispensable public services upon which the private entrepreneur depends.

Several characteristics make communication a fruitful aspect of developmental policy. Communication facilities involve relatively small basic investments and consume very little land. Communication programs also run into few cultural barriers. Everyone expects to have a newspaper available, and radio and television sets are pleasurable status symbols to families that cannot afford modern housing.

The need for communication improvement in the MRSS is well-recognized. Better telephone and postal service and the installation of street signs are in the offing. In addition, a systematic study should be made of all aspects of communication as a means of stimulating development in an urbanizing region. Such a study might reveal numerous communcation methods which would be relatively easy and cheap to carry out. The program of educational TV now getting underway is an example of a sophisticated modern communcations approach to the pressing educational problems of the Republic. But even very simple means involving no advanced technology could be valuable. It has been proposed, for example, that street signs and billboards be systematically employed as educational media for low-income groups.

A creative and systematic policy employing modern communication concepts to stimulate development could result in big dividends for little capital outlay.

5. Modernizing Institutions and Guiding Investments

Of all the problems of rapid modernization, none is more difficult than the necessity of adapting or creating institutions to keep abreast of the rapid pace of change. There is a galaxy of needs for technical methodologies and administrative procedures, for trained and experienced professional and managerial personnel, for reliable data and information systems, for supplies, equipment, and office facilities.

In terms of these institutions directly relating to regional development problems, detailed recommendations have been presented in another printed report.

As a result of these recommendations, a policy has already been adopted by the Government to relate Metropolitan Regional development to national development by making the formulation of regional policies a function of the National Planning Council. Investment programming has been recognized as the chief means of implementing regional policy and, at this time, studies are underway to convert regional policy into public investment programs to be integrated into the Five-Year National Plans. This program, however, is barely begun, and the institution-building for regional development now in progress needs vigorous, continued support.

The problem of adequate financial resources to do the job is almost inseparable from the institutional problem. A five-fold financial policy is recommended.

Capitalize upon existing investments in public facilities such as streets and highways. Substantial improvement in the use of existing highway facilities, for instance, can be obtained through traffic engineering and enforcement.

Test each proposal for new capital outlays in the public sector for its significance and timing, using this Plan and future planning studies as guides.

Stimulate investment in the private sector. Business and industrial leadership of the Region should work together with the Central Government in investing private funds. Renovation of the Regional Core and creation of a new growth node to the north are two large-scale efforts where private capital should be able to provide profitable outlets in the public interest.

Leave fields of investment where the financial resources of the private sector, whether large or small, can be deployed to the private sector. This policy means concentration of investments on the "public environment", as discussed in more detail in the next section. This guideline is particularly relevant to the field of housing. Here, the problem is not to build housing, but to provide incentives at all income levels. Families, including those of low income, should be encouraged to make investments to the extent of their financial resources. In the case of low-income housing, government investment should be confined to the purchase of land for subdivisions and the creation of the public environment, schools, water supply, health centers, roads, leaving the construction of the dwelling unit to the wage-earners themselves and to private enterprise.

Apply foreign borrowing power only to strategic projects which have economic or social multiplier effects and which implement the development strategies of the Metropolitan Region. International lending agencies are constantly looking for viable projects; what is needed therefore is a systematic effort to enlist their help for the key elements of the Metropolitan Plan that cannot be financed internally.

Implementation of such financial policies is an important task for the continuing metropolitan planning office of the National Planning Council, whose efforts must be integrated with national financial policies.

(52) **LAGO DE ILOPANGO**

6. Reserving Lands in the Public Interest

In order to carry out the Metropolitan Plan, the Government needs to have new powers to control or acquire open lands. These powers have different purposes:

To reserve large tracts of land for families of low income, as a means of providing them with land suitable for residence and not needed for critical urban uses, such as highways and industrial sites.

To freeze or acquire lands for future public use, such as expressways, public buildings, and recreational open spaces, until they are needed.

To hold back from premature development strategic lands which will ultimately be urbanized until the most advantageous use is found.

To keep some lands permanently open as agricultural or other non-urban uses in the public interest, even though they are not actually needed as public lands. The Valley of Zapotitan, the slopes of the Volcano, and large parts of the watershed of the Lago de Ilopango are such open land areas.

Methods of implementing these policies, even while respecting the legitimate rights of private landholders, need to be developed as a parallel effort of equal importance to the programming of public investments. Such methods may include outright purchase, zoning controls, easements, or other legal devices particularly geared to Salvadoran law. Coordination of all public land policy by a single government agency would simplify implementation.

The recommended medium-range land use plan reflects the urgency for strong public policies on the acquisition and preservation of open lands.

7. Attracting Management Through High-Quality Environment

Although the improvement of living conditions for the masses of the people is a major concern, reasonable attention should also be given to quality of environment for business and industrial executives, as this is a key factor taken into account by industrial management in deciding where to locate a new plant. All other things being equal, the city with the best living environment to offer has the edge in attracting new industry. A region in competition with several other growth nodes of Central America cannot ignore this aspect of economic growth.

E. ENCOURAGING SOCIAL PROGRESS

1. Establishing Minimum Standards

The basic objective of improving social conditions embodied in the National Five-Year Plan can be expressed in terms of minimum standards of social benefits to be achieved in a specified time span. Such standards should not be unique to the MRSS but should be framed for the nation as a whole, on a realistic basis. Included would be standards for education, health and housing. The concept of a floor and a roof for every family is a specific example of the type of minimum standard that might be set.

2. Developing Leadership and Community Spirit

Government programs should be framed in such a way that development of individual leadership and group cooperation is encouraged. In low-income neighborhoods, self-help and self-organization should be encouraged as part of housing and neighborhood improvement programs. In key development projects of metropolitan scale, such as the redevelopment of the Regional Core, the cooperation of business leaders should be sought and important responsibilities assumed by them. Full involvement of private individuals and groups in developmental programs is an important means of unlocking leadership potential and building the social awareness and community spirit which are essential to a progressive modern society.

There are two major objectives:

To create the best possible environment with very limited financial resources in order to help families to become productive members of an urban society;

To inculcate a sense of identity with the new metropolitan community that is as strong, and preferably stronger, than the identification with the rural area or small municipality of the past.

3. Assisting Low-Income Groups

Even if there were no compelling economic and social reasons, the very magnitude of low income population that must be accommodated in the Metropolitan Region within the next generation would justify vigorous government policies. It is estimated that the very low-income groups in the urbanized parts of the Metropolitan Region will increase almost three times by 1990, and that a fourth of this increase will consist of in-migrants from other parts of the country. Most of these people will be unprepared for urban life, coming as they will from rural areas or small towns - without attitudes, training or skills to enable them to adapt easily to an urban setting.

What can the Government do to help these citizens? Some measures, schools, health centers, cheap mass transportation, public recreational facilities, are needed by low-income groups throughout the MRSS. In addition to providing these facilities, Government can be particularly helpful where the environment has not yet crystallized into built-up areas but is still emerging. In such areas, a small amount of advance effort can have meaningful and lasting effects. The areas on the urban fringe, where low income homes are built without legal controls, now occupy about 20 percent of the urbanized area; by 1990 they are likely to occupy 40 percent or even 50 percent. In environmental terms the social policy of the Government must be focused on such areas.

In the colonia and the barrio these objectives will not be met by the provision of public housing, but rather by emphasis on public facilities which poor people cannot provide for themselves, schools, roads, water supply, health centers. In order to accommodate such numbers of people, a large-scale program should be developed of planned "people's neighborhoods." For this purpose, large-scale tracts of land should be reserved in suitable locations. Initially, public facilities should be installed to some minimum standard, but these should be so planned that they can be improved and expanded over a period of years as financial resources become available. While the actual construction of housing should be left to the individual family, information on construction methods and aid in financing should be made available. From the very beginning, such neighborhoods should facilitate development of skills and entrepreneurship through provision of small industries and craft centers.

Once underway, such people's neighborhoods could be improved over the years through self-help programs based on the desires of the local citizens and involving the efforts of neighborhood associations and betterment groups.

In short, in integrating the disadvantaged poor, government has a strong leadership role to play at neighborhood levels in creating environments that help poor people to advance.

(53)

ESCUELA EN "EL MANGUITO"

4. Investing in the Public Environment

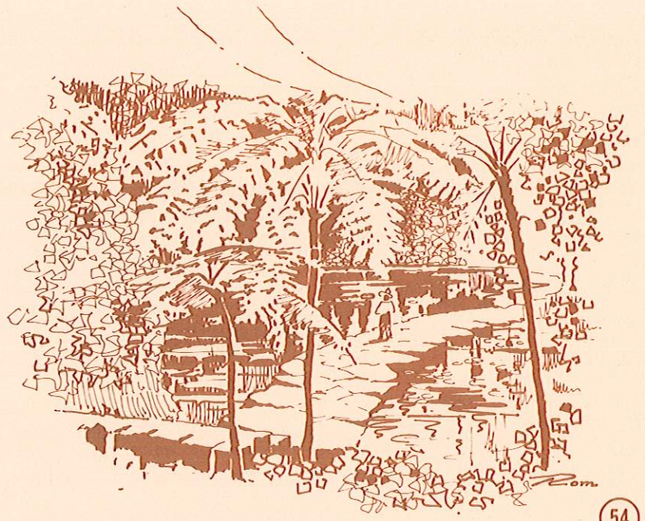
Much of the public investment spent on housing in developing countries is economically and socially unsound and should not be continued except in rare cases, such as the promotion of new economic centers.

A more important outlet for public investment for social purposes is provision of key public facilities at regional scale. Such facilities, both the invisible ones under ground, water and sewer lines, and the visible ones above ground, public buildings, streets and highways, and open spaces, form the social infrastructure. If this social infrastructure becomes an instrument of planning development, then public investments can become levers in promoting private development and can be stabilizing forces in maintaining the quality of the urban environment.

What is needed is a means of relating a capital inventory program for social infrastracture into an urban design scheme. The grouping of public buildings and central markets around town squares provided such a scheme at the scale of the colonial town.

Today, the system of movement channels, highways, streets, pedestrian ways, and the system of nodes, business centers and institutional and recreational complexes, provide guidelines for the general urban design scheme at the regional scale. Skills are needed that, so far, are little recognized in the Republic - the skills of the urban designer. In this new field, the most significant achievements are not the construction of individual scattered building for private enterprise, but the creation of unified public environment which incorporates both public and private development.

There are many major projects where this unified approach is advantageous. The most important are renovation of the Regional Core and modernization of the Expressway Corridor. These are preparatory to the recommended major urban design effort: construction of a new urban growth node to the north.



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LOS CHORROS

F. CONSERVING THE NATURAL ENDOWMENT

1. Using Open Spaces Wisely

In a dynamic urbanizing region, it is easy to concentrate on planning for new tangible development but easy to neglect to plan for open lands. In order to achieve optimum regional development, there must be policies for open lands. Through analysis of land characteristics and capacities in relation to economic and social needs, it is possible to determine which lands should be kept open and to what uses they should be devoted. Among the purposes for which land should be reserved are agriculture, public recreation, forestry, soil conservation, prevention of pollution and protection of water supplies.

Recommendations on these subjects are an important part of the Spatial Development Plan.

2. Managing Water Resources

Water resource management provides one technique for the planning of open areas. Measures can be taken to prevent pollution and flooding by coordinating water supply and drainage with the uses of land. A comprehensive study of water resources relating to a program for integrated management is needed. Certain key land use policies related to the protection of water resources have been identified. Recommendations on these subjects are included in the Development Plan.

3. Preserving the Landscape

The unique landscape of the Metropolitan Region has great value as a tourist attraction and as a scenic and recreational resource for the urban population. Accordingly, an open space policy will include measures for their protection. In part, these measures should include control over billboard and other unsightly developments on private land. Of particularly great future importance are the scenic open spaces that today seem removed and of little value. These include the crater, summit, and upper slopes of the Volcano; the watershed of the Lago de Ilopango; the Lago de Chanmico; the summits and upper slopes of strategic peaks such as the Cerro Nejapa and the Cerro Guaycume; the Cerros de Mariner, the gorges of the Rio Acelhuate and Rio San Canas, and the river of lava:

Until they are in demand and can be developed for active use, such scenic features should be protected from abuse and despoilation. Recommendations on this subject form an important aspect of the Development Plan.

PART IV
ALTERNATIVE SPATIAL POLICIES

TENTS

ALTERNATIVE SPATIAL POLICIES

A. BACKGROUND

1. Spatial Planning Alternative

Urban areas either grow as a result of uncoordinated, individual decisions made within the framework of the real estate market, or by the deliberate and coordinated arrangement of urban activities in those relationships which provide the greatest efficiency, economy, social advantage and beauty.

The choice to direct and coordinate the location of urban activities is a relatively clear-cut one. However, setting such spatial directions and policy for the entire Metropolitan Region is a complex effort requiring all the skills and energy of leaders from both the public and private sectors.

In this chapter are described the basic alternative directions, type and scale of urban forms or spatial relationships which the MRSS may take in the long range future. Each is judged to be technically possible. In the next chapter each is evaluated and the most advantageous alternative recommended.

2. The Long-Range View

In contrast to social and economic planning, which can project only several years ahead, spatial planning must by its nature take a long-range view, since the physical structure of an urban area, once it is established, survives for many generations. For this reason long-range policy which sets general guidelines but allows modifications in specifics is more realistic than a precise plan. In view of the rapidity of change in today's El Salvador, the 1990 target date set by the Contract is a long-range time span.

B. ELEMENTS OF URBAN STRUCTURES

1. Key Elements

Among the many elements of urban environment, certain key ones form the "skeleton" or structure to which the lesser elements relate. At a regional scale, one structural element is the corridors of movement, represented by the highway system. A second is the pattern of employment and activity centers, represented by major urban cores and by major industrial districts. A third is the pattern of lands not suited for urban development, termed the open space network.

2. Transportation

The Pan American Highway, which passes through the Metropolitan Region, is one of three possible east-west movement corridors across the Republic. Neither the coastal Carretera Litoral or a possible route along the Rio Lempa will supplant the Pan American Highway in importance. This vital Regional artery may be routed to pass close by either the north or south slopes of the Volcano. More distant locations are impractical.

The five major gateways to the Metropolitan Region formed by existing regional highways are sufficient for the foreseeable future.

A closer look at the topography of the Metropolitan Region shows that the rugged terrain establishes a finite number of locations where modern expressways may be built at realistic costs. Of these possibilities it is necessary then to determine a system of minimum cost that provides maximum economic benefits to the Region.

3. Lands Suitable for Large-Scale Industry

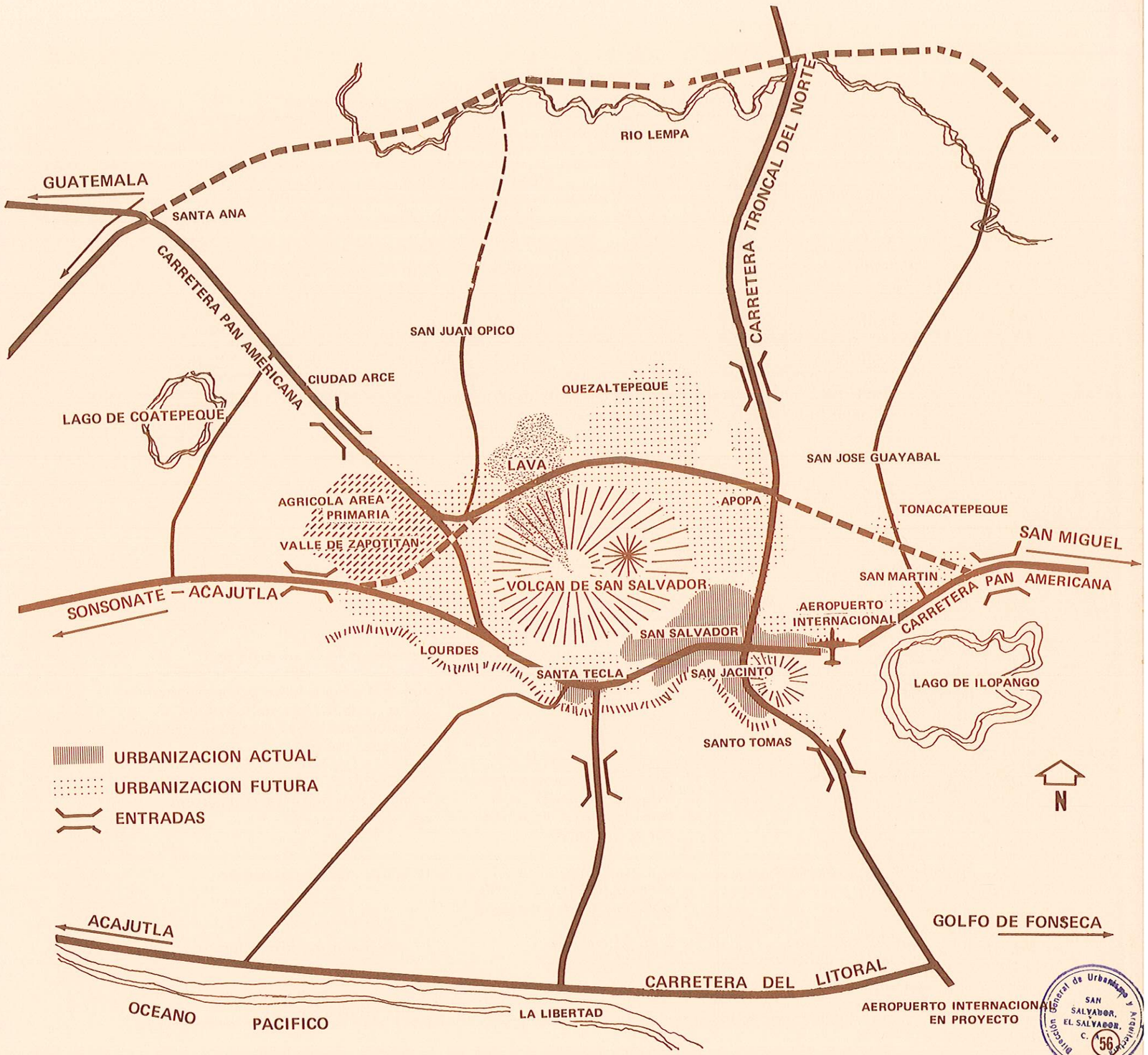
Most of the land suitable for large-scale industry is located in the northern and western parts of the MRSS. Only a limited number of possibilities are located close to the urban core. In terms of quantity there is ample adequately-suited land in the Region for all foreseeable industrial demands.

4. Open Space Values

The Volcano, mountain peaks, water bodies and other scenic spots provide key features for an excellent system of public open spaces. And, as an additional advantage, prime agricultural lands and coffee plantations, if left in their present use, can continue to provide green spaces while remaining in productive, tax-paying private ownership.

5. Trends of Development

In the past, about 95 percent of the population growth of the MRSS has occurred in the ten central municipalities. A projection of present trends of development indicates that areas within the existing Metropolitan Area and on the periphery of the urban agglomeration will continue to be under the greatest pressure for development - which development is likely to occur at higher densities. In addition, there are tendencies for sprawl-type developments to occur outside the existing Metropolitan Area, flanking the new highways of the Region.



CORREDORES DE TRANSPORTE Y MAXIMA URBANIZACIONE

Table 8

URBAN POPULATION INCREMENTS IN THE MRSS, 1930 - 1966

Subregion	(in thousands of people) 1930 -1950 Number	Percent	1950 - 1961 Number	Percent	1961 - 1966* Number	Percent
Metropolitan Area	86.1	96.2%	139.1	93.7%	79.5	92.1%
West	1.4	1.6	3.1	2.1	2.1	2.5
North	1.5	1.6	4.5	3.0	2.5	2.9
East	0.6	0.7	1.4	0.9	1.4	1.6
South	-0.1	-0.1	0.3	0.3	0.8	0.9
Total MRSS	89.5	100.0%	148.4	100.0%	86.3	100.0%

*1961-1966 increments are estimated on the basis of natural increase and do not take into account further increase due to migration.

Table 9

INCREMENTS TO BE PLANNED FOR IN THE MRSS, 1966 - 1990

Item	1966 condition	Increments to be planned for
Urban population	508,000 people	200,000 people to be accommodated in the present Metropolitan Area. 715,000 people to be accommodated on vacant land.
Residential area	24.2 sq. kilometers at an average neighborhood density of 21,000 persons per sq. kilometer	40 additional sq. kilometers at an average density of 18.000 persons per sq. kilometer.
Land for large scale industry	3.7 sq. kilometer at an average density of 4,800 workers per sq. kilometer	10 additional sq. kilometers
Land for trade and commerce (urban cores)	2 sq. kilometers	10 additional sq. kilometers
TOTAL		60 sq. kilometers

(57)

SUELO ADECUADO PARA INDUSTRIA, EN GRAN SCALA

NUMERO DE FACTORES FAVORABLES:

1 a 2 — 3 a 4

* 5 a 6

FACTORES DE LUGARES FAVORABLES:

(1) LUGAR LLANO

(2) ACCESO A CARRETERA DE PRIMER ORDEN

(3) ACCESO A FERROCARRIL

(4) SERVICIO DE ELECTRACIDAD POR LINEAS PRIMARIAS

(5) DISPONIBILADAD DE MANTOS ACUIFEROS

(6) DISPONIBILIDAD DE DRENAJES PARA DESPERDICIOS INDUSTRIALES

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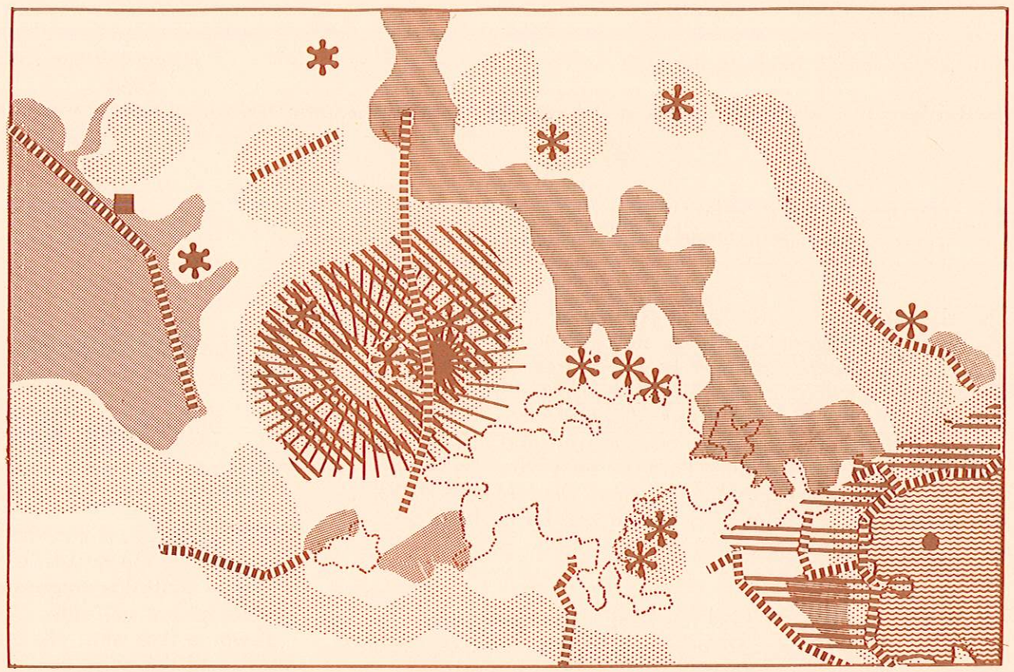
RECURSOS NATURALES Y ESCENICOS EN ESPACIOS ABIERTOS

- REOURSOS DE AGUA
- AGRICULTURA DE PRIMERA CLASE
- RESERVA DE AGUA
- LUGARES PINTORESCOS
- SITIO HISTORICO
- RECURSO VISUAL
- DRCNAJE DE AQUAS HACIA LAGO DE ILOPANGO
- CARRETERA ESCENICA



All Alternatives considered	Representative Alternatives Chosen for Evaluation
Continuation of Present Trends	Continuation of Present Trends
Concentration in and Around Metropolitan Urban Complex: North-South Growth Emphasized Concentration: East-West Growth Emphasized	Concentration: North-South Growth Emphasized
Dispersal Along Major Highway Network Decentralization Based Upon Municipal Cores	Decentralization Based Upon Existing Municipal Cores
New Growth Node to the North: Linear Arrangement: Quezaltepeque to Apopa New Growth Node to the North Urban Core Near Apopa	New Growth Node to the North: Urban Core Near Apopa
New Growth Node to the West: Urban Core Near Lourdes New Growth Node to the West: Urban Core Near San Andres	New Growth Node to the West: Urban Core Near San Andres
New Growth Node to the East	Discarded due to Insufficient Suitable Land

C. POPULATION INCREMENTS TO BE ACCOMMODATED

The Regional site has set the guidelines for the major elements of the urban structure; now the numbers of people to be planned for must be considered. In order accommodate 911,000 additional urban population it is estimated that at least 40 square kilometers of residential land and 20 square kilometers of industrial and commercial land will need to be brought into use by 1990. These estimates are quite conservative, since they do not allow for partial occupancy of areas which will be in the process of development in 1990.

While a target date of 1990 has been determined, the population to be accommodated may be reached a few years earlier or later. The objective is to establish a related set of targets in order to bring major land use requirements into clear focus.

D. EXPLORATION OF ALTERNATIVE SPACIAL POLICIES

1. Determination of Alternatives

With an intimate knowledge of the Regional site and an estimate of the quantities of people to be planned for, various spatial arrangements can be defined as bases for development policies. Ten possibilities were considered, of which five were chosen for analysis as being representative of the basic concepts involved. The above chart shows the total number of alternatives and those selected for evaluation.

2. Method of Evaluation of Alternatives

Each of the five alternatives of the right hand column was designed or laid out in diagramatic form reflecting a realistic distribution of predicted land use increments according to the amount of developable land available. Concepts of needed highway and open space systems were expressed.

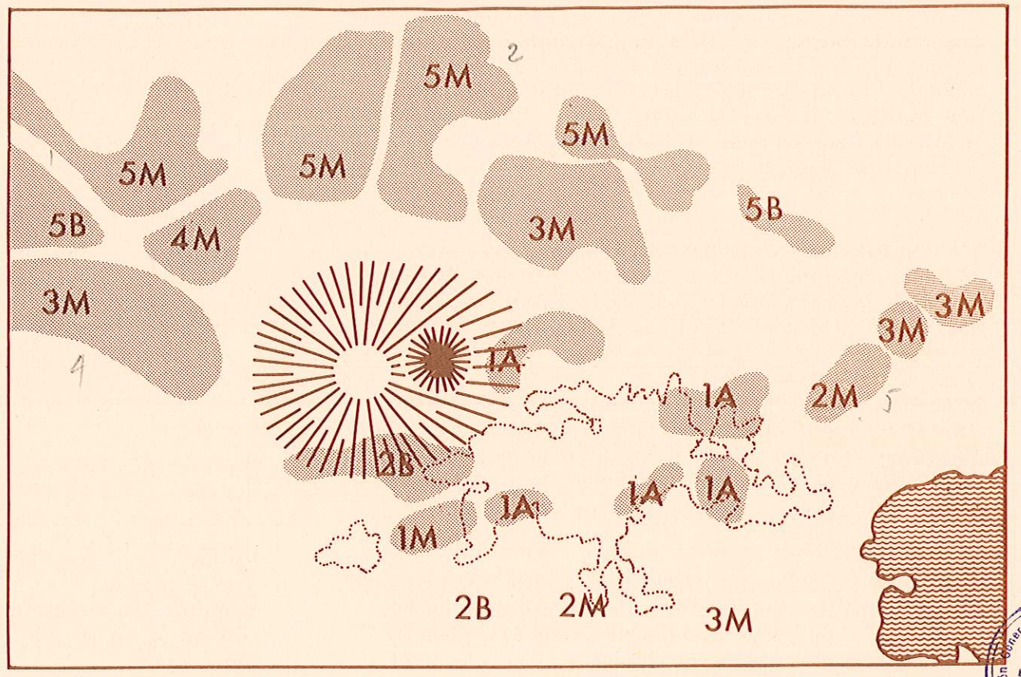
Professional planners of the joint staff evaluated the five alternative schemes according to seven major goals, which were broken down further into more detailed, specific criteria. These major goals are:

Aid to Economic Development
Provision of Social Benefits
Provision of Good Transportation
Suitable Utilization and Protection of the Site
Ability to Gain Support
Ease of Implementation
Low Cost of Development

PROYECCION DE LAS ACTUALES TENDENCIAS DE DESARROLLO

TENDENCIA AL DESARROLLO
1–MAXIMA
5–MINIMO

DENSIDAD
A–ALTA
M–MEDIA
B–BAJA



E. ALTERNATIVE A: CONTINUATION OF PRESENT TRENDS

1. Description

This alternative assumes no greater government intervention and control of growth than has existed in the past. If present condtions are allowed to continue, it is projected that 71 percent of the 1966-1990 population increment would locate in the ten central municipalities, while the remainder would tend to locate adjacent to the existing highway network throughout other parts of the Metropolitan Region.

This shows a somewhat smaller percentage increment within the ten central municipalities than has occurred in the past, reflecting the fact that improved highways and outlying cheaper land are now encouraging greater sprawl.

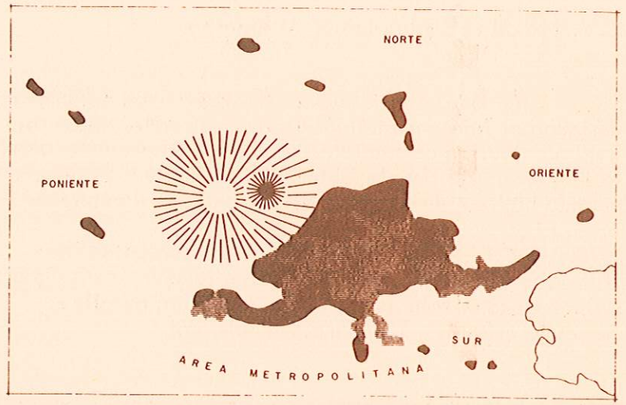


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Table 10
PROJECTED DISTRIBUTION OF NEW URBAN POPULATION, 1966 - 1990
ALTERNATIVE A: CONTINUATION OF PRESENT TRENDS (in thousands of people)

Subregion	Population Number	Increment Percent
Metropolitan Area	+641	71%
West	+ 90	10
North	+104	11
East	+ 56	6
South	+ 20	2
Total MRSS	+911	100%

2. Advantages and Disadvantages

In social terms this alternative has no advantages and several disadvantages. It settles considerable population far distant from the concentration of social facilities in San Salvador, but not in sufficient concentration to justify new facilities of regional scale. This outlying population is also far from the major employment sources of the Metropolitan Region.

Such unstructured residential development does not encourage a mixture of income groups in proximity because new high-income areas exclude modes dwellings, nor does it further a sense of community identity.

In economic terms, this alternative provides a variety of sites attractive to large-scale industry adjacent to major highways; it does not infringe upon prime agricultural land. However, the urban sprawl that it permits does not encourage agglomeration or urbanized economies.

In terms of transportation, there are definite disadvantages. Although development is related to the primary highway network, the far-flung mass transit system demanded by this alternative would be inefficient and uneconomical.

Of the five alternatives, a continuation of present trends has the greatest number of disadvantages, most of which stem from the random sprawl which would result in 29 percent of the growth locating outside the ten central communities.

This alternative does not make effective use of the site. Development strung along the highways ignores the scenic potentials of the Region. While this pattern does tend to spread the risk from earthquake damage, it is indifferent to the basic structure of the land forms suitable for urbanization. It is also indifferent to the variations in microclimate. And, by establishing a pattern of ribbon development along existing highways, it tends to limit potential for flexible development after 1990.

3. Practicality of Execution

Although it has many unfavorable features, Alternative A is obviously easiest to carry out. Its disadvantages are that it has no specific form appeal and contains no incentive to stimulate the government and the private sector to work together for accelerated economic and social development. On the contrary, it permits the least coordination among public and private organizations.

It is the most feasible of all schemes if Government fails to exert leadership. It requires no new Government institutions. Private development can be carried out ahead of Government investments for major new infrastructure. This scheme allows the private sector utmost flexibility in type, location and timing of new development. Since it is shaped largely by the real estate market, the presence of large agricultural landholdings unavailable for development is not a constraining factor.

4. Summary

Alternative A: Continuation of Present Trends is attractive in that it involves no new effort on the part of the Government to carry it out, but unacceptable because it provides no strategy or leverage for accelerating economic and social well-being over present trends. It creates a chaotic pattern of urban sprawl, involves high costs in the provision of public services, and is ill-adapted for future expansion.

F. ALTERNATIVE B: CONCENTRATION

1. Description

This alternative groups 91 percent of the new growth in, or close to, the Metropolitan Area. It encourages expansion of the Metropolitan Area in a northerly and southerly direction. It limits east-west expansion and the growth of outlying municipalities.

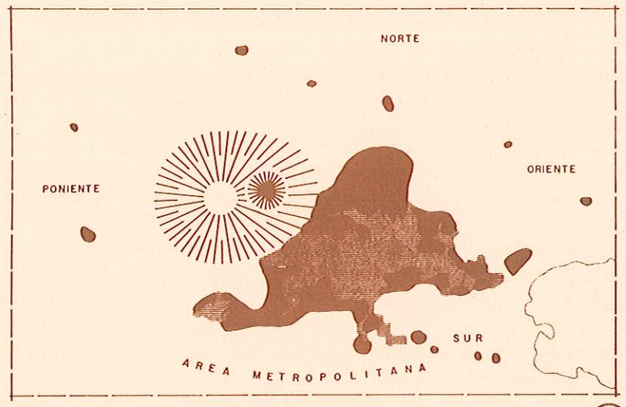

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Table 11

ASSUMED DISTRIBUTION OF NEW URBAN POPULATION, 1966 - 1990

ALTERNATIVE B: CONCENTRATION
(in thousands of people)

Subregion	Population Increment Number	Percent	Difference from Present Trends
Existing Metropolitan Area	+600	66%	-41
West	+ 45	5	-45
North	+203	22	+99
East	+ 36	4	-20
South	+ 27	3	+ 7
Total MRSS	+911	100%	-

Eighty-eight percent of new growth is assumed to occur in or on the fringes of the Metropolitan Area. This approximates the trend of recent years, when about 93 percent of growth was so located.

In contrast to Alternative A, this scheme demands government leadership in guiding growth in the desired directions and in holding it back where not desired.

2. Advantages and Disadvantages

In economic terms there are these major advantages: (1) by concentrating industrial sites in large clusters as close as possible to the Regional Core, urbanization and agglomeration economies are maximized; (2) activities in the Regional Core and in other existing cores are intensified, thus stimulating trade and commerce; and (3) new development does not encroach on prime agricultural land.

In social terms this alternative is very advantageous for the urban population, although it does not provide close-at-hand benefits to residents of the outlying municipalities and rural areas. Assuming provision of good mass transportation facilities, the urban population will have convenient access to social facilities and employment opportunities. Because of the proximity of the present and potential recreational facilities to the vast bulk of the population, this scheme also has advantages for mass recreation. It facilitates a mixture of residential types in close proximity, thereby encouraging social interaction.

In transportation terms, this alternative facilitates a compact and efficient mass transit system. It minimizes the average length of home-work trips and thereby minimizes the amount of automobile usage. On the other hand, it presents one severe disadvantage by greatly increasing congestion in the Regional Core, necessitating drastic and expensive highway and parking improvement measures.

This scheme does not take full advantage of the existing primary highway network of the Metropolitan Region, but tends to add congestion to the Pan American Highway.

Although it does not take advantage of all the possibilities of the Regional site, a concentrated scheme does utilize and conserve the natural endowment. Pollution of water resources is not extended; domestic and industrial wastes can be confined to present outlets.

Scenic features are not infringed upon, but are still close at hand. Development encompasses a variety of microclimates. Of particular advantage is the fact that this alternative leaves much of the Regional site untouched, thus preserving the options for future urban expansion after 1990.

The scheme has some disadvantages in terms of the natural endowment. Concentrated urbanization provides less security from natural catastrophe than does dispersal; and the concentration of industrial and vehicular exhausts will increase air pollution. Neither of these disadvantages is considered major.

3. Practicality of Execution

Concentration is an attractive scheme in terms of practicality. Since it reinforces the past pattern of public and private actions, it should appeal to leadership both in the Government and in the private sector. However, little support from outlying municipalities can be expected.

This scheme is relatively economical in terms of provision of basic utilities. Water and sewer services maximize the use of present facilities. Necessary improvements and extension to these existing systems would be called for, in any event. The same situation applies to the highway network. Land costs for highway improvement would, however, be relatively high.

In contrast to the previous alternative, Continuation of Present Trends, implementation of a policy of Concentration demands deliberate intervention of Government in the natural development process.

Even to carry out this scheme to present standards, stronger Governmental leadership and control measures will be needed to guide growth in the right directions and to keep it from occurring elsewhere. In order to carry out the scheme in terms of its maximum potential to stimulate the urban economy and to maximize social benefits, vigorous, positive leadership will be required, with Government and the private sector working together.

This scheme must be implemented by dramatic urban renovation measures focused on modernization of the Regional Core and on improvements to transportation facilities in order to prevent traffic congestion from choking economic growth. Intensity of development will necessitate careful environmental planning in order to upgrade highly urban living conditions.

4. Summary

The advantages of Alternative B, Concentration, far outweighs its disadvantages. This scheme promises to maximize external economies for the private sector and make favorable use of the Regional site. It does demand forceful Government intervention in directing growth. Strong urban renovation measures are necessary to maximize its potentials for economic growth and social benfits.

G. ALTERNATIVE C: DECENTRALIZATION AMONG NODES

1. Description

Decentralization calls for encouraging growth of the outlying municipalities, centering development on these municipal cores, while restraining growth in the ten central municipalities. Fifty-one percent of all new growth is channeled to these outlying municipalities with forty-nine percent within the ten central municipalities.

2. Advantages and Disadvantages

Compared to concentration, decentralization would raise the level of living conditions in the outlying municipalities and rural areas but is less favorable to the rapid growth of an urban economy.

In economic terms it is not promising. While industrial districts in the various municipalities offer a choice of sites for industrialists, dispersal of central city activities - trade and commerce - among many smaller cores discourages the specializations, linkages and complementary activities of a single major urban core. On the whole, outlying locations for commerce and industry would consequently be far less attractive to sophisticated private enterprise than locations within the ten central communities.

In social terms, decentralization is also disadvantageous for the vast mass of urban population who would have to travel long distances to reach major social facilities such as hospitals and major recreational centers.

Choice of job opportunities in close proximity is lessened. But the proximity of many employment centers to the towns and rural areas favors walking to work and provides urban job opportunities for rural people. Development of separate smaller municipalities might also be expected to promote strong local identity and community pride.

In transportation terms, this scheme makes good use of the existing major highway network, but results in an extensive mass transit system and, for those who commute,

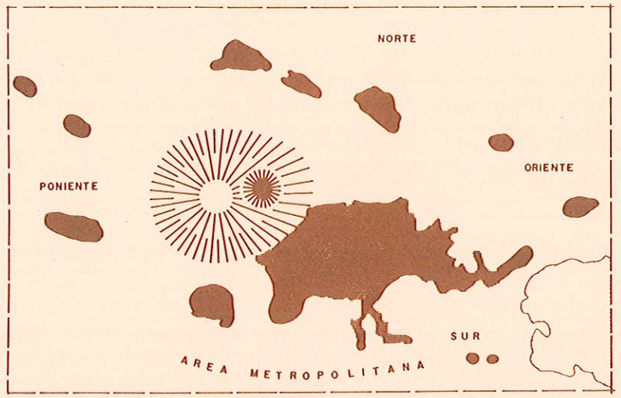

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Table 12
ASSUMED DISTRIBUTION OF NEW URBAN POPULATION, 1966 - 1990
ALTERNATIVE C: DECENTRALIZATION
(in thousands of people)

Subregion	Population Increment Number	Percent	Difference from Present Trends
Existing Metropolitan Area	+452	49%	-189
West	+153	17	+ 63
North	+189	21	+ 85
East	+ 72	8	+ 16
South	+ 45	5	+ 25
Total MRSS	+911	100%	-

relatively long average home-work journeys. By drawing off commercial activities and possibly actually inhibiting economic growth, the scheme would help control traffic concentration in the Regional Core.

Decentralization makes reasonably good use of the Regional site. Dispersal spreads the risk of damage from natural catastrophe, and minimizes the likelihood of concentrated air pollution. Good land use planning is facilitated and a choice of local environments and microclimates could be provided.

However, the scheme is unfavorable for wise management of water resources. Economies of scale would be lost in the provision of water to so many locations. Disposal of industrial and domestic wastes would also create difficulties. If untreated wastes were not to be discharged into local water courses, then an extended and expensive system of collectors would be necessary, discharging into both the Rio Sucio and the Rio Acelhuate.

3. Practicality of Execution

Although it would be popular in the municipalities, this scheme because of its economic disadvantages could not be expected to appeal to leaders in the private sector. If developed in an unorganized fashion it could be realized without dependence on the leadership of government agencies. If, on the other hand, well-planned, high-quality environment is to be achieved, the scheme would be extremely difficult to realize. Since efforts would be dispersed to a number of locations, the Government's resources would be strained without compensating benefits. This alternative would not provide meaningful opportunities for agencies of the public and private sectors to work together; it would slow down pressure for extensive renovation of the Regional Core.

4. Summary

Decentralization is attractive for the benefits it would bring to outlying communities and rural areas, but has many disadvantages. It would be difficult and expensive to carry out, would not be of long-range economic advantage, and would restrict long-range urban expansion.

H. ALTERNATIVE D: NEW GROWTH NODE TO THE NORTH

1. Description

This alternative calls for channelling about a third of the 1966-1990 population growth to a new urban community of about 300,000 in the municipalities of Apopa and Nejapa, separated by a band of open space from the urban agglomeration of the Metropolitan Area. As in the case of Decentralization, about half the population increase, 450,000 people, would still be accommodated in the ten central municipalities.

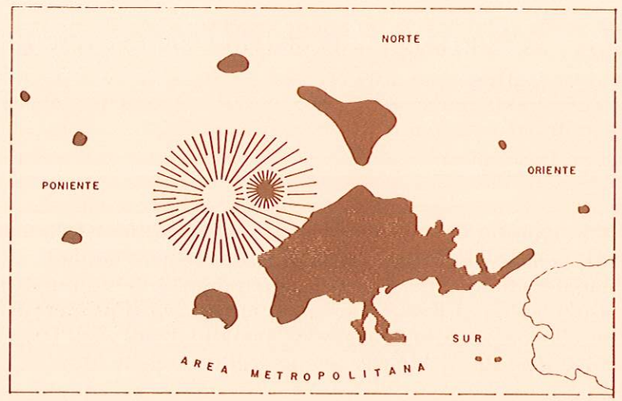

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Table 13

ASSUMED DISTRIBUTION OF NEW URBAN POPULATION, 1966 - 1990

ALTERNATIVE D: NEW GROWTH NODE TO THE NORTH
(in thousands of people)

Subregion	Population Increment Number	Percent	Difference from Present Trends
Existing Metropolitan Area	452	50%	- 189
West	81	9	- 9
North	297	32	+ 193
East	54	6	- 2
South	27	3	+ 7
Total MRSS	+911	100%	-

2. Advantages and Disadvantages

Creation of a new growth node to the north is judged to be an attractive alternative in all major aspects.

In economic terms it is particularly advantageous for it provides a variety of good sites for large-scale industry relatively close to the present Regional Core. If business

and commercial activities are grouped together in the new urban core, all establishments would benefit from the compactness. The urban area created would be large enough to permit external economies for private enterprise. Prime agricultural land would not be infringed upon.

In social terms, construction of a compact community would be advantageous. New facilities would be made available for large numbers of urban people, and these would service the rural and small town population to the north as well. These same advantages of proximity would also apply to employment opportunities. Social mixture and community identification could be achieved by good land use planning within the compact urban form.

In transportation terms, this alternative is particularly attractive. The new node is well related to the Troncal del Norte, and it brings into use the existing northern east-west highway between Sitio del Nino and Apopa. Home-work relationships, mass transportation, and other considerations would be worked out by efficient arrangement of land uses in the new community. By drawing off some future economic growth from the Regional Core, this scheme helps to alleviate mounting traffic and parking problems.

In terms of the Regional site, a northern node is advantageous. It is well-situated in relation to the untapped aquifiers north of Apopa, and it could tie into the proposed new water main extending to San Salvador. The sewage system also could be combined with a modern system for the Metropolitan Area, feeding into a new main trunk sewer and disposal plant located on the Rio Acelhuate. Although the new community is not well related to the Lago de Ilopango, other scenic and recreational features are nearby. The location is removed from maximum earthquake hazard. In terms of more appropriate land forms and micro-climates, the situation is a reasonable one. Although the community would usurp the best major site for extensive urban growth in proximity to the existing Metropolitan Area, there are still additional sites available for continued urban expansion after 1990.

3. Practicality of Execution

However attractive it might be in terms of benefits, development of a new growth node to the north of a high-quality environment would be extremely difficult to carry out in the very near future. A major build-up and preparation stage would be necessary in such areas as public institutions, financial resources, public-private cooperation, and technical and management skills before the thrust to the north is made as a concerted effort.

The possibility of carrying out the scheme in a unified fashion by means of a "New Town Authority" on the English model should be considered. If this method proves to be feasible, it would still be several years before development could begin.

Although the Valley of Quezaltepaque-Apopa certainly could become urbanized without strong planning control by the Government, the results would likely be haphazare and unsatisfactory, and a one-time opportunity to achieve a high quality urban environment would be lost. For example, one very practical consideration would likely necessitate positive Government intervention: those large agricultural landholdings which would need to be released for urban development.

4. Summary

A new growth node in the north provides many advantages. It presents an unparalleled opportunity to create a high-quality urban environment at a large scale. But, the mobilization of resources required to do the task right makes this alternative difficult in the near future.

I. ALTERNATIVE E: NEW GROWTH NODE TO THE WEST

1. Description

Of all possibilities studied, a new growth node to the West is the most radical. It calls for building a new city for a 1990 population of 300,000 people at San Andres, or about a third of all new growth. The ten central municipalities would still accommodate 426,000 people, somewhat less than half of the new growth.

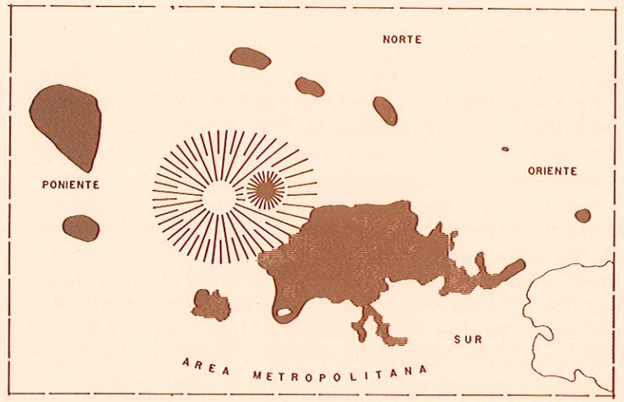

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Table 14

ASSUMED DISTRIBUTION OF NEW URBAN POPULATION, 1966 - 1990

ALTERNATIVE E: NEW GROWTH NODE TO THE WEST
(in thousands of people)

Subregion	Population Increment Number	Percent	Difference from Present Trends
Existing Metropolitan Area	426	47%	- 215
West	306	33	+ 216
North	134	15	+ 30
East	45	5	- 11
South	0	0	- 20
Total MRSS	+911	100%	-

2. Advantages and Disadvantages

In economic terms, a new node to the west would have much the same advantages as a new node to the north, but with two important differences: (1) Its location, far removed from the existing Metropolitan Area, does not provide convenient access to the facilities of the Regional Core. The fact that it is one-third of the way from San Salvador to Santa Anna makes it competitive with both centers but without sufficient hinterland to sustain a new independent growth role. (2) By its proximity to the Valley of Zapotitan it tends to infringe on this prime agricultural area, and further growth after 1990 could cause a conflict with such land use.

In social terms, Alternative E has advantages similar to Alternative D. In addition to serving its own population, it would bring social and economic benefits to the large rural population in the western part of the MRSS, and in addition would stimulate outlying western towns, such as San Juan Opico and Ciudad Arce. Also, it is likely to stimulate the northern towns of Quezaltepeque, Nejapa, and Apopa, since they are located on the northern transportation corridor to San Salvador.

In transportation terms, this alternative, properly planned, could bring internal benefits in terms of favoring walk-to-work relationships, short vehicle trip-distances, and an efficient public transit system. But, externally, it has the disadvantage inherent in its location. Travel distance and time to the Regional Core is lengthened without compensating economic advantages.

In terms of conserving the Regional site, the scheme has basic advantages. The location on the Rio Sucio is a very picturesque one and the land is predominantly flat, favoring urban development. But, because of the uniformly low site, there is little possibility of varied microclimates in such a new community.

In terms of water resources, the western node is at a serious disadvantage. Although there is ample underground water, the new city could not tap into the San Salvador system, as could the northern node, but would require a completely new system. The city would also require a complete new sewerage system. The concentrated discharge of industrial and domestic wastes into the Rio Sucio would call for a treatment plant from the very beginning.

Early development of a satellite city in the west would inhibit development of the remainder of the Region after 1990 and unless the strictest land use controls could be instituted, the connecting highways would be flanked with ribbon development.

3. Practicality of Execution

Construction of a new satellite city would involve the same mobilization of resources and cooperation between the public sector and the private sector as would a new node to the north. Because it is far from the path of urban expansion, however, it would not have equal viability of its own, independent of governmental action. A major advantage is that a large part of the site is now in government ownership and large private landholdings are not involved. Costs for the extensive new systems of infrastructure required would be high, but land costs would be low.

4. Summary

Of all the alternatives, the New Growth Node to the West is the most demanding and expensive to execute. Its location is difficult to justify in economic terms. Because of the unique agricultural character of the Valley of Zapotitan, any urban infringement may be an unwise long range land use policy.

J. CONCLUSION

No one of the alternatives is best in absolute terms. This was confirmed by the scores given by the professional planners of the joint staff to each alternatives. Of a maximum of 345 points, the most favored scheme, Alternative D: New Growth Node to the North, scored 232; while the least favored scheme, New Growth Node to the West, scored 212. In the judgment of experts, the span between the highest and lowest-scoring alternative spatial policies, then, is only 20 points, or a six percent difference. Since these scores were based on forty-four criteria, which, in turn, were based on the goals listed previously, this is an extremely narrow spread.

Fortunately, these spatial alternative policies are not mutually exclusive. A combination of several alternatives captures more advantages, while minimizing disadvantages, than any single alternative.

Three objectives have been considered in determining the recommended spatial policy: (1) optimum growth process for the Metropolitan Region; (2) the needs of the Republic at this particular stage of its development; and (3) practicality of execution. A combination of three alternatives best fulfills these objectives, as well as meeting the other designated criteria. The recommended spatial policy is therefore a combination and modification of: (1) Concentration; (2) Decentralization; and (3) New Growth Node to the North.

PART V
STRATEGY FOR URBANIZATION

CONTENTS

STRATEGY FOR URBANIZATION

A. BASIS FOR POLICY

1. Economic Justification

The Metropolitan Area represents the most important single economic asset of the Republic. Its physical form is a result of economic forces which produced a closely integrated agglomeration centered on the Regional Core. This relatively compact, high-density area provides the urbanization and agglomeration economies to aid private enterprise. Since there is still developable, vacant land, both within and adjacent to the present urbanized area sufficient for several more years, it is sensible to continue the present tendency which is to further expand the Metropolitan Area. Thus, the foundation of a recommended spatial policy is Alternative B: Concentration, with emphasis to be placed on east-west development.

2. Accommodating to Institutional and Financial Constraints

The Concentration scheme is realistic in relation to the present condition of institutional readiness and financial resources. Government and private efforts are already concentrated on the Metropolitan Area. Diversion of effort elsewhere, when there is so much now underway and so many unfinished efforts as well as additional opportunities, would be self-defeating. Except for initial land cost, further concentrated development will be relatively inexpensive since the existing system of infrastructure can be utilized to its fullest. Economies of scale can be gained in the construction of new infrastructure by simply adding capacities to new facilities such as highways, water supply and sewers.

By building upon the present situation, the Concentration scheme requires only tasks that can be handled within the present managerial and financial capacities of the Republic, such as guidance of peripheral new growth in an east-west direction, improvement to existing areas, and the orderly filling in of now vacant land.

3. A Quantum Jump in the Public Environment

In the history of urban development, major changes have generally not come about gradually, but in quantum or massive leaps. Significant urban forms have been created in a generation: the reconstruction of the Acropolis by Pericles, the creation of the churches of London by Wren, the fashioning of the boulevards of Paris by Hausmann.

The question is now raised whether San Salvador and its neighboring municipalities are ready for such a massive leap in urban development to meet their own needs and goals.

By providing a public environment characteristic of great metropolises of the twentieth century, economic development will be accelerated and consequent social benefits extended to the people of the Region. Such a quantum leap involves measures such as construction of a system of expressways, modernization of the central business district of San Salvador, development of major industrial districts and industrial parks, provision of a metropolitan system of public open spaces, development of an integrated system of public transportation and bus terminals, extension of the water supply system, construction of a modern sewerage system, initiation of new neighborhoods of self-help housing for low income groups. The challenge is to catch up with past needs on such a massive scale that the needs are provided for the next generation, also.

Such measures are visionary if viewed within the constraints of present managerial and financial means. However, such a leap forward could be accomplished if granted strategic priority, and if both financial resources and technical skills from both the internal private sector and international agencies can be mustered for the task.

While a policy of concentration is a highly practical and realistic course of recommended action, it also provides opportunities for dramatic achievements.

4. Progress for Outlying Municipalities

It is neither practical nor desirable to attempt to channel all new urban growth in the entire Region into the Metropolitan Area. Provision must be made for reasonable growth of the outlying municipalities. Economic and social benefits must also accrue to them. Consequently, the normal growth patterns of Alternative A: Continuation, are also included in the recommended developmental policy. Basic improvements should be provided for these municipalities according to a National policy to be determined for the allocation of National resources for these smaller cities.

5. Maximum Utilization of the Site

In visual terms, the valley in which the Metropolitan Area is located forms a natural bowl which should be utilized to its full extent before the urban agglomeration is allowed to spread to as yet undeveloped territory. A Concentration policy achieves this visual goal.

While retaining the general concept of concentration embodied in Alternative B, the site calls for a different emphasis in the direction of growth. In Alternative B, as discussed in the previous section, new growth was oriented in a north-south direction adjacent to the Metropolitan Area. Further detailed study of the possibilities of the Regional site indicates that high priority growth would be preferable in an east-west direction.

There are several advantages to this shift in emphasis: (1) There is more developable land to the east and west. (2) Directing growth away from the north for the present takes growth pressure off the Middle Hills and allows time for their acquisition as public recreational spaces. (3) It provides time to plan and program the new growth node to the north most advantageously.

6. A New City to the North

As the Metropolitan Area expands within the Southern Valley, attractive sites for residential, commercial and industrial expansion will become scarce, and pressure will build up to extend urban development elsewhere.

Because of topographical considerations, the obvious direction of extensive new development is the Northern Valley - separated from the present Metropolitan Area by the Middle Hills. What is appropriate here, however, is not sprawling new growth, still focused on the Regional Core in San Salvador, but, instead, a new satellite city offering a high-quality environment and centered around a new urban core of major regional importance.

Timing for this growth must be in two phases: in the first phase, it is necessary to hold back growth; in the second phase, urban growth should be encouraged but directed so that it focuses on a new major urban core.

The industrial park now being planned by INSTITUTO SALVADORENO DE FOMENTO INDUSTRIAL (INSAFI) should be integrated into the plan for the Northern Valley. If it develops quickly, then this park could make it necessary to speed up the creation of the satellite city before 1980. If it expands slowly, then it would be integrated after 1980.

ESTRATEGIA RECOMENDADA DE DESARROLLO

7. Establishment of Regional Balance

It has been pointed out that the Metropolitan Region now has a disproportionately high share of the Republic's economic activity, wealth, and population. The recommended strategy to concentrate development effort on the existing Metropolitan Area, and then to initiate a new growth node in the Northern Valley, accentuates this present regional disequilibrium of the Republic.

Several practical considerations favor this policy. The Metropolitan Region already has a vast head start in economic development over other urban centers of the nation. It represents a substantial investment and concentration of economic power. However, the task of region building is only partially done since its economy is still relatively immature and structurally weak. Therefore, since the Republic's managerial and financial capacities are extremely limited, it makes sense not to disperse these resources but to continue to concentrate them in the Metropolitan Region, building further on past achievements to obtain even more significant results. In effect, this is an effort to build on existing areas of strength rather than on areas of weakness.

Even while the economy of the Metropolitan Region is being further reinforced and emphasized in the next several years, regional planning work should commence to extend economic development to other urban centers of the Republic.

When the economy of the Metropolitan Region has been greatly strengthened and institutional procedures and know-how developed, then steps to initiate new growth poles elsewhere in the Republic should be taken. Such centers would serve not only to adjust present regional imbalances, but also to slow down the rate of growth of the Metropolitan Region by providing opportunity for employment. A national hierarchy of urban centers with developmental service roles is the long-range objective.

B. SUMMARY OF RECOMMENDED 1990 STRATEGY

The recommended strategy of urbanization calls for the following measures by the Government between the present and 1990:

1. First Phase: 1969 - 1980

Action Measures

Consolidate new urban growth in the Southern Valley, emphasizing expansion of the Metropolitan Area in an east-west direction.

Mobilize available leadership, technical skills, and finances to build massive and dramatic improvements in the public environment, planned to serve for at least a generation ahead. This will include an expressway and a strengthened public transit system, rebuilding of the Regional Core, developing self-help neighborhoods for families of low income, establishing a public open space system, extending the water supply system, and a sewerage system.

Hold back urban development in the Northern Valley. Further develop the Valley of Zapotitan for intensive agriculture including truck farming.

Planning and Mobilization Measures

Develop the institutional machinery to plan, program and finance the Northern Valley as a new satellite city.

Acquire or gain control of land at strategic points in the Northern Valley in order to establish firmly the basic structure of development, this to include lands for the following key purposes: expressways and major arteries, the new urban business core, major public open spaces and sites for major public buildings.

Initiate a regional planning program throughout the Republic, with emphasis on the establishment of new growth nodes each having economic viability outside the San Salvador Metropolitan Region, this to utilize the new techniques and administrative measures developed in the course of the present planning program for the MRSS.

2. Second Phase: 1980 - 1990

Action Measures

Mobilize private and public resources to build the new satellite town in the Northern Valley according to plans previously developed.

Channel economic activity and population into one or more selected new growth centers located outside the Metropolitan Region.

Planning Measures

Plan, program and budget for development of minor urban centers as the next step in developing a National urban hierarchy of developmental-service centers designed to promote economic and social development thoughout the Republic.

ERRATA

p.iii	col. 1 line 16	for capital, read capitol
	col. 2 line 36	for polities, read policies
p.iv	col. 1 line 5	for district to, read district of
	col. 2 line 31	for Mariana, read Mariona
p. 7	legend 4	for 1,000 personas, read 10,000 personas
p. 9	legend 5	for caminos principales, read carreteras principales
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p.11	legend 6	under 100,000, read 75,000
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	illustration 11	for area Metropolitanta, read area Metropolitana
	illustration 11	for Giogoechaa, read Goigochea
	vertical scale 11	add Tamaño
	legend 12	for posicion, read rango
	illustration 12	for Distribacion, read Distribucion
	vertical scale 12	add Tamaño
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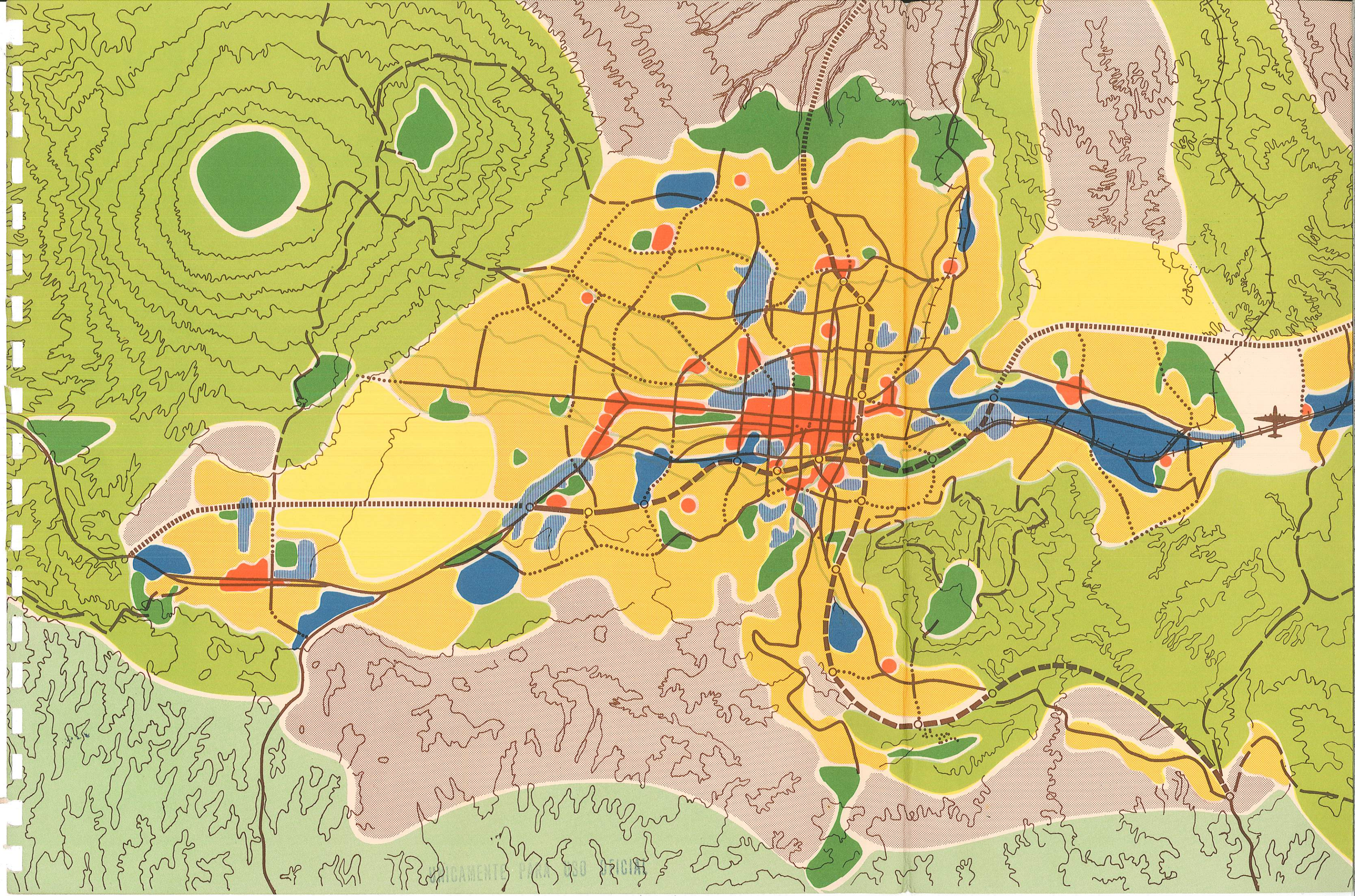
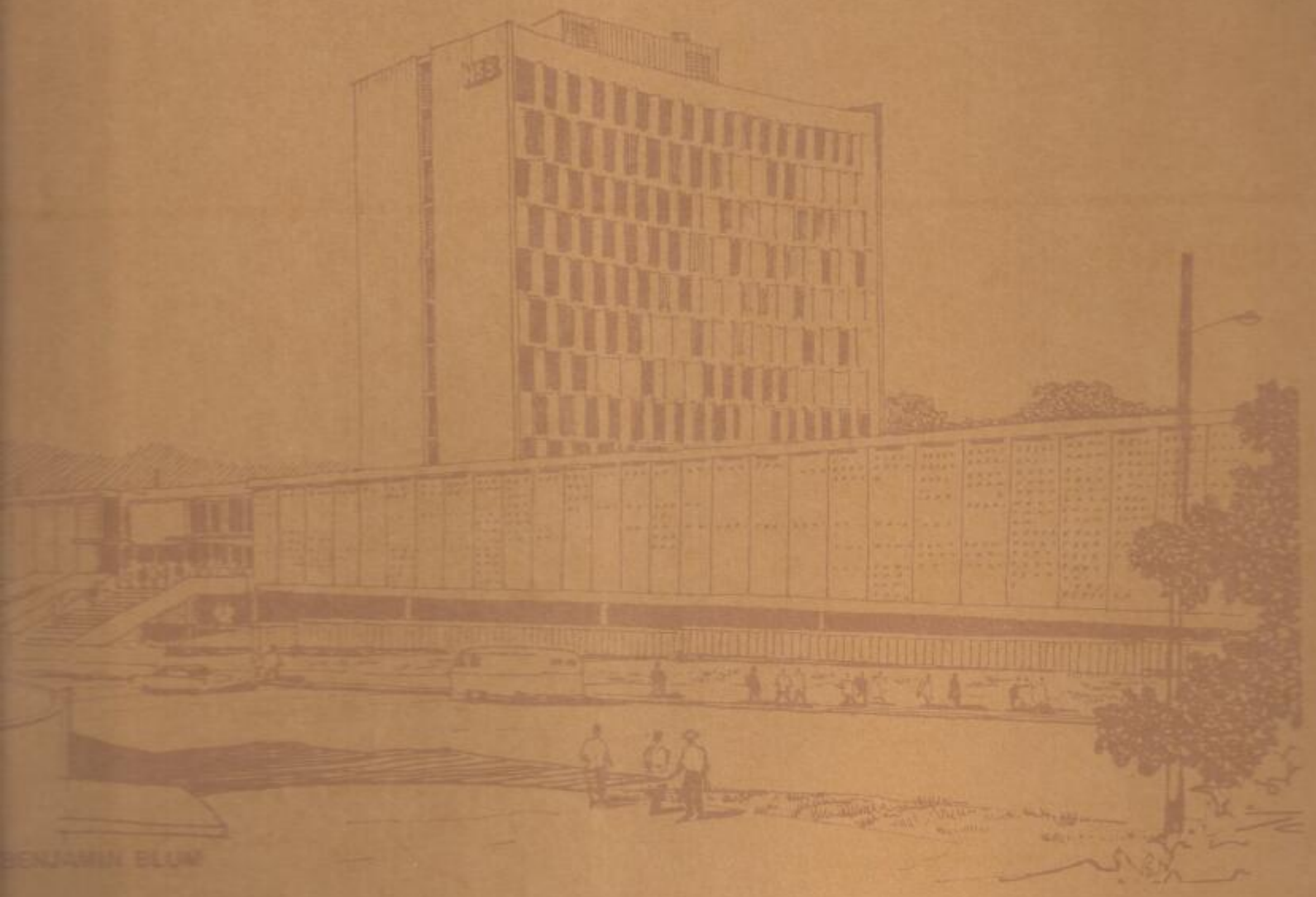
p.19	Title	for Conjestion, read Congestion
	Title	for Commercial, read Comercial
p.21	legend 17	for RMSS, read AMSS
	legend 17	for MVEVA, read NUEVA
p.23	Title 19	for Fluencia, read Flujo
p.25	legend 22	for Rios Principales conta, read Principales Contaminados
p.36	legend 30	for Rios Nucleo Urbano de la Republica, read AMSS
p.49	Title 42	for Calle Del Borde, read Calle al Margen
p.51	Title 45	for Trendencias, read Tendencias
p.53	Title 46	for Hueseca, read Huesera
p.55	legend 48	for billiones de Colones, read Mil millones de colones
	legend 48	for IVERSIONES and INVERCIONES, read INVERSIONES
	legend 48	omit Doble Comparativa
p.60	Contents - B-2	for Growth Role, read Growth Pole
	- B-5	for Growth Roles, read Growth Poles
p.62	col.1 subhead 2	for Growth Role, read Growth Pole
p.63	col.1 subhead 5	for Growth Roles, read Growth Poles
p.65	Title 50	for Metropolitano, read Metropolitana
p.87	col.2 line 12-13	for haphazare, read haphazard
p.88	col.1 line 17	for Santa Anna, read Santa Ana
p.91	Title	for Aero del Nodo, read Aerea a un Nuevo Nodo
p.94	col.2 line 12	for Middle Hills, read Cerros de Mariona
p.121	Title 77	for Ruines de Sandres, read Ruinas de San Andres



PLAN DE DESARROLLO METROPOLITANO HASTA 1980

KM 1



PART VI
THE SPATIAL DEVELOPMENT PLAN

TENTS

SPATIAL DEVELOPMENT PLAN

A. REGIONAL SPATIAL POLICY FOR THE VERY LONG-RANGE FUTURE

1. Providing A Frame of Reference for the Medium-Range Development Plan

The Spatial Policy of Continued Urbanization discussed in Part V, with its consideration of economic advantage and conservation of resources, provides an important set of policy guidelines for an effective Medium-Range Spatial Development Plan, to cover the period from the present until 1980.

In addition to this Strategy, a second set of spatial policy guidelines for the 1980 plan is provided by a plan for a desirable pattern of urbanization and open spaces for the very long-range future, 1990 and after. Chief determinant of such a spatial arrangement is the site itself - the Volcano, the areas of flat land, the water bodies, and the hilly terrain, with all their potentials and limitations. These characteristics will determine the ultimate shape, type and location of urbanization in the Region.

This section (A) describes this Spatial Policy for the very long range future; in Section B onward the Spatial Development Plan for 1980 is described.

2. Proposed Elements of the Urban Structure

Recommendations for a very long-range urban structure, to be achieved at such time after 1980 when the population of the Metropolitan Region will number several millions, is shown as Illustration 67

Major elements of this long range proposed urban structure are as follows.

Urbanization is concentrated on the most level lands at the base of the Volcano. Major urban agglomeration extends from San Martin to Santa Tecla in an east-west direction, and from Apopa to Santo Tomas in a north-south direction. The area between Apopa and Quezaltepeque is also heavily urbanized, as is the area between the Rio Acelhuate and the ravine of the Rio Las Canas. A second satellite city is located to the west of the Volcano in the vicinity of Lourdes.

Adjacent to the central areas of intensive urbanization, provision is made for a variety of special land uses, including homes for families of low income within a semi-urban environment. Such areas make up an outer band of peripheral development, located on hilly land just beyond the band of intensive urbanization.

Major industrial areas are generally located at the outer edge of the urbanized band, readily accessible to all groups of the urban and rural populations.

A hierarchy of urban cores supplements the Regional Core in San Salvador. A new regional core of complementary nature, but of lesser importance, is located north of the Cerros de Mariona. This core serves the northern part of the Region.

In addition there are numerous subregional cores shown, including Lourdes, Santa Tecla, Caribe, Soyapango, Mejicanos and Zacamil.

The major element of the highway network is an expressway system which links the east-west and north-south national highways. This system accommodates high speed buses, as well as automobiles and trucks, and provides access to major urban cores and industrial districts. The expressway system is complemented by a system of major arterial routes linking the various urban districts.

The overall land use pattern calls for major industrial areas, urban cores, and recreational and institutional complexes to be located in all parts of the urbanized area, connected by an efficient and balanced transportation system, in order to distribute economic and social benefits with a minimum of congestion.

3. Elements of the Open Space System

Permanent open spaces form a most important complement to the urbanized areas.

Publicly-owned recreational and institutional areas are the most critical element. El Boqueron is the central point or hub of the system. From the crater radiate spokes of park land which extend down the Volcano, linking scenic features and penetrating urbanized areas with continuous bands of greenery.

There are five such green spokes: (1) Los Chorros, (2) Cerros de Mariona, (3) Cerro de Nejapa, (4) the lava fields, and (5) Lago de Chanmico; all to be developed for public use.

In the lowlands, these spokes provide sites for regional facilities such as schools of higher education, community centers, and recreational facilities for the masses of the people. On the slopes of the Volcano, they contain recreational and tourist attractions such as funicular railroads, hiking paths, bridle trails, lookouts and picnic spots.

In addition to providing green spaces for the northern part of the Metropolitan Area, the Cerro de Nejapa spoke is particularly important for water resource management and land conservation. Keeping urban development off the Cerro de Nejapa and away from the system of deep quebradas that drain this slope of the Volcano also affords effective measures of reforestation and flood control.

The lava fields are a highly special case and will require more specific geologic and market study to determine their most appropriate treatment.

Included among public open spaces are the picturesque ravines of the Rio Las Canas and the Rio Acelhuate. Lands adjacent to the highway to Santa Ana are reserved for institutional and recreational uses, stabilizing the public land pattern established by such features as the Race Track, the Escuela Normal Alberto Masferrer and the Ruins of San Andres.

Special conservation areas form a second element of the open space system. A key area comprises the Volcano slopes above the 900-meter level. To maximize their usefulness in recharging the water supply system, these slopes are shown as being maintained in forested use under private ownership, to be used as coffee plantations and orchards. Limited developments, such as agricultural settlements, farm houses, and weekend homes would also be permitted. Only below the 900-meter level would intensive urban development be permitted.

A second conservation area is the watershed of the Lago de Ilopango, including most of the slopes of San Jacinto. To preserve the primeval scenic quality and protect the water body from pollution, this area is indicated as a National Park. While existing private uses might be continued within the watershed, a master landscape plan would exclude new urban development and provide for recreational and tourist attractions and reforestation. Key hill slopes, such as the Cerro Guaycume and the Cerros de Santa Maria, are also conserved in forested open use.

In addition, numerous quebradas are preserved as open spaces because of their importance for storm water drainage. Various small recreational and scenic spots, such as Las Delicias, are preserved and developed for public use.

A third element of the open spaces system is the two types of agricultural areas. The first consists of prime agricultural land which is flat, well-watered and extremely fertile. Such lands, reserved exclusively for intensive cultivation without settlement, are in the Valle de Zapotitan and in the vicinity of San Andres and Quezaltepeque.

The second type, areas of broken and hilly land, are more suitable for forests, orchards, cattle grazing, and small-scale agriculture. These lands would contain rural dwellings and settlements.

B. PROPOSED DISTRIBUTION OF URBAN POPULATION TO 1980

1. Population in the Total Metropolitan Region

Of the present MRSS population of about 508,000 inhabitants, 457,000 people or 90 percent are now within the Metropolitan Area. Of the total population gain of 465,000 projected for the entire Region by 1980, 418,000 will be located in the Metropolitan Area. It is estimated that the 47,000 people to be located outside this Area will be distributed according to recent trends. Accordingly, the Valley of Apopa-Quezaltepeque will accommodate 20,000, the greatest increase of all areas outside the central Valley. The remaining 27,000 are equally distributed among the San Martin-Tonacatepeque area (east), the Santo Tomas-Santiago Texacuanges area (south), and the Valle de Zapotitan area (west), each with 9,000.

2. Population in the Metropolitan Area

The Metropolitan Area has been divided into three main zones: (1) Urban Complex, which includes the compact urbanized area of San Salvador, Ayutuxtepeque, Mejicanos, Ciudad Delgado, Cuscatancingo and San Marcos, (2) Eastern Zone, which is composed of the Soyapango-Ilopango area, and (3) Western Zone, which is formed by Santa Tecla and Antiguo Cuscatlan.

While the Urban Complex has the greatest population increment of any zone, 199,000 people, this represents a percentage increase of only 20 percent. The Eastern Zone, on the other hand, gains 113,000 persons, an increase of 400 percent, caused by the impact of the Soyapango-Ilopango Industrial Complex. The Western Zone gains 101,000 population, an increase of 300 percent, due to development of new lands. An additional 5,000 people are absorbed in scattered developments on the periphery of the Eastern and Western Zones.

C. SPATIAL DEVELOPMENT PLAN TO 1980

1. Nature of the Medium-Range Spatial Development Plan to 1980

The Medium-Range Spatial Development Plan to 1980 is a key tool to carry out developmental policies according to the Spatial Policy of Continued Urbanization discussed in Part V. It defines the pattern of developed areas and open lands that should be achieved within a ten-year period. This time span coincides with two periods of the National Five-Year Development Plan which deals with measures of economic and social progress.

The plan expressed in map form provides guidelines at two scales for clarity. That part of the Metropolitan Region in the long-range path of urbanization is covered at a more coarse-grained scale (Illustrations 70 and 71), whereas the Valle de las Hamacas, where urban development is to be concentrated for the next ten years, is covered in greater detail (illustrations 74 and 75). For convenience, the Valle is referred to as the Metropolitan Area.

2. Spatial Development Plan to 1980

The Development Plan for the total MRSS to 1980 (Illustration 71), concentrates urban growth in the Metropolitan Area in accordance with the Spatial Policy for Continued Urbanization and the recommended Distribution of Urban Population. For the remainder of the total Region, developmental measures are largely confined to providing for normal growth of the outlying municipalities and to reserving land for open spaces and urban development after 1980.

Table 15

EXISTING AND PROPOSED DISTRIBUTION OF URBAN POPULATION IN THE MRSS

(in thousands of persons)

Area	Estimated 1966 Distribution		Distribution of Projected increment		Distribution of Total Population for 1980	
	No.	%	No.	%	No.	%
Total MRSS	508	100	465	100	973	100
Total Metropolitan Area	457	90	418	90	875	90
Rest of MRSS	51	10	47	10	98	10
North	22	4	20	4	42	4
East	8	2	9	2	17	2
South	7	1	9	2	16	2
West	14	3	9	2	23	2
Total Metropolitan Area	457	90	418	90	875	90
Urban Complex	394	77	199	43	593	61
Zone East of U.C.	28	6	113	24	141	15
Zone West of U.C.	35	7	101	23	136	14
Area of Restricted Peripheral Development			5	---	5	---

PLAN DE LA DISTRIBUCION DE LA POBLACION URBANA HASTA 1980: RMSS

LEYENDA

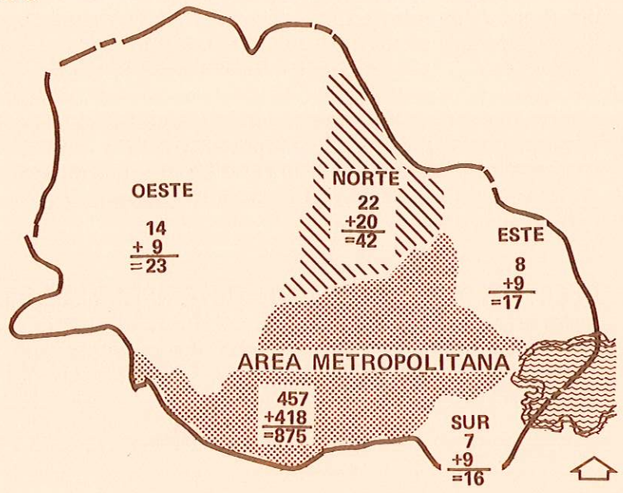
POBLACION URBANA 1966

\+ CRECIMIENTO 1966–1980

= POBLACION URBANA 1980

MILES DE PERSONAS

(68)



(69)

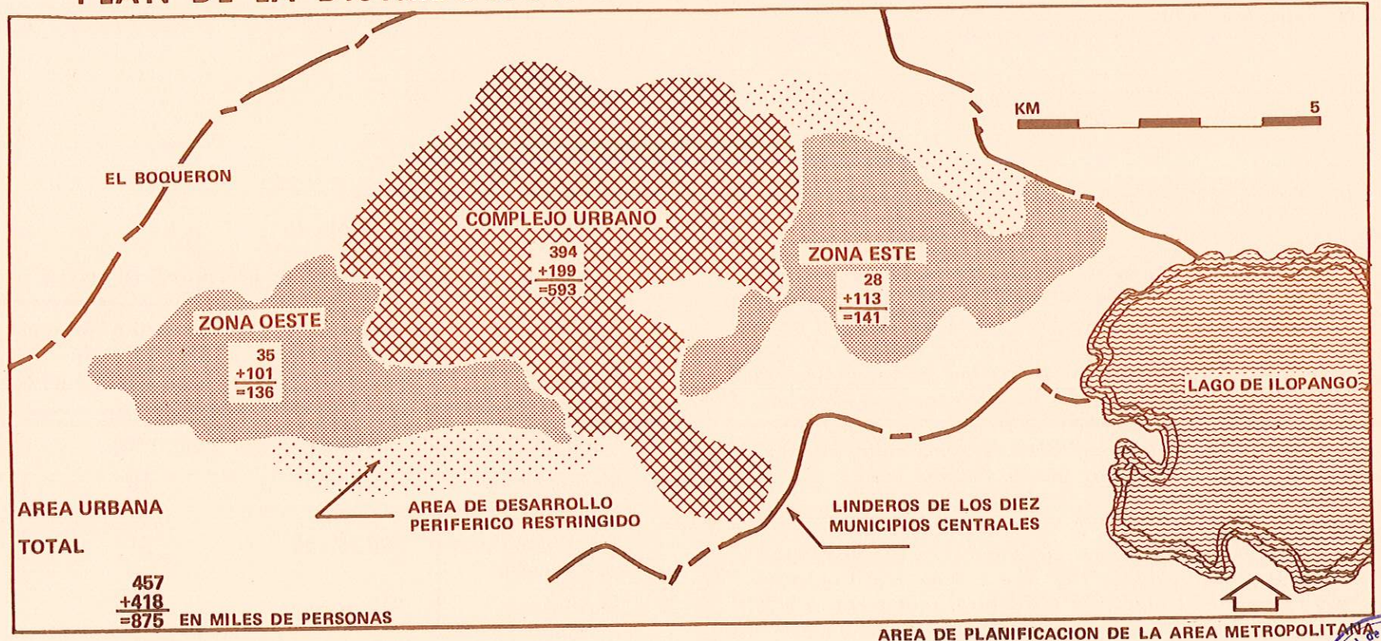
LEYENDA

POBLACION URBANA 1966

\+ CRECIMIENTO 1966–1980

= POBLACION 1980

PLAN DE LA DISTRIBUCION DE LA POBLACION URBANA HASTA 1980



AREA DE PLANIFICACION DE LA AREA METROPOLITANA

Illustration 70 deals with urban and rural land uses, and with the major circulation network. Existing developed areas are differentiated from proposed future development, but differences of land use are not shown in areas already developed.

Illustration 73 diagrams the proposed structure of industrial and commercial nodes in relation to the circulation network and in relation to the proposed pattern of residential densities.

Illustration 74 diagrams those facilities which support the residential structure of the Plan and shows residential areas by density, commercial nodes of subregional and district levels, and major institutional and recreational facilities.

D. URBAN LAND

In this section are discussed specific proposals of the Development Plan to 1980.

1. Residential Areas

Future growth areas in and around the Valle de las Hamacas are indicated in Illustration 68. A straight-line reading of population trends to 1990 shows for 1980 an increment of 345,000 inhabitants within the Valle, or 75 percent of the total population increment for the entire MRSS up to 1980. However, since the Metropolitan Area has accounted for 90 percent of recent growth, a higher proportion of the 1980 increment is assigned here; 418,000 in the Valle de las Hamacas and 47,000 outside.

Existing housing types and gross densities for developed land are shown in Table 16. These same density ranges may be applied to the new residential increment to occur on vacant land. The figures for developed land make no allowance for rough land or scattered vacant lots, but do allow for major non-residential uses. On vacant land, allowance is made for small amounts of rough land and vacant lots, but major non-residential uses are excluded. In both cases, net residential land use is about 65 percent of the total land measured, assuming the same percentage distribution for the added population now existing.

Land within the Valle or Metropolitan Area provides space for about twice the expected population increment thereby allowing ample freedom of choice, but at the same time insuring the economies inherent in compactness.

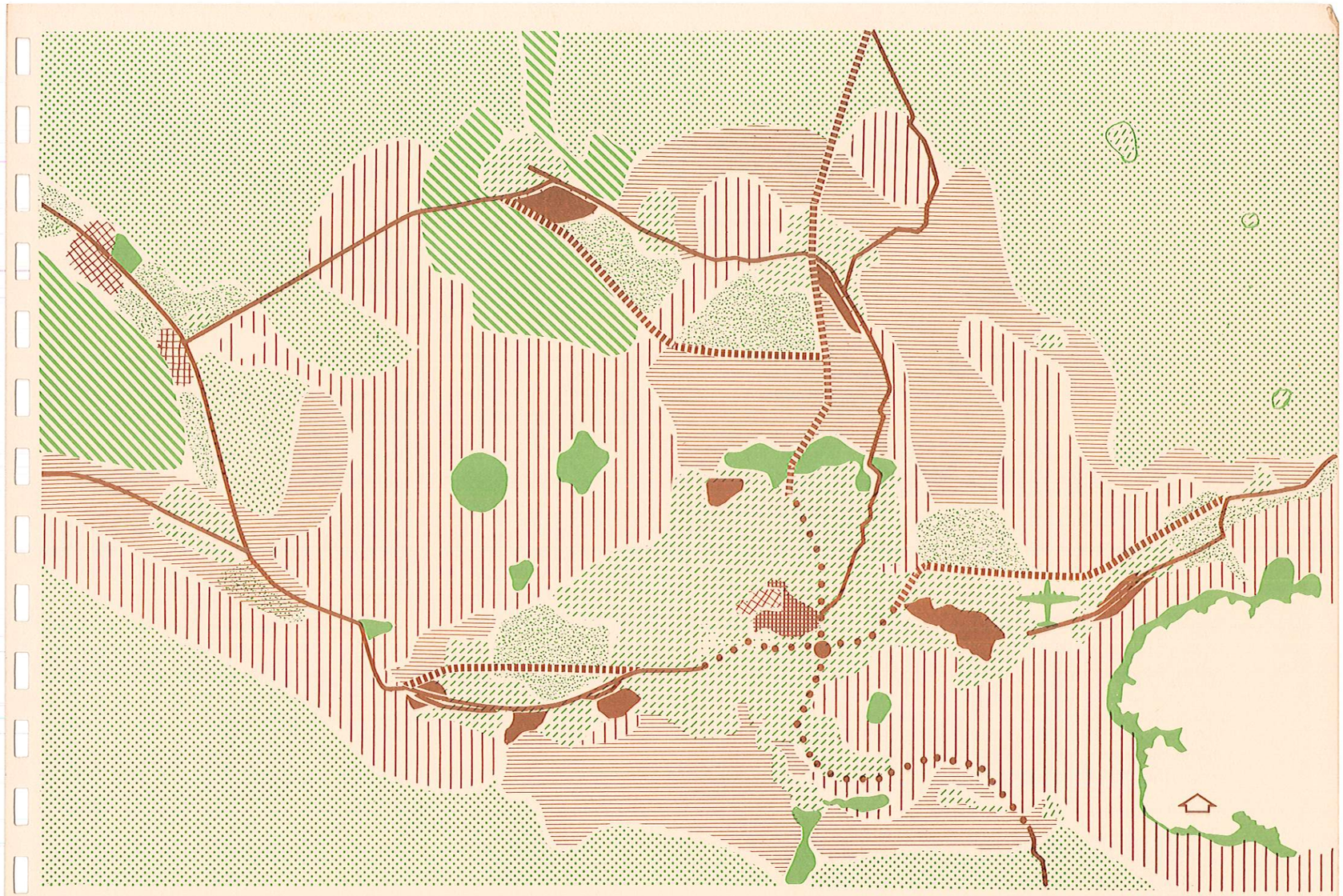
The entire land area was broken down into smaller units which together form Community Spatial Organization for development purposes:

"Environmental Areas" determined in a previous technical report were defined according to physical, economic, social and institutional criteria. Each such area would be a relatively small planning unit whose urban elements (such as land, income category, communal services, etc.) would form a whole. Once this natural unity has been identified, it would be stimulated and reinforced through the provision of adequate public services and communal facilities.

Table 16

EXISTING HOUSING TYPES AND GROSS DENSITIES

Predominant Dwelling Type	Density (population/dev. land, all uses)	Percent of present Population in Density Category
Luxury	55 or less	5%
Single family Medium income	70 to 85	13
Single family Low income	100 to 165	31
Multi-story Mesones Low income	210 or more	51



70

PLAN DE DESARROLLO REGIONAL HASTA 1980

AREA URBANIZADA

- COMPLEJOS COMERCIALES Y DE SERVICIOS
- COMPLEJOS INDUSTRIALES
- INSTITUCIONES Y ADMINISTRACION PUBLICA
- RECREACION Y TURISMO
- TRANSPORTE
- AREAS RESIDENCIALES

AREAS NO URBANIZADAS

- DERECHOS DE VIA RESERVADOS
- DESARROLLO RESTRINGIDO CRITICO
- CONSERVACION Y REFORESTACION
- ZONA AGRICOLA Y BOSQUES
- DESARROLLO PERIFERICO RESTRINGIDO
- ZONA AGRICOLA PRIMARIA

RED DE CIRCULACION

- AUTOPISTA
- INTERSECCION DE AUTOPISTAS

Three main levels of development units have been identified at the urban scale: (1) the neighborhood, at the small end of the scale; (2) the sub-district; and (3) the district. Standards of area and population for each such unit are:

Neighborhood - a population of 3,000 to 5,000 inhabitants in an area of approximately 25 hectares, with four hectares in non-residential uses.

Sub-District - a population of 10,000 to 20,000 inhabitants in an area of approximately 100 hectares, with 15 hectares in non-residential uses.

District - a population of 40,000 to 80,000 inhabitants in an area of approximately 400 hectares, with 37 hectares in non-residential use.

The Medium-Range Spatial Development Plan to 1980 located all residential areas according to the structure provided by the Communal Spatial Organization. Within the eighteen Districts defined in the Valle de las Hamacas, new residential areas have been planned according to present and future land availability, and in terms of present and future public services and communal facilities (see Illustration 75).

The 1990 analysis which identified existing trends in population distribution was recognized for the Spatial Development Plan to 1980. Some modifications were necessary due to an analysis of the land's absorption capacity at a more detailed scale.

Inside the Valle de las Hamacas, the area called the Urban Complex has trends so well established, and vacant land so limited, that a mathematical progression can be made of population trends. By 1980 it will accommodate an increment in population of 199,000, distributed as shown on Illustration 69.

No new policies affecting population distribution are needed here and, in fact, such policies could not be effective in the short time span needed to absorb the land within this area.

However, in the areas lying east, south and west of the Urban Complex, within the Valle de las Hamacas, the capacity for holding nearly 500,000 additional people will more than contain the remaining 1980 increment. This should be distributed as follows:

50% or more saturation in the districts extending east to the airport in the Soyapango area, but not crossing the route of the proposed expressway (post-1980) to the north.

50% or more saturation in the districts south of San Benito and the proposed expressway, and extending west to Santa Tecla, but without crossing the Pan American Highway to the north. This development would be from medium to high density, and would contain a new commercial node.

50% or more saturation around Santa Tecla extending east to the intersection of the Pan American Highway and the highway to La Libertad, and north to the alignment of the new proposed expressway (post-1980).

Any additional increment in population not foreseen could utilize the open land between Santa Tecla and the Urban Complex providing drainage and water problems are solved.

2. Business Areas

Of the Region's business activity, 97 percent is located within the Metropolitan Area and 83 percent in the Urban Complex.

Even though small-scale commerce is accepted as a given by the medium-range plan, it is not shown on the Illustration. Only those business activities from neighborhood up to regional scale are shown.

Of the approximately 300 hectares of new non-specialized commercial establishments needed for the MRSS for the target year, 250 hectares will be located within the Valle de las Hamacas. This new business activity is distributed as follows:

Neighborhoods, approximately 0.5 hectares
Sub-districts, approximately 2.0 hectares
Districts, approximately 8.0 hectares

The Spatial Development Plan to 1980 shows a well-organized structure of business activity. Each neighborhood contains an appropriate commercial center; similarly, the sub-districts have been assigned the required amount of commercial land. At the district scale, however, the determining factor was not central geographic location but, rather, the identification of existing trends for the location of commercial development.

Business activity, as shown on Illustration 71, is located as follows: one main regional core in the center of the Urban Complex; seven sub-regional cores: to the west, one at the intersection of the proposed expressway and the highway to Santa Tecla and another in the center of Santa Tecla; to the south, one in the Presidential Palace area; to the east, one in the Soyapango area; and to the north three more - one at the Mejicanos area, another at the Zacamil area, and the last in the Colonia Miramonte area.

At the district level there would be additional cores: to the north, one in the Ayutuxtepeque area, one in the Villa Delgado area and one in the San Miguelito area; to the east, one in the Avenida Independencia area, one in the Santa Lucia area, and one in the Ilopango area; to the south, one in the San Marcos area and one in the Monserrate area; and to the west, one in the Caribe area and another in San Antonio Abad.

Assuming the same relationship of land use distribution as now exists, approximately 12 percent of the total land to be developed is needed for commercial purposes.

Among the most effective devices to establish a compact, efficient community spatial pattern are prosperous, properly located commercial centers. Towards this objective strict controls as well as incentives must be provided to guide the formation of these business centers.

In the hierarchy or levels of community spatial structure, the following types of business activites are recommended for each general level:

Neighborhood - 1.0 square meter per inhabitant plus 1,000 square meters for parking. Goods and food stores for everyday use would be here.

Sub-District - 1.0 square meter per inhabitant plus 4,000 square meters for parking. This center would include a wide variety of food stores, household goods, bank branches, bookstores, barbershops, beauty parlors, flower shops, pharmacies, restaurants, service stations, general household goods repair, etc.

District - 1.0 square meter per inhabitant plus 1.5 hectares for parking. This center would include banking centers, department stores, supermarkets, restaurants, hardware stores, furniture stores, appliance stores, dry cleaners, service stations, jewelry shops, bookstores, shoe shops, general repair, night clubs, etc.

3. Industrial Areas

All Central American nations are competing to attract new industries. Therefore, a most important incentive is the provision of adequate, fully served and available sites.

Considerations guiding the Spatial Development Plan to 1980 have been: first, to locate the proposed industrial sites advantageously in terms of transportation facilities, labor force, and infrastructure (existing and potential); second, to allow sufficiently large areas for a grouping of compatible establishments to assure economies of scale; and third, to assure sufficient land in the MRSS that a choice of site location could be made by the new industrialist.

Of the total industry in the Region, 80 percent is located within the Valle de las Hamacas, with only 10 percent in the Urban Complex. The Soyapango area has the bulk of industrial development with approximately 65 percent of the total industrial land.

Straight-line interpolation from the 1990 estimates of industrial development show that, for the target year 1980, 500 hectares of new industrial development is expected in the MRSS. Based on existing trends, 50 of these hectares will be located within the Urban Complex

AREA URBANIZADA

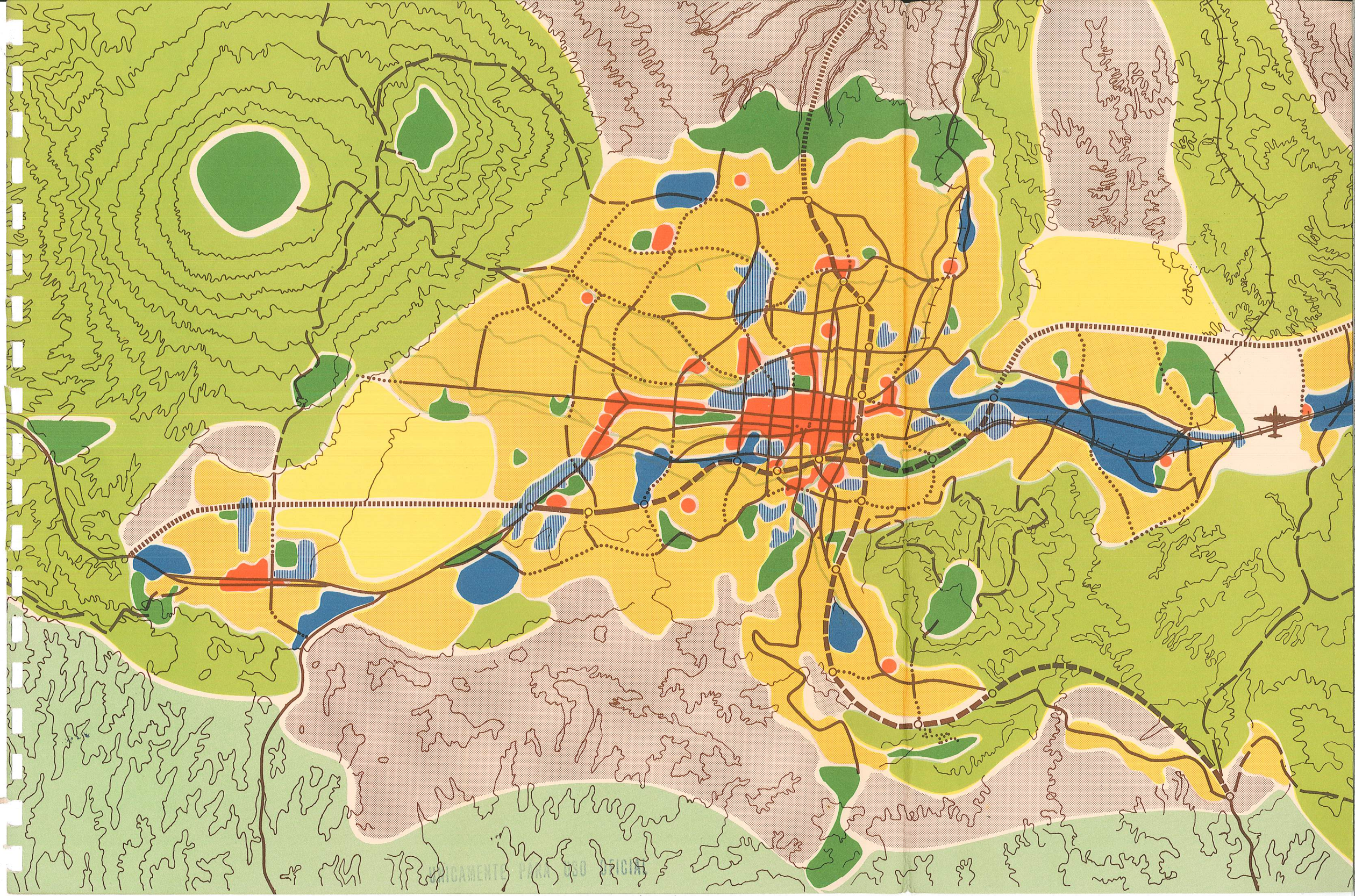
- AREAS RESIDENCIALES
- COMPLEJOS COMERCIALES Y DE SERVICIOS
- CENTROS COMERCIALES DE DISTRITO
- COMPLEJOS INDUSTRIALES
- INSTITUCIONES Y ADMINISTRACION PUBLICA
- RECREACION Y TURISMO
- TRANSPORTE

AREAS NO URBANIZADAS

- DERECHOS DE VIA RESERVADOS
- DESARROLLO RESTRINGIDO CRITICO
- CONSERVACION Y REFORESTACION
- ZONA AGRICOLA Y BOSQUES
- DESARROLLO PERIFERICO RESTRINGIDO
- LAGO DE ILOPANGO

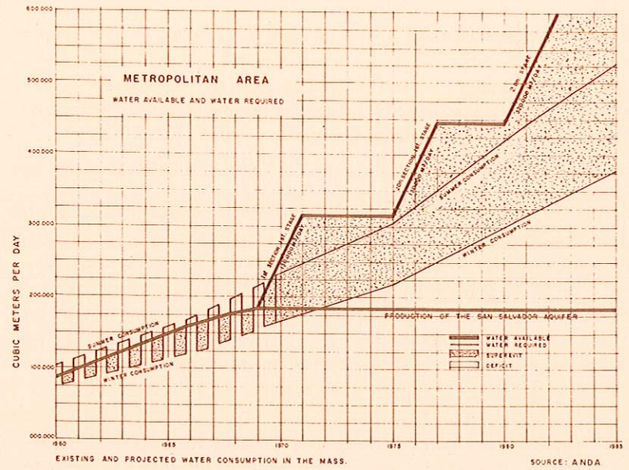
RED DE CIRCULACION

EXISTENTE	PROPUESTA	
———	— — —	AUTOPISTA
———	•••••••••	VIAS PRIMARIAS
— —	•••••••••	VIAS TURISTICAS
	●	INTERSECCION DE AUTOPISTAS
	○	INTERSECCION DE VIAS PRIMARIAS Y AUTOPISTA



PLAN DE DESARROLLO METROPOLITANO HASTA 1980

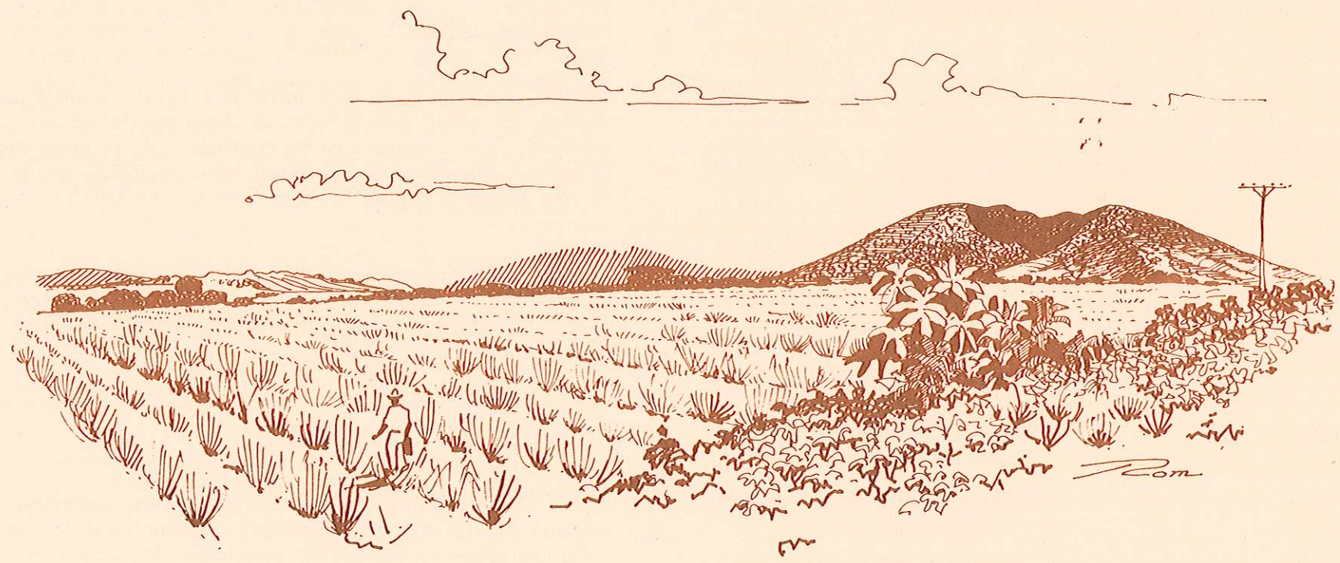
KM 1



EXISTING AND PROJECTED WATER CONSUMPTION IN THE MASS.

SOURCE: ANDA

LA DISPONILIDAD Y LA NECESIDAD DEL AGUA EL AREA



ASPECTO ESCENICO DEL VALLE DE APOPA-QUEZALTEPEQU

3. Sewage Disposal

When ANDA was created and given the necessary financial support, three main collectors were installed: Collector One which services Ayutuxtepeque, Mejicanos and Cuscatancingo and discharges its waste into the Urbina River; Collector Two which services Colonia Escalon, Miramonte, Centroamerica, and Duenas and discharges its waste also into the Urbina River; and Collector Three, the longest, which originates in Santa Tecla, passes through La Ceiba, San Benito, La Mascota and San Francisco and continues on the southern portion of the Region until it discharges into the Acelhuate River.

All these rivers run north to the Lempa River, polluting considerable sections of their tributary areas. Adequate control measures are essential and investment in one or more treatment plans must be undertaken.

Table 18

EXISTING AND FUTURE TOTAL SEWAGE FLOW

IN THE METROPOLITAN AREA
(RESIDENTIAL)

	1965	1980	Complete Development
Total Urban Population	412,300.0	740,700.0	1,097,400.0
Qm	1,265.3	2,987.6	5,148.0
Q_1	2,733.0	6,453.2	11,119.6
Q_2	589.7	1,059.1	1,569.5
Q_d	4,984.0	11,268.0	19,033.5

Qm	----------	Median flow per day in liters per second
Q_1	----------	Maximum flow per day in liters per second
Q_2	----------	Number of hectares x 0.20, in liters per second
Q_d	----------	$(Q_1 - Q_2)$ 1.5, in liters per second

4. Storm Drainage

Each rainy season, the human and material loss, obstruction of highways and streets makes ever more obvious the inadequacy of the storm drainage system. With the pace of urbanization, paved surfaces increase and therefore the absorption capacity of the soil is significantly reduced. An immediate and exhaustive study of the problem is essential. Controls over proposed subdivisions must include a thorough review of storm drainage needs and of the effects of such development on surrounding areas.

5. Electric Power

Electric power in the MRSS is fully satisfactory. The National System of CEL provides sufficient current for present industrial and residential uses and the capacity of the generating plants at Central Hidroelectrica 5 de Noviembre, Central Termica de Acajutla, and Central Hidroelectrica de Guajoyo are sufficient for the planned future regional growth.

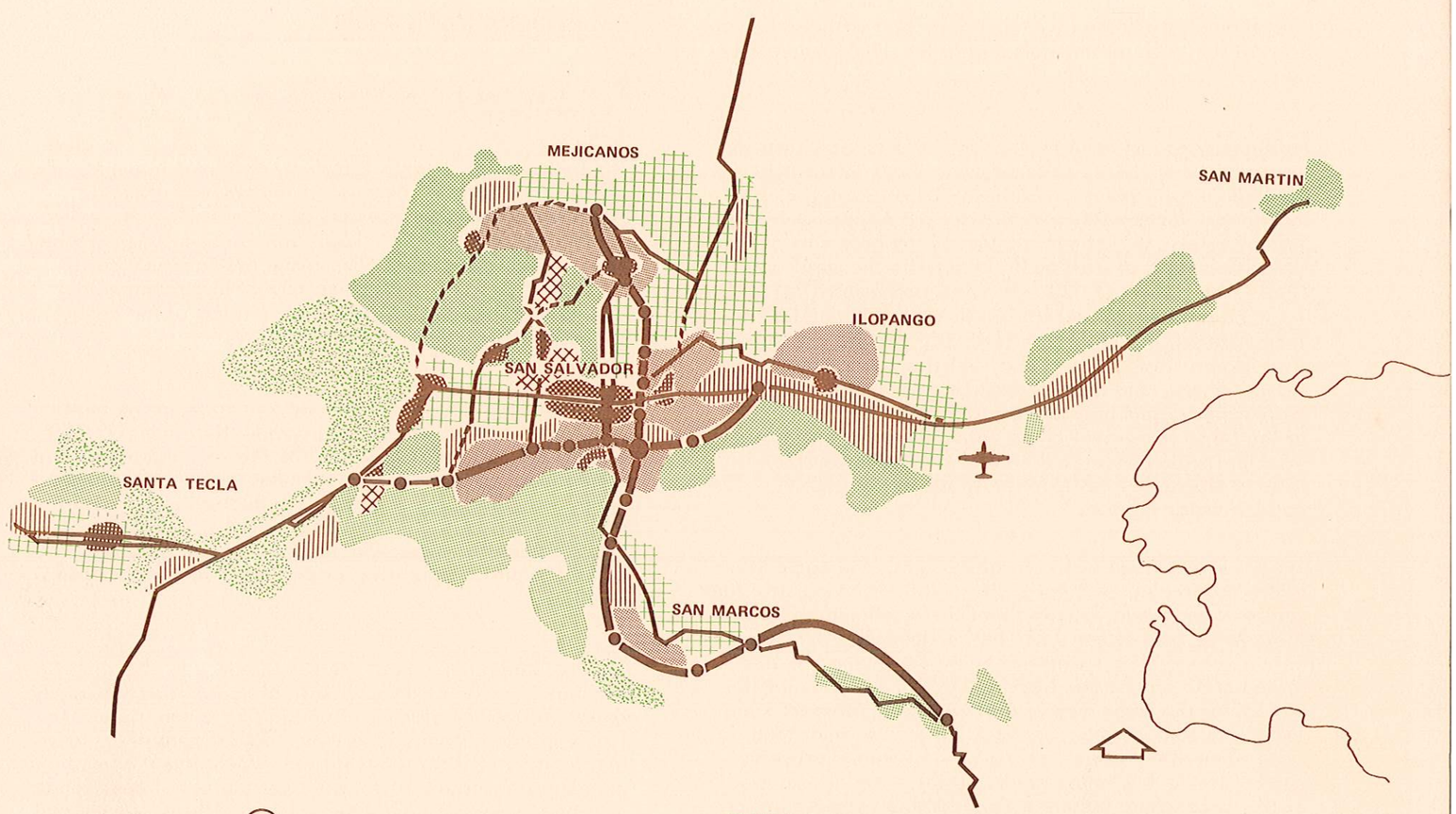
6. Communications

ANTEL, with the extensive national network recently installed, has made great strides in improving telephone service. Improvement must be continued at the same pace to provide adequate international communication and to service foreseen population increases for the MRSS.

The postal service of the MRSS has a very limited number of facilities as well as an obsolete central office which will require replacement with a larger, modern facility within the Regional Core.

7. Recommended Service Areas

The three main public utilities such as water, sewerage and storm water drainage, are major determinants in the 1980 Development Plan. The population increment in the Valle de las Hamacas has been distributed largely reflecting the feasibility of providing a potable water system, an adequate sewerage network, and storm drainage.



74

ESTRUCTURA PRODUCTIVA Y DENSIDADES RESIDENTIALES DEL AREA METROPOLITANA

ESTRUCTURA ECONOMICA

- AREA COMERCIAL
- AREA INDUSTRIAL
- AREA INSTITUCIONAL

DENSIDADES RESIDENCIALES

A
- ALTA 500 HAB/HA
- MEDIA ALTA 250 HAB/HA

M
- MEDIA HAB/HA

B
- BAJA HAB/HA

The study area as used by ANDA coincides with the boundaries of the Valle de las Hamacas in the 1980 Development Plan.

Preliminary estimates of per capita water service costs in several parts of the Valle serve as an index to identify the high priority areas. Within the Urban Complex, the initial cost for providing water from the Apopa aquifers is approximately ₡ 100 per capita. In the area east of the Urban Complex, as well as in the area to the west, per capita cost rises to ₡ 120. This is a strong justification to place close to 50 percent of the Valle's population increment within the Urban Complex. Present saturation in this area, high cost of land, existing urbanization on the periphery, and the new service area for the metropolitan water system proposed by ANDA justify the location of the other 50 percent of the Valle's population increment in the areas east and west of the Urban Complex in spite of the higher cost per capita for installation of potable water service.

The MRSS has three distinct water basins: the Sucio River basin; the Acelhuate River basin; and the Changuiste-Quezalapa River basin. The basin of the Acelhuate River contains 98 percent of the Valle de las Hamacas, excluding only a very small area west of Santa Tecla and the area immediately around San Martin. This is a partial justification for the large reserve area proposed between Santa Tecla and San Salvador, because all sewage and storm water from the area west of the Urban Complex must be carried to the Acelhuate River. Total urban development of this area would require a considerable increase in the capacity of the sewer main which originates in Santa Tecla, as well as special treatment to the arenales and bridges which cross them.

As a general rule, the Development Plan does not propose development in those areas which are difficult or very costly to serve with basic utilities.

Preliminary calculations have been made for each sub-district and district to determine public water and sewage disposal needs for the increased population of 1980. Due to the lack of detailed information on the different types of industry and their exact distribution within the MRSS, the calculations did not include figures for industry; they deal only with residential land uses.

Service areas have been assumed to be the same as those for the population distribution studies, that is: neighborhood, sub-district, and district.

F. REGIONAL OPEN SPACE

1. New Demands on Open Spaces

The Metropolitan Region is already deficient in public recreational spaces. Because of the absence of public controls over privately-owned open lands, they are vulnerable to urban sprawl. Today this is not a serious problem. Public demand for open space recreational facilities is not yet great, and the pattern of large land holdings has, up to now, preserved large tracts of the countryside in their natural state.

This situation, however, is bound to change in the next ten years. Growth of the urban population from 508,000 to 973,000 will put a strain on the few existing public recreational open spaces. As the Region becomes more urbanized, the level of demand for public recreational facilities will be higher and consequently, recreational facilities must be expanded not only for a much larger urban population, but also for a more recreation-minded population.

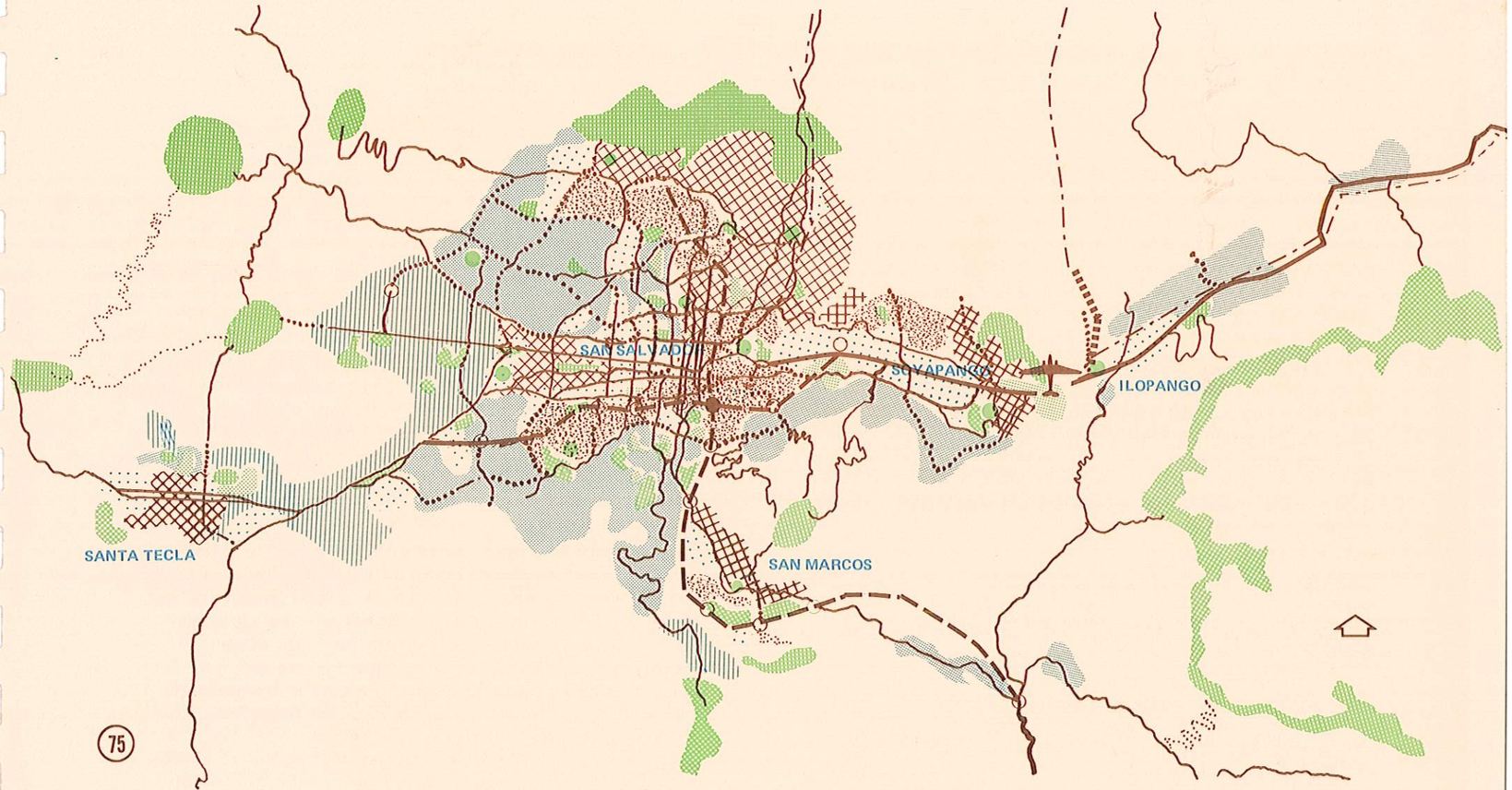
The rapid urban growth of the coming decade also threatens the character of the agricultural countryside. Already there are isolated clusters of housing for urban workers in inappropriate outlying locations. Defacement of major highways by billboards has started. Measures to secure an adequate measure of control over the use of open lands in private ownership are essential to facilitate orderly and economical growth and to preserve the productivity and beauty of the countryside.

2. Land Acquisition and Reservation Measures

It is proposed that all open lands in the Metropolitan Region be subject to planning control, using three measures:

Direct public ownership of strategic open areas which are highly suited for recreational or institutional use, or are critical for flood control, erosion prevention, or water recharging.

Regulations to prevent inappropriate urban development on lands that are judged critical for future urban expansion.



LA ESTRUCTURA RESIDENCIAL, FACILIDADES COMUNALES Y RECREACIONALES DEL AREA METROPOLITANA

DENSIDADES RESIDENCIALES

- ALTA 500 HAB/HA
- MEDIA ALTA 250 HAB/HA
- MEDIA 150 HAB/HA
- BAJA 50 HAB/HA

	EXISTENTES	PROPUESTAS
AUTOPISTA	———	- - - -
VIAS PRIMARIAS	———	.....
CAMINO	———	.....

SERVICIOS PUBLICOS Y RECREACION

- CENTROS COMERCIALES DE DISTRITO
- INSTITUCIONES Y ADMINISTRACION PUBLICA
- RECREACION Y TURISMO
- TRANSPORTE
- ESTRUCTURA ECONOMICA
- INTERCAMBIO

Establishment of a minimum degree of control over privately owned vacant lands for the purposes of insuring appropriate urban development and of conserving natural resources.

Lands to be retained in open uses are classified as follows:

For Public Acquisition

Recreational and tourism areas

In Private Ownership but Reserved for Critical Urban Expansion

Expressway rights-of-way
Strategic areas needed for urban development

In Private Ownership but Subject to Development Controls in the Public Interest

Conservation areas
Prime agricultural areas
Agricultural and forest areas
Peripheral urban areas

In accordance with the basic concept of the Development Plan, such classification would be reviewed periodically as the Plan is brought up to date and extended for the next decade of development. Each classification is discussed in detail below:

3. Recreational and Tourism Areas

It is proposed that by 1980 key scenic spots described below adjacent to the Metropolitan Area be acquired in public ownership for purposes of public recreation and tourism. While some recreational and tourist facilities may be acquired before 1980, most lands must be thought of in terms of reserves to meet the needs of generations into the future.

The Cerros de Mariona - This range of hills is the most important public recreational space proposed by the Spatial Development Plan. It is rapidly being taken over by illegal subdivisions. Unless prompt action is taken to acquire those areas still vacant, a most important recreational asset will be lost.

Recreational and open space potentials of the hills are many. In their present open state, they provide sites for picnic areas, trails, and lookouts, all of which can be developed at relatively little cost. Ultimately, they will occupy a central position in the large urban agglomeration extending from San Marcos to Apopa, and their facilities will be easily accessible by the north-south expressway and other major routes. As the need grows, they can provide sites for public recreational facilities for more intensive use by the masses of people, such as children's playgrounds, sports fields, swimming pools, and fairgrounds. Totally developed, they would be a People's Park.

El Boqueron - The crater and ruins of the Volcano should be publicly owned and respected as a unique national asset. Flower gardens existing within the crater should be encouraged. Development should maintain the informal natural setting with appropriate facilities such as high hiking trails, picnic areas and lookouts provided. Eventually, the crater should be made accessible to the urban area by a funicular or cable railway. Commercial tourist facilities would be possible under strictly controlled design and operational standards.

El Picacho - This peak, the dominant landmark of the Metropolitan Region, is a pivot of the long-range open space system. The summit and upper slopes should be publicly owned. Because of the symbolic importance of the peak, development must be dignified and conform to the highest design standards.

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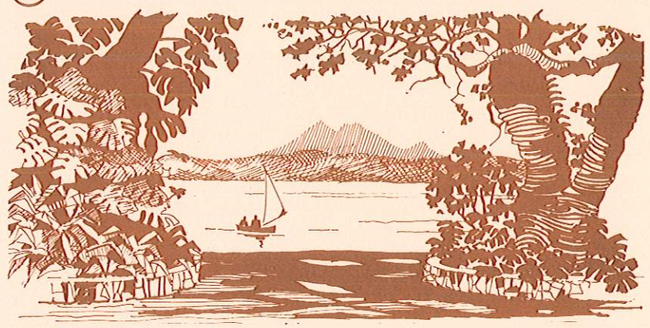

LAGO DE ILOPANGO

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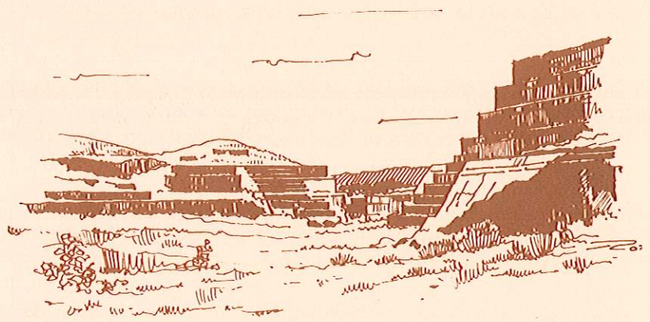

RUINES DE SANDRES

Shores of Lago de Ilopango - Although the Pacific Ocean is only a half-hour drive from the Metropolitan Region, heavy surf and strong current make swimming dangerous. Fortunately, the Region has another water recreation resource even closer at hand in the Lago de Ilopango. This deep crater lake, while unsuited for water supply, is excellent for water related recreational uses such as bathing, swimming, canoeing, boating, sailing, and water skiing. Its varied shoreline provides sites for beaches, marinas, picnic areas and tourist facilities. To supplement the present recreational facilities at Playa Apulo, additional shorefront adjacent to the Metropolitan Area should be reserved in the next decade, and developed as appropriate.

Ruins at San Andres - The area containing the ruins of Indian pyramids on the Rio Sucio should be acquired and intensively developed as a historic site and picnic spot.

Summits of San Jacinto and Los Colinas - These summits should be in public ownership and developed with suitable access roads and picnic facilities.

Scenic Roads and Trails on the Volcano - A series of scenic roads and trails should be developed to connect scenic spots, picnic areas and outlooks on the Volcano.

4. Expressway Rights-of-Way

The proposed system of expressways should be conceived of as a totality, but of necessity must be built in stages extending over a number of years. Land control measures are needed to insure that the routes selected are protected from development until the time comes for construction.

Expressway rights-of-way that should be reserved for construction after 1980 are in the Zona Este, the Zona Oeste, the area of the Cerros de Mariona, and in the Valle de Nejapa-Apopa.

5. Strategic Areas Required for Urban Development

To insure proper development of economic growth nodes, certain key areas should be reserved until needed, in the meantime keeping out uncontrolled urbanization of little economic value. Each of these areas is also related to the construction of the final links of the expressway network scheduled after 1980. These are:

Zona Este - Area north of Soyapango, to be developed primarily for industry. This is the major remaining large industrial site close to the Regional Core.

The area between the Airport and San Martin for high value industrial and possible tourist development.

Zona Oeste - Area between San Benito and Santa Tecla, to be developed for high-quality uses of a mixed nature, which may include a commercial node, light industry, research facilities, and residences.

Valle de Apopa-Nejapa - This area is critical for the establishment of a new growth node to the north as called for by the Policy for Continued Urbanization discussed in Part V. As the nucleus of this development, sizable tracts must be reserved for a new urban core second in size only to the present Regional Core, and for high-density residential uses and industrial uses extending westward to Quezaltepeque.

Santa Ana Highway - Lands not now in public or semi-public institutional or recreational uses are to be reserved for these uses.

Lourdes - Area for industrial development at the western gateway to the Metropolitan Region.

6. Conservation Areas

Because of their unique scenic assets and other natural characteristics, certain areas of the Metropolitan Region should be kept out of urban use permanently, although they may not be needed for intensive recreational development. The Plan recommends the following Conservation Areas:

Entire Watershed of the Lago de Ilopango Including the Slopes of San Jacinto - Unless the watershed of this lake is protected from urbanization, there is great danger that its primeval beauty will be despoiled and that it will become a vast cesspool for sewage discharged from industries and homes. It is proposed that the entire watershed area including the slopes of nearby San Jacinto become a National Park.

A long range master plan should be prepared for its development to include reforestation, appropriate agriculture, recreational areas and tourist facilities. While some of these uses might be in public ownership, the vast majority of lands in the watershed might well remain in private ownership, but with strict limitation on changes in use.

Upper Slopes of the Volcano - Because of its porous lava composition, the Volcano serves as a recharging area for the Metropolitan water supply. In order to preserve this important function, slopes above the 900-meter level should be classified as a conservation area where urban development is forbidden. Reforestation and the planting of orchards should be encouraged together with controlled, limited recreational use.

Lago de Chanmico and Green Spoke on the Volcano - This is a small, picturesque, crater lake whose shores and a green spoke connection to El Boqueron should be a conservation area. In the long-range future they should be acquired and developed as a public recreational area.

The Lava Fields - Until a more suitable use can be determined, the lava fields west of Quezaltepeque should be a conservation zone. At least part of the lava river should ultimately become a public recreational and tourist area. Indiscriminate removal of the lava for building materials should not in the interim be permitted.

Cerro de Najapa and Green Spoke on the Volcano - This is a steep wooded hill with fine views from its summit. Its slopes and summit should be classified as a conservation area along with a green spoke composed of arenales and steep land leading to El Picacho. By the time extensive urban growth occurs in the Valle de Apopa-Nejapa, these areas should be publicly owned.

Cerro de Guaycume - The hill north of Apopa should be a conservation zone.

Loma Larga - The steep slopes of this ridge should be a conservation area.

Las Colinas - The steep eroded northern slopes of this ridge westward from Santa Tecla should be a conservation area.

Gorge of the Rio Acelhuate - Urban development in this gorge should be prohibited because of the presently offensive and unhealthy condition of the River, which is carrying an ever-increasing amount of untreated sewage from the Metropolitan Area.

Gorge of the Rio Las Canas - Urban development should be prohibited in this steep and picturesque gorge. Meanwhile care should be taken that the removal of sand for building purposes does not deface the landscape or accelerate erosion.

7. Prime Agricultural Areas

The flat lands in the Valley of Zapotitan and near Apopa are among the most fertile agricultural areas of Central America. They are well suited for labor-intensive cultivation of high value crops. These should be classified as prime agricultural areas to prevent development inconsistent with intensive agricultural use.

8. General Agricultural and Forest Zones

The bulk of the open land of the MRSS can be classified in this category. It consists of hilly, highly-eroded lands, where intensive urbanization is both expensive and difficult. The bulk of the rural population of the MRSS will continue to live in such areas. Reforestation and other programs to improve agricultural practices and living conditions should be carried out. The largest area suitable for this classification is northeast of the Metropolitan Area, centering on Tonacatepeque. Other such zones include the south slopes of Las Colinas, the north slope of the Volcano, and the area around the Lago de Chanmico.

9. Zones of Peripheral Urban Development

Provision must be made for those types of urban land uses which need not be located in intensively urbanized areas. The greatest demand for such a semi-rural area comes from in-migrants of low income who cannot readily be accommodated in heavily built-up areas, but who need housing and employment opportunities in a semi-rural environment. Developers of high-income residences and public and private institutions also may find such areas attractive, especially where there is unusual scenery or vistas.

In the Metropolitan Region the hilly, broken land on the fringes of the areas proposed for intensive urbanization provide ample sites for such development. Accordingly it is proposed that a number of such peripheral areas be classified as "Zones of Peripheral Urban Development." For the next ten years, these areas could be open to such selected uses, but without the public obligation to provide services and utilities to urban standards.

A number of such zones are proposed:

The area between the gorge of the Rio Acelhuate and the gorge of the Rio las Canas.

An area in the north of the Zona Este.

The area along the road between San Martin and Tonacatepeque.

The area on the south slopes of the Cerros del Sur, extending from Planes de Renderos to Santo Tomas.

The area including the Cerros de Condoloria.

The area in the vicinity of Lourdes.

The area immediately north of the Cerros de Marione

Areas north of Apopa and Nejapa.

G. MAJOR CIRCULATION NETWORK

1. The Basic Approach

The general goal in designing the transportation system in the Spatial Development Plan has been to balance the roles of public transit, private vehicles, and the pedestrian. A set of objectives to support this larger goal are:

To provide a framework for expansion consistent with the type and scale of urban growth in the MRSS, i.e., spacing, width of facilities, type, operational standards, etc.

To stimulate growth and expansion in desired areas and at desired times through transit, street, and highway improvements.

The technical reports and calculations which justify the proposed regional circulation network are not a part of this Document. However, technical studies suggest the scheme presented in the Spatial Development Plan to 1980. Work done in the forthcoming planning stage should refine the elements of the proposed system.

The main factors controlling the design of the network shown are: (1) physical, such as topographic barriers, existing transportation network, man-made barriers, land use, density of development, etc.; and (2) socio-economical, such as population distribution, population increment, income levels, employment distribution, automobile ownership, etc.

A hierarchy of arterials, such as expressways and first order streets, is reflected in the Development Plan. Although secondary arterials were designed simultaneously with the others, for purposes of clarity they are not shown in the Plan.

The following general assumptions serve as the context of the 1980 Circulation Plan:

An increase in urban population in the MRSS from 508,000 to 973,000 inhabitants

An increase in vehicle ownership from 10,600 in 1960 to 35,000

An increase in travel from 1,068,000 to 2,003,000 person-trips per day

A governmental development policy stressing a pattern of centralization together with a continuation of basic present trends

A concentration of 90 percent of future growth within the Valle de las Hamacas.

2. Limited Access Expressways

The Preliminary Master Plan developed in 1966 was the first to introduce specialized, limited access arteries. Its proposal was to have two expressways: one to the north of the Valle de las Hamacas and one to the south.

These expressways were to serve mainly as by-passes for the highly developed area and as physical limits to contain future development. The level of service of the expressway first proposed, however, did not justify their high construction costs. Proposed expressways in the Spatial Development Plan to 1980 reflect those socio-economic considerations which had been omitted in the past and are more cost-benefit oriented.

San Salvador is planning for an urban population of approximately one million. By American standards this would indicate a freeway network of approximately 600 miles, assuming domination by autos, low-transit usage, and a vehicle-to-population ratio of 500 cars per 1,000 persons.

For the MRSS, with a vehicle-to-population ratio of 70 cars per 1,000, freeway requirements are considerably less. The mode of travel is in the range of 60 percent transit to 40 percent auto, and low average income levels preclude high auto ownership in the immediate future. Thus, a total expressway system of perhaps 10 percent of American standards, or sixty miles of expressway network, was planned.

The concept of expressways, introduced in earlier metropolitan plans, follows the principle that specialization of street facilities results in better traffic service, more productive public investment, and a better functioning urban area.

CORRIDOR DE AUTO-PISTA

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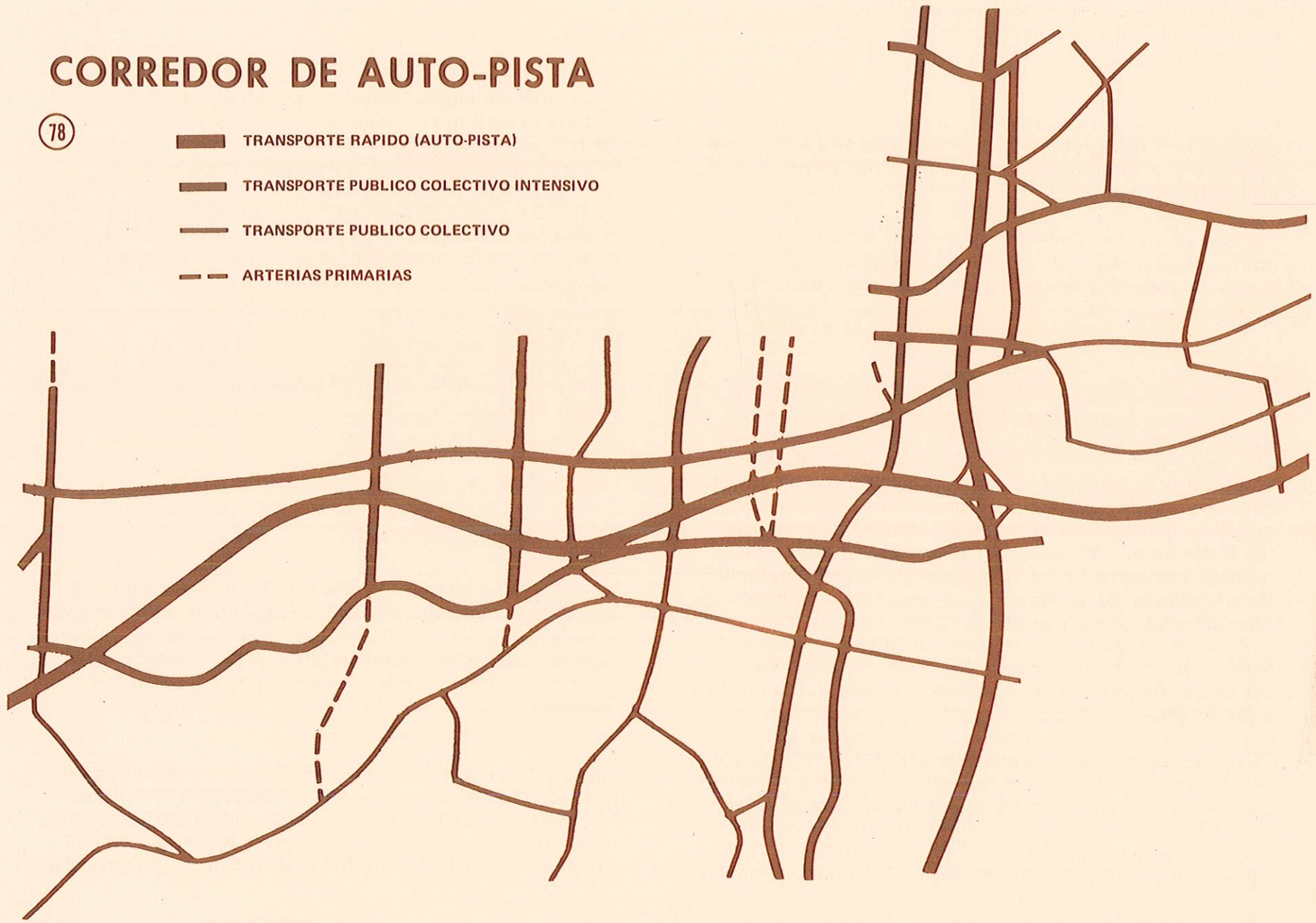


The location of expressways within the Metropolitan Area was considered according to such criteria as:

travel cost
construction cost
impact on development
relocation problems
social impact
coordination with other programs
possibilities for redevelopment of adjacent areas

Alternative expressway corridors were evaluated based upon the following general criteria:

The proposed expressways should serve the CBD as directly as possible since the highest concentration of trip generation is concentrated there.

Concentration of east-west and north-south movements in two single corridors permits minimal investment in transportation facilities yet provides an adequate level of service.

The alternative of improving many existing streets to carry high traffic volumes would have a far greater detrimental impact on present land use patterns.

External trips (bypass traffic) amount to a very small proportion of the total movement; therefore, construction of external high capacity facilities is not economically justified.

The opportunity of combining expressway construction with redevelopment of deteriorated areas is an important consideration in the total planning effort.

The main circulation problem inside the MRSS is congestion in the Core. The solution involves an extensive program of street betterment not only to cope with present needs, but also to provide for future demands if the Regional Core is successfully to maintain its regional and national importance. The original proposal for the east-west expressway was to follow the southern boundary of urban development in the Valle de las Hamacas; but the bypassed traffic which resulted represented only 10 percent of the total regional travel pattern. Thus there were strong reasons to locate the east-west expressway closer to the Regional Core: first, to retain rapid east-west movement; second, to serve traffic with core destinations; and third, to avoid some of the severe topographic problems encountered in the original outer location.

The proposed east-west expressway originates in La Celba, utilizes the right-of-way of the Autopista Sur up to Monserrate, and then approaches the Regional Core parallel to the Boulevard Venezuela. After crossing the Acelhuate River it moves toward the Cerro de San Jacinto and then moves north to intersect the Boulevard Ejercito Nacional.

The north-south expressway was located also in response to similar criteria. The first proposal placed it on the northern boundary of the Valle de las Hamacas. The north-south expressway originates at the road to Comalapa on the south, runs parallel to Loma Larga along the 900 elevation curve, intersects again the road to Comalapa south of the Colonia Militar, intersects the east-west expressway, runs parallel to the west of 10 Avenida Norte, serves Mejicanos on its southern boundary and terminates south of Ayutuxtepeque.

As they now stand, the expressways cut through areas of highest urban density and therefore can be most intensively utilized. Both also provide direct service to the regional and national core.

Areas with the highest densities are usually the oldest sections as well as the areas with the most deficient standards. Construction of the expressways should therefore be combined with housing redevelopment programs for maximum social benefit. Although the Medium Range Spatial Development Plan indicates only the facilities needed for 1980, longer range needs were considered, and rights-of-way for the continuation of the expressways are indicated.

The next step is an engineering study to determine a center line location, the location of intersections, and operational design standards.

3. Primary Arterials

Spacing of the primary arteries reflects both activity and density. In the Regional Core, where person trips per day exceed half a million, the primary arteries are very close together. Near the periphery, the spacing becomes less close due to lower levels of activity and lower density patterns.

All major industrial, commercial, recreational and housing nodes are served by one or more primary arterials, depending on their importance. The design and exact location of these primary arterials will be the consequence of further study, and modification to the proposed network is expected.

H. CONCLUSION

Since the basis for the Metropolitan Land Use and Circulation Development Plan is the recognition of the "action-reaction" principle - that is, that a certain type of artery serves best certain types of land uses, and certain types of land use demand a certain type of circulation facility - the location of land uses has to be carefully controlled once the circulation plan is adopted. It would be totally wasteful to develop a new transportation system, with the high costs involved, if new urban development is not guided to protect the road system which has been designed to serve it.

These estimates could be too conservative if the stimulation by INSAFI of industrial development is fully successful. Therefore, the Medium-Range Spatial Development Plan provides a safety margin in the Urban Complex where land is scarce. Outside the Urban Complex, where land is more abundant, such safety margins are not used.

In terms of location there are two types of industry: (1) the "centrifugal" type which tends to locate within urbanized areas, and (2) the "centripetal" type which tends to locate outside urbanized areas. Centrifugal industry is oriented to the local market, needs skilled labor, utilizes many workers, needs relatively small space, and frequently combines both functions of production and sales in the same physical area. Centripetal industry is oriented more towards external markets, needs fewer skilled workers, tends to locate more in terms of raw material sources and its accessibility on regional routes. It employs fewer workers, needs relatively larger space, and tends to separate the function of production from that of sales.

In the MRSS, both types of industry are needed; the centripetal because it is the main source of national income, and the centrifugal because it is a major employment source and because it provides local consumer products. The land assigned to industrial development by the plan can accommodate both types of industries.

The area to the east of the Urban Complex within the Valle de las Hamacas will be the main center of industrial development, based on existing trends, availability of suitable land, and the economies of scale which could be achieved by this concentrated development.

To the west, in the Santa Tecla vicinity, a small area for industrial development is located between the proposed expressway and the Colonia Las Delicias. Another area for warehousing type industry is proposed to the southeast of Santa Tecla adjacent to the highway of La Libertad.

It is important to the Urban Complex to strengthen existing industrial developments. Thus, the development in the Boulevard Venezuela is expanded to the south; the San Marcos complex is reinforced; development at the intersection of Boulevard Venezuela and 25th Avenida Sur is expanded southward to the proposed expressway; and the Ayutuxtepeque complex is expanded. Outside the Valle is the industrial park proposed by INSAFI as well as some reinforcement of the Apopa Industrial Complex. The land proposed for industrial development assumes a level of at least 50 percent saturation with the exception of the Boulevard del Ejercito area and the Boulevard Venezuela area where almost 100 percent saturation is assumed.

Industrial land uses are generally utilized in the plan as separators of sub-districts or districts, or they are set off as industrial districts by themselves.

4. Major Institutions and Facilities

The MRSS is unevenly served by public institutions and community facilities. Most are concentrated in the Metropolitan Area, and within this Area there is marked centralization in the Regional Core. Since a high proportion of future population growth will occur in the Metropolitan Area, this is where the Spatial Development Plan has concentrated its efforts in setting locational guidelines.

Of the total land dedicated for institutional use and community facilities, excluding open spaces, 88 percent is located within the Valle de las Hamacas and 60 percent inside the Urban Complex. Of the approximately 400 hectares of land needed for new institutional and community use by 1980, 300 hectares will be located within the Valle de las Hamacas with half within the Urban Complex.

Major regional institutions are included such as the proposed Centro de Gobiemo north of the Urban Core, the National University at the end of 25 Avenida Norte, the International Fairgrounds in the San Benito area, the new Central American Institute of Technology in the Santa Tecla area, the new Jose Simeon Canas University south of the proposed expressway in the San Benito area, and the Hospital Center along 25 Avenida Norte.

At the subregional level, each municipality would of course have necessary public institutions and community facilities such as the City Hall. At the district and sub-district level, location of public institutions and community facilities would be close to business activities to further strengthen and form the community structure.

Net land area for institutions and facilities would amount to approximately 12 percent of the total land available for development. The following public institutions and major community facilities are recommended for each level of community organization:

Neighborhood - 0.85 hectares of land to include a kindergarten, a child care institution, a grammar school, a communal center, an auditorium, a library, a chapel and a first-aid center.

Sub-district - 2.45 hectares of land to include a high school, a small theater, a church, a post office, a police station, a fire station, and a health clinic.

Districts - 6.39 hectares of land to include normal schools, vocational schools or universities, a theater, a church, a main telegraph and post office, and a large health center.

Table 17

EXISTING AND FUTURE TOTAL WATER CONSUMPTION IN THE METROPOLITAN AREA (RESIDENTIAL)

	1965	1980	Complete Development
Total Urban Population	412,300.0	740,700.0	1,097,400.0
G.C.D.	70.0	92.0	107.0
M.G.D.	28,861.0	68,144.0	117,422.0
Qm	1,265.3	2,987.6	5,148.0
Max. day	1,898.0	4,481.3	7,722.0
Max. hour	3,416.3	8,066.3	13,899.5

G.C.D. ---------- Gallons per capita per day
M.G.D. ---------- Millions of gallons per day
Qm ---------- Median daily consumption (in liters per second)
Max. day ---------- Maximum day in liters per second
Max. hour ---------- Maximum hour in liters per second

E. PUBLIC UTILITIES

1. Relation to Spatial Development Plan

The Spatial Development Plan does not present specific solutions in this highly specialized field of utilities, but identifies the problems and proposes general recommendations, areas of emphasis, and priorities for action.

2. Water

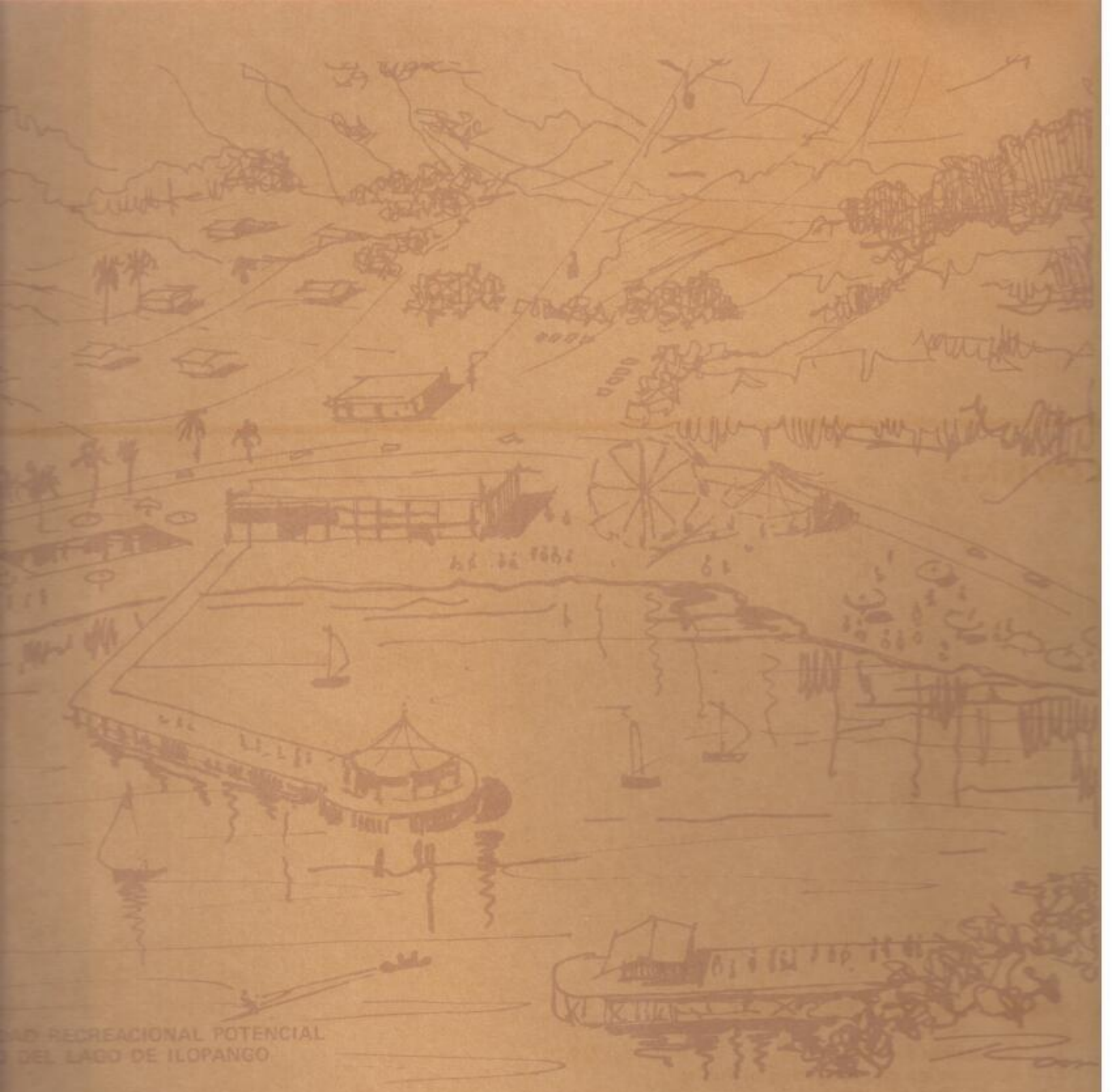
ANDA has provided premininary figures on the underground capacity of the region's main water sources.

Within the Valle de las Hamacas, the underground capacity in 1966 was estimated as 1.6 cubic meters per second, with the possibility of expanding to 2.2 cubic meters per second. By comparison the Metropolitan Area now utilizes 1.5 cubic meters per second, and by 1969 it will have surpassed the present capacity of 1.6.

To serve the demand which is increasing due to population growth and to growing consumption per capita, improvements have already begun. But the need to tap water from outside the Valle is now clearly apparent. For the target year of the Development Plan, potable water demand has been estimated to be 4.5 cubic meters per second in addition to the estimated total capacity of 2.2. Therefore, total service capacity being planned in ANDA's study is 6.7 cubic meters per second for the area shown in Illustration

In the Valle de Apopa-Quezaltepeque, a water capacity of 4.0 cubic meters per second has been calculated. The Valley of Zapotitan has a similar capacity but the problems of distance and the considerable difference in levels rule out this potential source for the Valle de las Hamacas. Thus, the main water source to service development must be Apopa. A 54-inch water main is proposed to serve future demand of the Region.

This problem will continue to be of high priority but its magnitude has been measured, and the necessary remedies for solution have been institutionalized.



...O RECREACIONAL POTENCIAL
... DEL LAGO DE ILOPANGO

PART VII
ADDITIONAL PLANNING MEASURES

CONTENTS

ADDITIONAL PLANNING MEASURES

A. ADDITIONAL MEASURES STUDIED

In addition to the Spatial Development Plan, further planning measures are necessary in order to properly implement the developmental policies described in Part III. These measures already studied include:

1. Guidelines for Action

These are designed to assist government agencies and private sector organizations to integrate their activities with metropolitan developmental policies.

This planning measure is described in full in a separate technical report.

2. Programming and Budgeting of Public Capital Investments

This is an essential measure for coordinating the projects of sector ministries and other government agencies according to policies and plan proposals for the MRSS. It is discussed in a separate technical report of this series. Recommendations as to the methodology to be followed will be included in a report to be issued subsequent to this Document.

3. Programs for Areas of Strategic Importance

These provide a frame of reference whereby government agencies and organizations in the private sector can coordinate their efforts for the improvement of critical areas of the Region.

This measure is summarized in the following section (B) and is described in detail in a separate technical report of this program.

B. AREAS OF STRATEGIC IMPORTANCE

1. Criteria for Selection of Areas

Because of a concentration of either problems or opportunities, certain areas of the MRSS require special emphasis in planning and development. The following criteria have been utilized in choosing such areas:

Open land that has been earmarked for strategic urban uses by the Spatial Developmental Plan - An example of land that has been earmarked for industrial development but is under pressure to be developed for less appropriate uses, such as low-income housing, is the area north of Soyapango.

Another example is land which should remain as open space, but which is subject to pressures of urbanization. An example is the Cerros de Mariona.

Important areas, completely or partially urbanized, characterized by significant problems detrimental to the healthy development of the MRSS - A prime example of a completely urbanized area in this category is the Central Business District of San Salvador. An example of an area in the process of development is the Soyapango-Ilopango Industrial District.

Areas commonly recognized as having extremely serious economic or social problems - An example is the area of mesones south of the Regional Core.

2. Types of Areas

Areas identified as being of strategic importance have been grouped into general categories on the basis of common characteristics:

The Regional Core - A program to deal with the many problems of the Central Business District of San Salvador and its adjacent areas must have the highest priority. Illustration presents a preliminary design study for the rebuilding of this core area into a modern National and International business center.

Areas of Progressive Development - These areas on the urban fringe which are under pressure of rapid development, (in large part by illegal subdivisions of low-income housing) also call for a high-priority action program. As such areas become permanent parts of an extended urban pattern, a major concern is to insure that they are laid out to minimum standards with provision for public facilities and services.

On Illustration 80 such areas now under progressive development are shown in the following locations:

Northern fringe of the Metropolitan Area extending into the Cerros de Mariona

North and east of Colonia Escalon

South of the Carretera Panamericana adjacent to San Benito

Slopes of San Jacinto

Planes de Renderos and San Marcos

Soyapango

Adjacent to the Carretera Panamericana between the Airport and San Martin.

Open Areas Critical for Future Urban Growth - These are choice locations in the path of urban expansion which must be kept free of inappropriate development, such as illegal low-income housing, and reserved instead for high value industrial, commercial or residential development. For each area a detailed district level plan should be prepared to guide its development. Land use controls will be necessary to reserve these lands for appropriate uses.

Specific areas in this category are:

North of the Carretera Panamericana between the Airport and San Martin

Immediately to the north of Soyapango

Southern fringe of the Soyapango-Ilopango Industrial District

Between San Benito and Santa Tecla near Zacamil

Special Development Areas - The single area in this category is the Soyapango-Ilopango Industrial District where the major problem is to reorganize this partially planned area to achieve maximum industrial development and to make full use of the existing infrastructure. Studies of soil conditions of flooding drainage problems are essential in this area.

AREAS DE IMPORTANCIA ESTRATEGICA (80)

PROBLEMAS Y POTENCIALES

AREA METROPOLITANA

MESONES Y VECINDADES VIEJAS DEFICIENTES

ZONAS DE CONSERVACION (TURISMO Y RECREACION)

ZONAS DE CONSERVACION (AGRICULTURA)

TUGURIOS

NUCLEO REGIONAL

ZONAS DE CRECIMIENTO NO DESARROLLADAS (VACANTES)

DESARROLLO PROGRESIVO

ZONAS DE DESARROLLO ESPECIAL

APPENDIX

A. NATURE OF SOURCE MATERIAL

This Document is a condensation of the material contained in a considerable number of technical reports developed throughout the planning period, as well as attendant unpublished graphic and statistical material. All of the materials are available in the files and archives of Departamento de Planes Reguladores, for use in the further work of this Development Plan. The forms and sources of major portions of this background material are described below.

B. TECHNICAL REPORTS OF ADLEY ASSOCIATES

As the work progressed, Adley Associates submitted a number of Technical Reports to the Salvadoran Government and to USAID. These reports were prepared by short term visiting experts of the firm and the firm's resident staff, and included work outlines, PERT Charts, progress reports and original technical studies of a social, economic and physical nature.

Titles of Technical Reports

Feasibility of an Urban Data Bank and Availability and Use of Present Data, September, 1967

Preliminary Synthesis Report, November, 1967

Transportation Study, December, 1967

Economic Capacity, December, 1967

National and Local Plans and Programs and Their Implications for the Development of the MRSS, January, 1968

Study of Rates of Urbanization, January, 1968

The Place of the MRSS in El Salvador, February, 1968

Issues of Development, March, 1968

A Proposal for the Economic Base Study of the San Salvador Metropolitan Region, March, 1968

Development Goals for the Metropolitan Region of San Salvador, May, 1968

The Metropolitan Region of San Salvador: Relationship of Goals, Objectives and Alternative Plans, May, 1968

Economic Development Goals for the MRSS, May, 1968

Population and Employment in the MRSS: Characteristics and Forecasts, June, 1968

1990 Long-Range Alternative Spatial Policies Ranked According to 44 Criteria, July, 1968

Institutional Framework for Urban Development, July, 1968

The Urban Landscape of San Salvador: Environmental Quality in an Urbanizing Region, July, 1968

Traffic Simulation Methodology for San Salvador, August, 1968

Criteria for Major Thoroughfare Plan , August, 1968

C. TECHNICAL ARCHIVES OF THE DEPARTAMENTO DE PLANES REGULADORES

In addition to the studies incorporated in the more formal Technical Reports, original studies were prepared in about equal numbers by the personnel of Adley Associates and by the Salvadorean planning staff. Such studies have been organized in Technical Archives on file in the Departamento de Planes Reguladores.

Technical Archives Classification

Natural Endowment
Man-Made Environment
Visual Form
Economy
Social Characteristics
Institutional Framework
Land Use
Transportation
Public Utilities and Communications
Community Services and Institutions
General

D. RELEVANT BIBLIOGRAPHY

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Illustrations of this Report summarize the more detailed graphic work prepared in the course of this program. They are too numerous to be itemized here, but are on file at the Departmento de Planes Reguladores. In addition, a full set of 35 mm colored slides has been prepared of all original graphic work.

Area of Mesones - This one major area lies to the south and east of the Regional Core. It is one of the most critical areas of urban social problems in the MRSS, marked by very high population densities and substandard and overcrowded housing conditions. An integrated planning effort for the total Expressway Corridor can provide both transportation needs and other needed improvements to the area of the mesones.

Tugurios - These shanty towns of squatters are located in arenales in various sectors of the community. Such areas account for some of the very poorest housing conditions. Dwellings are subject to danger from floods. Unlike the fringe areas around the urban center, these should never be absorbed into the urban pattern, so that substantial investments in improvements to these areas as they now exist should not be encouraged.

Considerable social as well as physical study is necessary to determine what steps can be taken realistically to deal with these areas. Full participation of the residents, involving self-help and self-organization efforts, is essential.

Conservation Zones for Tourism, Recreation and Water Resource Protection - As discussed in Part VI, various open lands should be preserved and developed as part of the open space system of the MRSS. Areas requiring prompt measures to protect them from urban growth are:

The Cerros de Mariona immediately north of the Metropolitan Area

The slopes of the Volcano above the 900 meter level

The watershed of the Lago de Ilopango and the slopes of San Jacinto

The shores of the Lago de Chanmico

The lava flow

The slopes of the Cerro de Nejapa

For the Cerros de Mariona and for the watershed of the Lago de Ilopango, long-range detailed master plans should be prepared to serve as a guide to the development of suitable tourist and recreational facilities.

Conservation Areas for Agricultural Purposes - The areas to be retained solely for agricultural purposes, as discussed in Part VI, require prompt positive measures to insure their preservation. They are located in the Valley of Zapolitan and near Quezaltepeque.

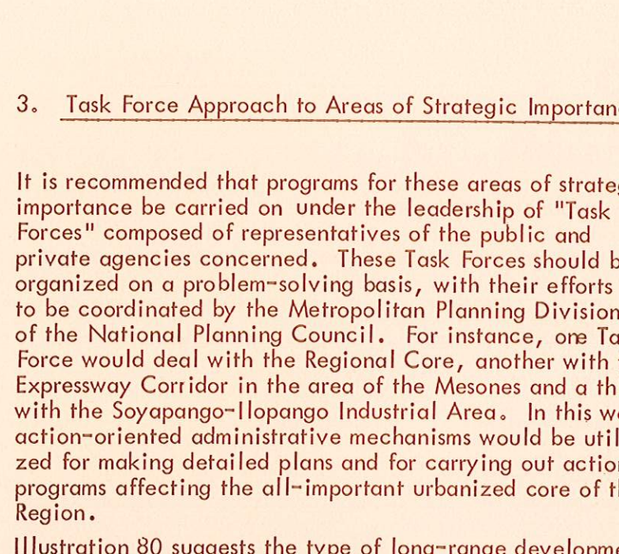
Land use controls should be initiated to permit these areas to be kept as open lands and yet allow limited tourists, recreational and private uses.

3. Task Force Approach to Areas of Strategic Importance

It is recommended that programs for these areas of strategic importance be carried on under the leadership of "Task Forces" composed of representatives of the public and private agencies concerned. These Task Forces should be organized on a problem-solving basis, with their efforts to be coordinated by the Metropolitan Planning Division of the National Planning Council. For instance, one Task Force would deal with the Regional Core, another with the Expressway Corridor in the area of the Mesones and a third with the Soyapango-Ilopango Industrial Area. In this way, action-oriented administrative mechanisms would be utilized for making detailed plans and for carrying out action programs affecting the all-important urbanized core of the Region.

Illustration 80 suggests the type of long-range development plans that such Task Forces might prepare as guides to action programs to be carried out in stages. This diagram shows the two areas to be studied by the Task Force dealing with the Regional Core and by the Task Force dealing with the Expressway Corridor in the area of the mesones.

The composition, organization and methodology for such task forces is described in detail in a separate report of this program dealing with developing the institutional framework for urban planning in the Region.



CORREDOR DE AUTOPISTA (81)

600 METROS

ESTUDIO PARA LA RENOVACION DE NUCLEO REGIONAL Y EL AREA DE LOS MESONES

(82)

- COMERCIO CENTRAL COMERCIO FINANZAS Y SERVICIOS PROFESIONALES
- COMERCIO MAYOR
- COMERCIO ESPECIALIZADO Y SERVICIOS PROFESIONALES
- ESTACIONAMIENTO Y BODEGAJE
- INDUSTRIA LIVIANA Y DE SERVICIOS
- ZONAS VERDES Y RECREATIVAS
- CIRCULACION PEATONAL
- CENTRO DE GOBIERNO HOSPITALES Y CENTRO MEDICO CEMENTERIO
- VIVIENDA Y COMERCIO MENOR
- AUTO–PISTA
- ARTERIAS PRIMARIAS
- ARENALES Y QUEBRADAS