

# THE URBAN TRANSPORT STUDY

IN

PANAMA METROPOLITAN AREA

MAIN REPORT

DECEMBER, 1982

THE REPUBLIC  
OF PANAMA

JAPAN INTERNATIONAL  
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## PREFACE

In response to the request of the Republic of Panama the Government of Japan decided to conduct a survey on the Project to improve transport in the Metropolitan Area of Panama and entrusted the survey to the Japan International Cooperation Agency (JICA). The JICA sent to Panama a survey team headed by Mr. Hajime Tanaka from 28 January 1981 to 27 October 1982

The team exchanged views with the officials concerned of the Government of the Republic of Panama on the Project and conducted a field survey in the Metropolitan Area.

After the team returned to Japan, further studies were made and the present report has been prepared.

I hope that this report will serve for the development of the Project and contribute to the promotion of friendly relations between our two countries.

I wish to express my deep appreciation to the officials concerned of the Government of the Republic of Panama for their close cooperation extended to the team.

December, 1982



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Keisuke Arita

President

Japan International Cooperation Agency



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## **CHAPTER 1.**

### **INTRODUCTION**

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in the context of public administration and government operations. This section outlines the various methods and systems used to collect, store, and analyze data, ensuring that information is readily accessible and reliable.

2. The second part of the document focuses on the role of technology in enhancing data management and analysis. It explores how modern tools and software can streamline processes, reduce errors, and provide deeper insights into complex datasets. The text highlights the benefits of automation and the integration of artificial intelligence in decision-making processes, demonstrating how these advancements can improve efficiency and effectiveness in various sectors.

3. The third part of the document addresses the challenges and risks associated with data management, such as data security, privacy concerns, and the potential for misuse. It discusses strategies to mitigate these risks, including the implementation of robust security protocols, regular audits, and the establishment of clear policies and procedures. The text also emphasizes the importance of ongoing training and education for staff to ensure they are equipped to handle the latest technological developments and security threats.

4. The final part of the document provides a summary of the key findings and recommendations. It reiterates the importance of a proactive and systematic approach to data management, one that prioritizes accuracy, security, and the effective use of technology. The text concludes by encouraging continued collaboration and innovation in the field, as the landscape of data management continues to evolve rapidly.

## 1. INTRODUCTION

### 1) Background

Located at the estuary of the Canal, Panama City has grown as the political, economic, and financial center of the Republic of Panama. In 1979 the Gross Regional Domestic Products (GRDP) of the Province of Panama reached 1,448 million balboas (estimated) in 1975 price or a substantial 62% of the Republic's GDP. Influx from the hinterland resulted in population increases of an average 4.6% per annum in the 1960s and of 3.5% in the 1970s. The population of the Planning Area (see Table 2-3) in 1980 is estimated at 708 thousand. The urbanized areas has expanded from only 50 square kilometers in the early 1960s to about 2.5 times and the expansion is still continuing.

The Study Team estimates that the national Panamanian economy will sustain an average growth rate of 3.5% until the year 2000. Population increase will continue at an average annual rate of 3.4% in the 1980s and 2.8% in the 1990s, and the population of the Planning Area will reach 987 thousand in 1990 and 1,299 thousand in the year 2000. Such population concentrations will accelerate the concentration of economic activities.

The Panama Provincial GRDP is predicted to increase, as a result, to 2,375 million balboas (or 71% of Republic's GDP) in 1990 and to 3,577 million balboas (likewise, 76%) in the year 2000, both in constant 1975 price. Accordingly, the urbanized area is predicted to expand also from the 128 square kilometers of the present to 163 square kilometers in 1990, and to 200 square kilometers in the year 2000.

Such predicted economic activity expansions and population concentrations will jointly cause the swell of traffic volume, while the expansion of urbanized area will entail prolonged average distance of trips, and longer trips will hinder effective operation of public transportation. While such exasperations are building up, however, the road and highway budget for Panama City remains only about 5 million balboas per year, practically all of which is being exhausted for routine road repair and maintenance.

Despite the indicated lack of investment for new road construction and existing road improvement, the potential insufficiency of road facilities has not surfaced, due to a temporary sag in the average annual increase rate in vehicle ownership from 8% to 10% in the 1960s to 4% or 5% in pace with the stagnation of the Panamanian economy since the 1974 oil crisis. However, the rapid economic recovery since 1979 has brought about vehicle increases, which, in turn, has resulted in the discovery of the road insufficiency. Incidentally, the number of vehicles registered in the Planning Area in 1980 is estimated at 66,700, with additional 6,000 government vehicles and 30,000 United States Forces vehicles, for an approximate aggregate of 100,000.

Public-use buses increased by an average of 119 buses per year during the half decade from 1976 to 1980 in Panama City, which amounted to about 10% yearly increase, judging from the April 1981 registration of 1,545 buses. Although this pace of bus increases was faster than the indicated yearly 3.5% population increases, the expansion in the geographical area requiring bus service and the inevitably resultant drop in bus operation efficiency has caused conspicuous deterioration of service in certain localities.

### 2) Study Purpose

Said deterioration of public transportation service is currently apprehended as a serious problem, while quick increase in the number of vehicles has become prominent along with the economic recovery. Vehicle registration (sans government and U.S. Forces vehicles) in the Planning

Area is estimated to increase from said 67,000 to 124,000 by 1990 and to 201,000 by 2000, when car-owning household ratio will estimate by 48% and vehicle-owning household ratio by 60%, including commercial vehicles. In view of the fact that Panama City is being transfigured into an motorized society, the formulation of some decisive and comprehensive solution is imperative, if traffic congestion, parking difficulties and other traffic problems are to be prevented from becoming serious social difficulties.

With this understanding of the problem, this Study was accomplished for the formulation of a plan for the development of urban transportation system in the Panama Metropolitan Area, based on road facilities development and public transportation improvement.

An urgent plan has been formulated for coping with the deterioration of public transport service which has become apparent. A masterplan has been formulated for the target years of 1990 and 2000, together with yearly implementation programs.

### 3) Study Area and Planning (Survey) Area

Four districts were considered for this Study: Panama, San Miguelito, Arrijan, and La Chorrera. However, the person-trip and other important surveys were conducted in parts of the Study Area, and these parts (Panama City and environs, that is, parts of Panama District, entire area of San Miguelito, and southern parts of both La Chorrera and Arrijan Districts) are, therefore, referred to as the Survey Area, or, in the planning stage, as the Planning Area, inasmuch as plans were formulated for this area. (see Fig. 1-1)

### 4) Study Structure

The Study consisted of surveys and the collection of available data and data analysis, the preparation and comparative evaluation of alternative plans, and the formulation of a master plan and yearly programs.

#### (1) Surveys and Data Analysis

All the data used in this Report have been gathered through the following surveys conducted from March through June 1981:

- Person-trip survey and supplementary screen line survey and cordon line survey.
- Bus passenger origin-destination survey, and supplementary bus route survey, SICOTRAC driver survey, user opinion survey, and investigation of licensing system and actual bus operation.
- Traffic count, travel time survey, and review of traffic control facilities and practices, parking, and other aspects of traffic.
- Transportation facility surveys, such as road inventory survey, appurtenant road facility survey and heavy traffic generation facilities; central market, universities, airports and seaport.
- Land use surveys, such as current land use survey (overall in the study area and detail in the Panama Urban Area), use zoning survey (Panama City and San Miguelito City), investigation into land use regulation and land use plan for the reverted area, and investigation into current urban renewal projects.
- Socio-economic investigations through the collection of demographic, economic, and industrial data, as well as on the industrial and geographic distribution of working population.

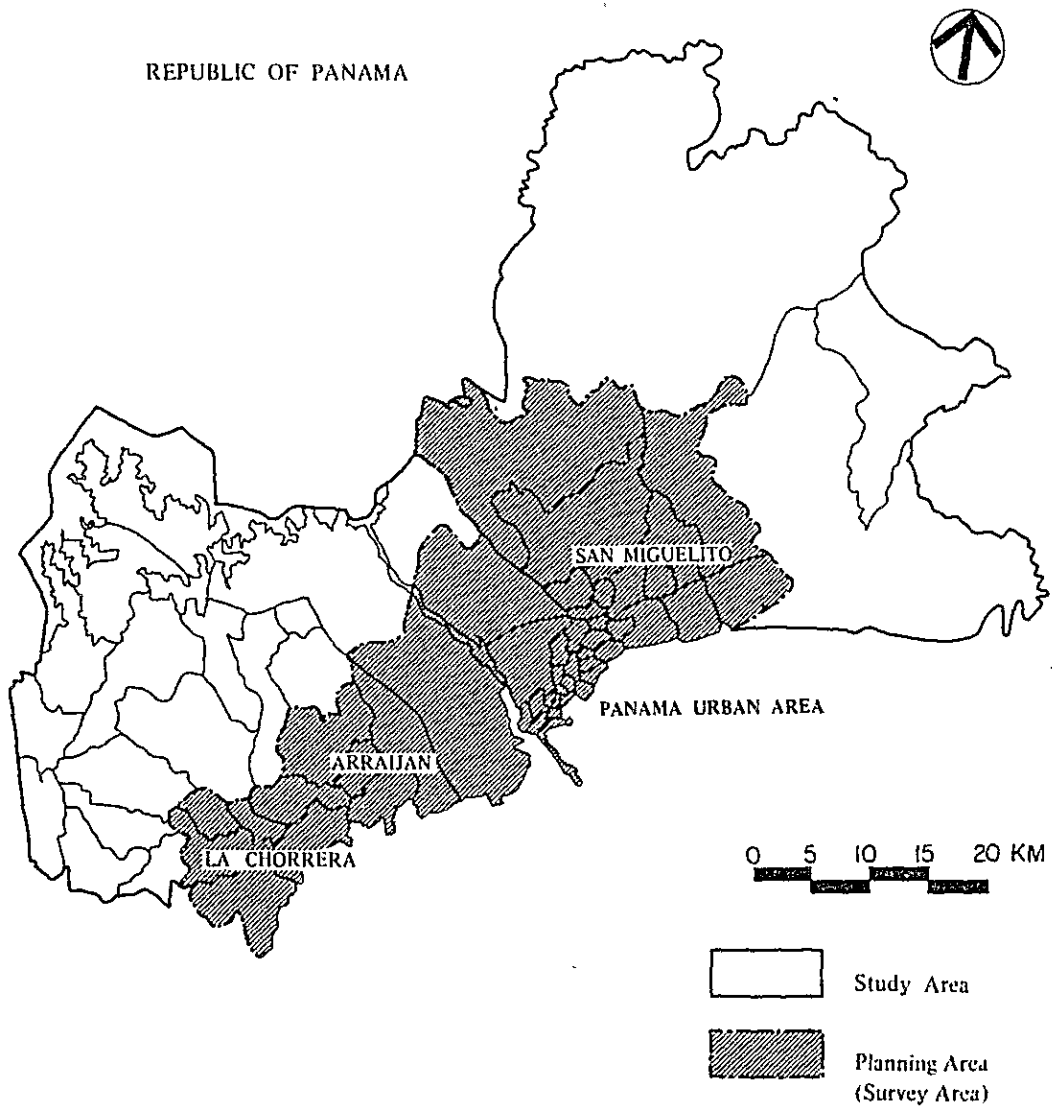
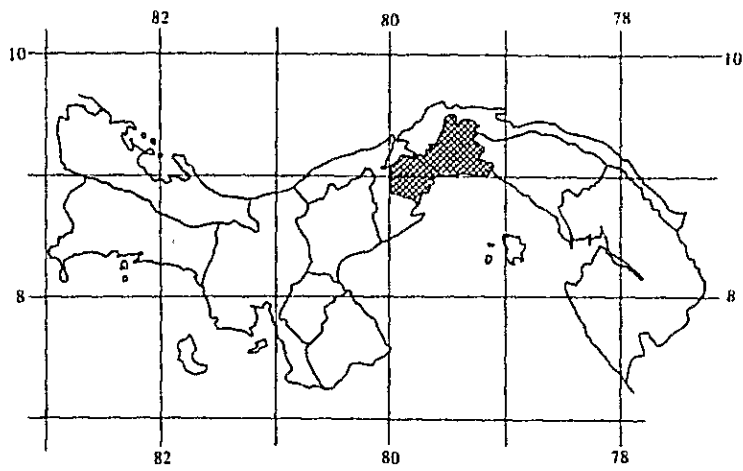


FIG. 1-1 STUDY AREA AND PLANNING (SURVEY) AREA

The data obtained through these surveys and investigations were compiled, analyzed and processed for use in the identification of problems and for preparation of information necessary for model building.

(2) Preparation and Evaluation of Alternative Plans

Initially three alternative land use plans were prepared, from which one was selected. Then five alternative traffic plans were prepared. Future traffic volumes were estimated, and models were created for the application of the estimates to the alternatives for evaluation. The results obtained from the application of these models were comparatively analyzed in terms of such overall indices as total travel distance and total travel time. Traffic assignment to each major arterial under each alternative was studied. Cost effectiveness analysis was also accomplished.

(3) The Master Plan and Annual Programs

The review and analysis of the alternatives offered information for the preparation of an overall traffic plan, or the masterplan. Such plan was adjusted according to the result of traffic assignment thereto, and this adjustment was repeated as necessary, until satisfactory result was arrived at. Then the masterplan was divided into units of project, which were allocated to years depending on their urgency. The appropriateness of this yearly allocation of the projects was ascertained by the economic evaluation of major projects/project packages, which resulted in changing the timing for the implementation of some of the projects as they were compiled into the final yearly program.

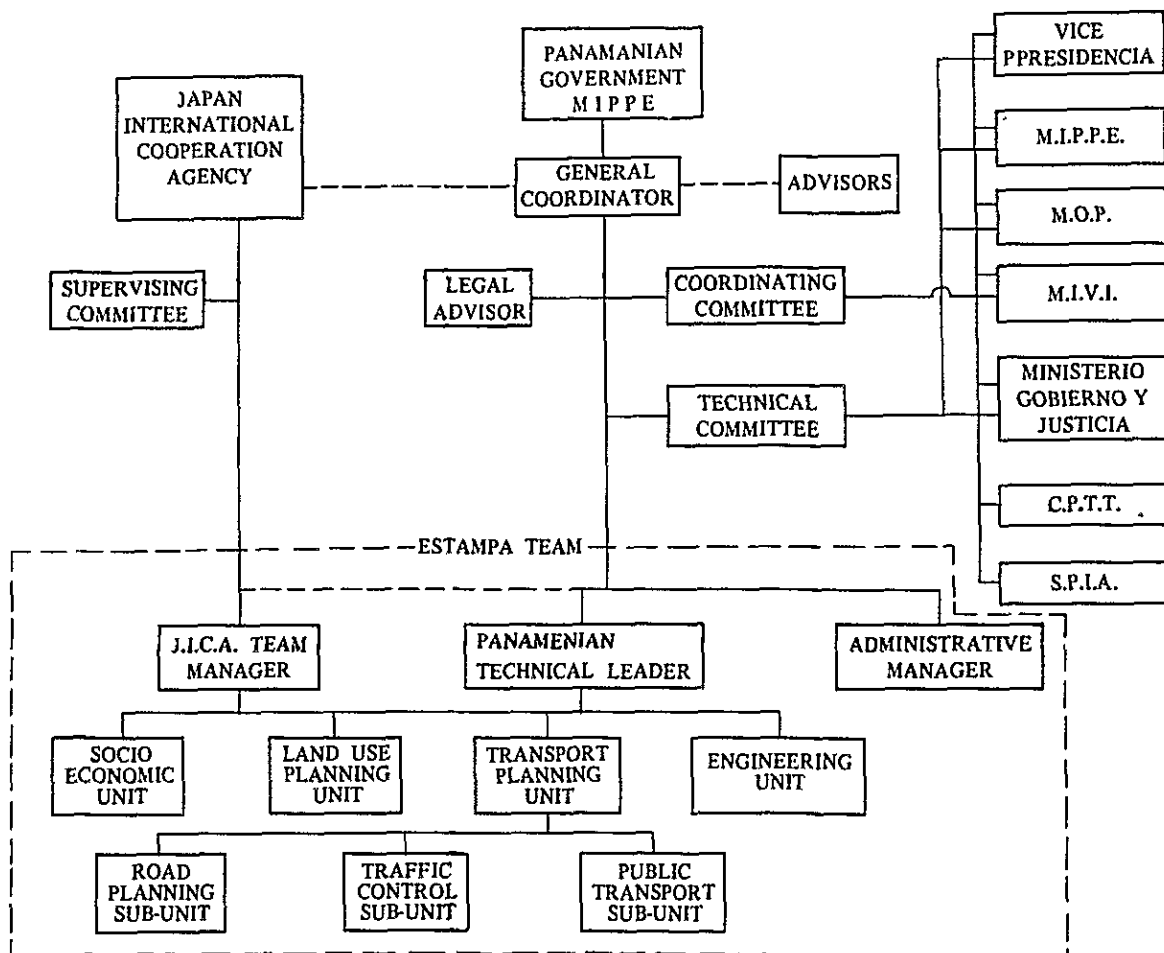


FIG. 1-2 ORGANIZATION OF ESTAMPA

## 5) Organization for Study

JICA organized and dispatched to the Republic of Panama a Panama Metropolitan Area Urban Transport Planning Study Team (hereinafter referred to as "JICA Team") and organized an internal Supervising Committee for the supervision of the project accomplishment. The Republic of Panama appointed MIPPE as the contact agency and Mr. Alvaro Guillen as the supreme authority. Also, in order that advices, judgements, and assistances needed for the accomplishment of the Study be provided both on political and technical levels, a Coordinating Committee, a Technical Committee, and a Counterpart Team were organized.

The JICA Team and the Counterpart Team worked together as an integral body in accomplishing surveys and studies. This Joint Team was divided into the expert groups of economics, sociology, land use planning, engineering, road planning, traffic management, and public transport. The Panamanian Government established an Administrative Manager who provided logistical and administrative support to facilitate the joint study efforts, as well as a Legal Advisor who answered various questions of law as they arose from time to time.

The organizational chart of the Joint Team is presented in Fig. 1-2, and the list of persons concerned is presented in Table 1-1.

TABLE I-1 STUDY ORGANIZATION MEMBER

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Ministerio de Obras Públicas  
Ministerio de Gobierno y Justicia  
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Koichi Kaneko

Team Leader  
Socio Economist  
Transportation Economist  
Land Planner  
Road Engineer  
Vice Team Leader, Transportation Planner  
Road Engineer  
Transportation Surveyer  
Transportation Surveyer  
System Analyst  
System Analyst  
Traffic Control Planner  
Public Transport System Planner  
Public Transport System Planner  
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Public Transport System Planner

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Auxiliar de Ingeniería  
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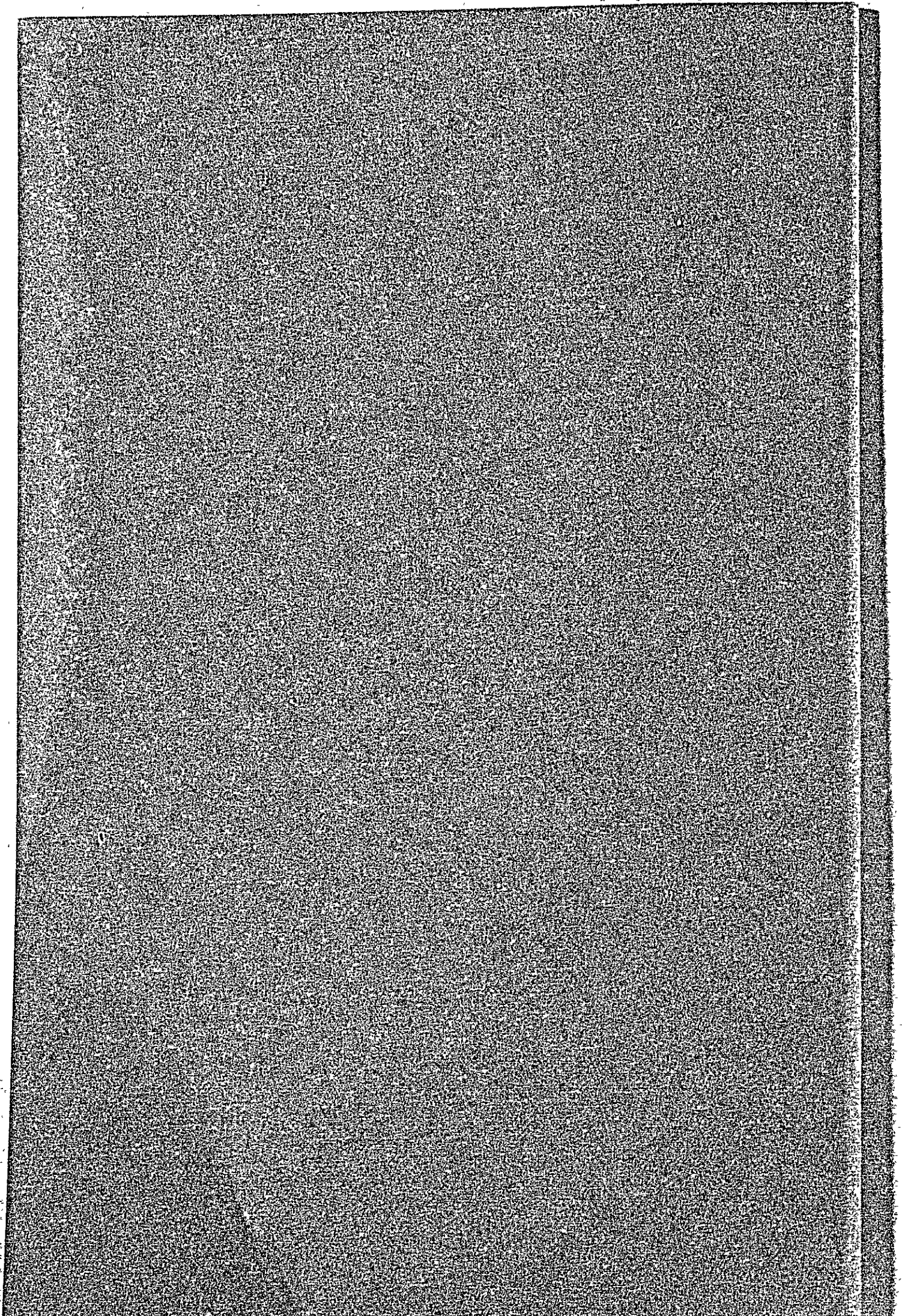
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# **PART I**

## **ANALYSIS OF PRESENT SITUATION**

- 2. CURRENT SOCIO-ECONOMIC CONDITION OF THE STUDY AREA**
- 3. EXISTING ROAD FACILITIES**
- 4. CURRENT STATUS OF ROAD TRAFFIC**
- 5. CURRENT TRAVEL CHARACTERISTIC**
- 6. PUBLIC TRANSPORTATION SYSTEM**
- 7. TRAFFIC MANAGEMENT**



**CHAPTER 2.**

**CURRENT SOCIO.ECONOMIC  
CONDITION OF  
THE STUDY AREA**

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial reporting and compliance with regulatory requirements. The text notes that incomplete or inconsistent records can lead to significant legal and financial consequences for the organization.

2. The second section focuses on the role of internal controls in preventing fraud and errors. It outlines various control mechanisms, such as segregation of duties, authorization procedures, and regular audits, which are designed to minimize the risk of misstatements and ensure the integrity of the data. The document stresses that a robust internal control system is a key component of an organization's risk management strategy.

3. The third part of the document addresses the challenges of data security and privacy in the digital age. It highlights the need for strong cybersecurity measures, including encryption, access controls, and regular security updates, to protect sensitive information from unauthorized access and breaches. Additionally, it discusses the importance of adhering to data protection regulations, such as the GDPR, to ensure that personal data is handled lawfully and ethically.

4. The final section discusses the impact of emerging technologies on business operations and data management. It explores how cloud computing, artificial intelligence, and big data analytics are transforming the way organizations collect, store, and analyze information. The text suggests that while these technologies offer significant benefits, they also introduce new risks and complexities that must be carefully managed to ensure long-term success and compliance.

## 2. CURRENT SOCIO-ECONOMIC CONDITION OF THE STUDY AREA

### 1) Geography and History

#### (1) Location, Area, and Government

The Republic of Panama is an isthmian nation extending east to west within the boundaries of from 7°12'08" to 9°38'45" North latitude and from 77°09'24" to 83°03'07" West longitude. The Study Area is a 3,570-square kilometer land surrounding Panama City<sup>1)</sup> extending for about 80 kilometers from east to west and about 50 kilometers from north to south, facing the Pacific Ocean in the middle of the Isthmus, which represents about 4.6% of the total Republic land of 77,082 square kilometers.

Note:

1) Panama City is not an administrative jurisdiction in itself, but is a common name of the urbanized thirteen corregimientos on Panama District.

The Study Area is transversed in the middle by the Isthmian Canal from north to south. On east of the Canal is the urbanized area stretching from the vicinity of the estuary toward north-east, through Panama City and to San Miguelito. The Study Area comprises four districts in the Province of Panama: Panama District, San Miguelito District, Arraijan District, and La Chorrera District, the former two occurring on the east of the Canal and the latter two on the west.

#### (2) Climate

Although Panama occurs in an oceanic tropical climate zone of a high temperature and high humidity with abundant rainfall throughout the year, it has a relatively mild climate – typical of low latitude countries – and is free from the attacks of storms and hurricanes. It has two seasons; dry season from January to April and wet from May to December.

TABLE 2-1 PRECIPITATION, TEMPERATURE AND RELATIVE HUMIDITY  
AT THE TOCUMEN METEOROLOGICAL STATION, MEANS OF 1976-1979

	Precipitation (millimeters)		Temperature (Centigrade)			Relative Humidity (Percentages)		
	Total	Daily Mean	Maximum	Minimum	Average	Maximum	Minimum	Average
Total	1,812.2	5.0	31.6	22.6	27.1	94.8	61.0	77.9
January	1.7	0.1	32.0	21.4	26.7	90.6	49.0	69.8
February	2.4	0.1	32.4	21.8	27.1	88.8	46.6	67.8
March	21.1	0.7	33.1	22.5	27.8	87.8	46.3	67.1
April	88.6	3.0	32.6	23.0	27.8	91.4	54.3	72.9
May	188.7	6.1	31.3	23.5	27.4	96.1	65.4	80.7
June	240.5	8.0	30.7	23.4	27.0	98.1	69.3	83.7
July	142.2	4.6	31.7	23.2	27.4	97.4	65.1	81.3
August	244.2	7.9	31.2	22.7	27.0	97.8	68.1	82.9
September	207.4	6.9	30.9	23.0	26.9	97.8	69.6	83.7
October	338.5	10.9	30.5	22.8	26.6	98.4	71.0	84.7
November	212.5	7.1	31.0	22.6	26.8	97.9	67.3	82.7
December	124.4	4.0	31.7	21.7	26.7	95.9	59.8	77.9

Source: Contraloria General, Panama en Cifras, Años 1976 a 1980

The Study Area, particularly, has a Savanna climate<sup>2)</sup> with a daily rainfall of only about an hour even during the rainy season and, therefore, the climate is mild compared to the Atlantic side with its heavy precipitation.

Note:

2) According to the classification of Koppen, Savanna climate has an annual precipitation of less than 2,500 millimeters, an average temperature of at least 18°C in the coolest month, and a difference between the average temperatures of the coolest and the hottest months of 5°C or less.

### (3) History

Panama City, the center of the Study Area, has always functioned as the central nucleus of the Republic's development since it was established as Panama La Vieja by the Spaniards in the 16th Century. Panama La Vieja prospered as a node on the "Silver Road" which connected Peru with Spain until it was destroyed by Henry Morgan, an Englishman, in 1671, and it is said that the "Old Panama" had then grown into a city with a population of 10,000 people including slaves.

In 1973, new Panama was established in the place now called San Felipe, which was selected for the site because, above all, of the shallow beach extending for some distance for an effective defense against pirate ships. New Panama succeeded the function as a node on the Silver Road until it was replaced by the Argentine Route upon the opening of Buenos Aires port at the estuary of the Silver River (La Plata River) in the 18th Century. Then came a century of economic stagnation, when population was about 7,000.

Upon the mid-19th Century Gold Rush in California, Panama City became a node on the Gold Road by which Californian gold was carried to the east coast of the United States. After the construction of the Isthmian Transverse Railroad in 1855, the amount of gold carried to the east coast via Panama is said to have reached 29 million dollars per year. A French-style high society was created after the start of canal construction work by the French and lasted until 1890, when the work was discontinued due to epidemics and so forth, when population allegedly had reached about 24,000.

Upon independence from Columbia in 1903, Americans started the canal construction, and population inflow was above 40,000 until the canal was completed in 1914. Thus, the center of the current Panama Urban Area was formed.

When the Canal was opened, Arraijan and La Chorrera on the west of the canal were farming villages with a population of a several thousand each. It was after the 1950s, when these villages were turned into the suburban outskirts of Panama City, that they started to develop.

The Canal was incorporated into the socio-economic structure of the Republic as an important source of government revenue and employment. However, the presence right in the middle of the nation of a 10-mile wide Canal Zone to which the Panamanian sovereign had no jurisdiction caused the rise of an anti-American nationalism. After prolonged negotiations, a new Treaty was signed in September 1977 which stipulated that, upon the expiry of the Treaty (at noon, December 31, 1999), the Republic of Panama would take over the rights and responsibilities for the administration, operation, and maintenance of the Canal. Under this treaty which took effect on October 1, 1979, some land and facilities in the old Canal Zone were reverted to Panama, additional land and facilities to be reverted during the life of the treaty.

Of the total land area of the Study Area of 3,570 square kilometers, 730 square kilometers

(20%) occurs in the Canal Area (Corregimiento de Ancon), whose future development will substantially affect the future of the Study Area.

## 2) Industrial Structure of the Study Area

The industrial structure of the Study Area, seen in terms of the number of people employed in various industrial sectors is, of the total 220,000, 8,000 or 3.7% is engaged in agriculture, forestry, and fishery (primary industries), 49,000 or 22.3% in mining, manufacturing, utilities, and construction (secondary industries), and the remaining 74.0% in tertiary industries.

TABLE 2-2 EMPLOYMENT BY INDUSTRY (1980)

	Persons	Composition
TOTAL	219,530	100.0
Agriculture, Forestry and Fisheries	8,155	3.7
Mining	280	0.1
Manufacturing	29,680	13.5
Electricity, Gas, Water and Steam	4,650	2.1
Construction	14,410	6.6
Wholesale and Retail Trade	41,640	19.0
Transportation and Communications	10,495	4.8
Finance and Insurance	15,940	7.3
Services	78,715	35.9
Canal Area	13,655	6.2
Not Classified	1,910	0.8

Source: Contraloria General

### (1) Agriculture

In 1970, the Study Area has a total agricultural land space of 144 thousand hectares (see Table 2-3), of which 28 thousand hectares cultivated, 83 thousand hectares was pasture land and 28 thousand hectares was forest. The largest portions of the cultivated land were in corn and rice,

TABLE 2-3 FARMLAND (1970)

(Hectares)

	Number of Locations	Total Area	Cultivated Land	Pastures	Forest	Others
Study Area Total	8,372	143,926	28,225	83,434	28,002	4,265
Arraijan	1,818	10,258	2,845	5,864	842	707
La Chorrera	2,542	51,055	11,690	31,663	5,741	1,961
Panamá	3,943	79,415	13,603	42,880	21,349	1,583
San Miguelito	69	3,198	87	3,027	70	14
Panamá Province	15,401	293,965	65,822	153,861	64,922	9,360

Source: Contraloria General, III Censo Agropecuario, 16 de mayo de 1971

others were in beans, cassava, and sugarcane, with almost no vegetable. Vegetables are mostly produced in Chiriqui Province and brought to the central public market in the center of Panama City every day. The major agricultural product of the Study Area in the Republic is chicken, and the 1981 Agricultural Census showed that there 1,530 thousand chickens in the Study Area, or 30% of the national total of 5,070 thousand.

(2) Manufacturing

As seen in Table 2-4, manufacturing activities in the Study Area are mostly in fundamental consumer goods such as food (bread, refined sugar, beer, fishery products meat products, oil and fats, non-alcoholic beverages, daily products, and tobacco), textile (garments, footwear), wood (lumber, furniture), paper (printing, publication, paper containers), and ceramics (cement, and other non-metalic products) and nothing significant in chemicals and machinery. About two thirds of such activities are located in the Panama Urban Area, but it is interesting that fish processing is located in Districts of Arraijan and La Chorrera, sugar refining in Corregimiento de Pacora, and cement manufacturing in Corregimiento de Chilibre.

The total number of establishments with five or more persons engaged has remained at about 630 according to past annual industrial surveys, and the figure for 1977 was 633 establishments

TABLE 2-4 EMPLOYMENT IN MANUFACTURING INDUSTRIES  
BY ACTIVITIES AND LOCATION, STUDY AREA (1980)

Activity	Total	Panama Urban Area	Rest of Study Area
Food, Beverages and Tabacco	9,420	6,215	3,205
Textiles and Clothing	6,830	5,730	1,100
Wood and Furniture	3,085	1,925	1,160
Paper and Printing	2,850	2,175	675
Chemical, Petroleum and Rubber	1,965	1,140	825
Glass, Ceramic, Stone and Clay	2,235	1,065	1,170
Basic Metal Industries	455	130	325
Metal and Machinery	2,560	1,425	1,135
Others	280	255	25
Total	27,680	20,060	9,620

Source: Contraloria General

TABLE 2-5 NUMBER OF ESTABLISHMENTS AND PERSONS ENGAGED  
IN MANUFACTURING INDUSTRIES (1961, 1971, 1977)

	Year	Establishments	Persons Engaged
Republic of Panama	1961	483	12,118
	1971	722	25,665
	1977	633	27,268
Panama Province	1961	339	8,985
	1971	505	19,297
	1977	458	20,319

Source: Contraloria General



with a total 27,000 persons engaged. According to the 1961 and 1971 Manufacturing Industry Survey, and the final result of the 1977 industrial survey, both the number of establishments and the number of persons engaged rapidly increased in the Republic of Panama in the 1960s, while the number of establishments shrank and the number of persons engaged stagnantly increased in the 1970s. The same trend occurred in Panama Province, which is believed to directly reflect the situation in the Study Area.

### (3) Construction

Yearly totals of public and private construction investments in the Republic of Panama fluctuated between 260 million to 360 million balboas in the period from 1976 to 1979, as shown in Table 2-6. Private sector investment grew steadily until it exceeded public sector investment in 1979.

Private sector has had a higher share of residential and non-residential building construction than public sector, and particularly in 1979, when public investment declined but private commercial building construction conversely grew, private sector represented 71.3% of total housing activities and 76.1% of total non-residential activities. Road and other infrastructural construction is primarily the responsibility of public sector, but private sector has been showing slowly increasing share in such activities.

TABLE 2-6 CONSTRUCTION INVESTMENT BY SECTOR AND TYPE OF WORK  
(Million Balboas)

	1976	1977	1978	1979 (P)
Public Sector	<u>269.4</u>	<u>182.5</u>	<u>244.6</u>	<u>154.8</u>
Houses	19.3	43.1	37.6	23.9
Non-Residential Buildings	25.9	38.9	61.5	37.9
Other Construction Work	224.2	100.5	145.5	93.0
Private Sector	<u>91.6</u>	<u>77.9</u>	<u>122.8</u>	<u>182.6</u>
Houses	35.7	41.2	52.4	59.3
Non-Residential Buildings	54.5	35.4	68.5	120.7
Other Construction Work	1.4	1.3	1.9	2.6
Total	<u>361.0</u>	<u>260.4</u>	<u>367.4</u>	<u>337.4</u>
Houses	55.0	84.3	90.0	83.2
Non-Residential Buildings	80.4	74.3	130.0	158.6
Other Constructions Work	225.6	101.8	147.4	95.6

Source: Contraloria General. Situacion Economica, Cuentas Nacionales Años 1976 a 1978 y Años 1977 a 1979

TABLE 2-7 VALUE OF CONSTRUCTION BY SECTOR IN PANAMA AND  
SAN MIGUELITO DISTRICTS, 1977-1981  
(Thousand Balboas)

	1977	1978	1979	1980	1981
Panama	<u>23,740</u>	<u>50,690</u>	<u>71,380</u>	<u>101,010</u>	<u>99,720</u>
Public Sector	220	14,630	10	2,330	6,420
Private Sector	23,520	36,060	71,370	98,680	93,300
San Miguelito	<u>23,330</u>	<u>9,960</u>	<u>12,720</u>	<u>7,100</u>	<u>5,350</u>
Public Sector	14,350	50	2,180	--	--
Private Sector	8,980	9,910	10,540	7,100	5,350
Total	<u>47,070</u>	<u>60,650</u>	<u>84,100</u>	<u>108,110</u>	<u>105,070</u>
Public Sector	14,570	14,680	2,190	2,330	6,420
Private Sector	32,500	45,970	81,910	105,780	98,650

Source: Camara Panameña de la Construccion

The most active sites of construction in the Study Area are Panama and San Miguelito Districts, where private sector is acquiring a greater share of construction activities – 97.8% in 1980 and 93.9% in 1981.

#### (4) Commerce and Service Industry

Of the number of persons engaged in the service industry, shown in Table 2-2, approximately 47,000 or 60% are in non-profit activities such as governmental, military, medical, educational, social, and religious activities. This number represents 21% of total employment.

According to the commerce and service industry survey conducted by the Contraloria General since 1974 covering establishments with five or more persons engaged in the District of Panama, the number of employees in wholesale trade was 8,594, those in retail trade was 9,512, and those in service business was 8,425, while the amounts of sales were, respectively, 508 thousand balboas, 279 thousand balboas, and 60 thousand balboas in 1980 (see Table 2-8).

TABLE 2-8 NUMBER OF EMPLOYEES AND ANNUAL SALES BY SECTOR  
IN THE ESTABLISHMENTS OPERATED IN PANAMA DISTRICT

Year	Number of Employees			Annual Sales (Million Balboas)		
	Wholesale Trade	Retail Trade	Services	Wholesale Trade	Retail Trade	Services
1974	8,129	9,794	8,543	643.9	364.8	94.4
1975	8,088	9,688	8,394	608.9	345.7	99.9
1976	7,841	8,886	8,040	642.1	341.7	93.8
1977	7,795	8,976	8,095	648.2	387.8	106.9
1978	8,055	8,870	8,287	741.0	455.2	104.9
1979	8,446	9,366	8,375	866.0	526.6	115.0
1980*	8,594	9,512	8,425	508.2	279.0	60.2

\* First Semester from January to June

Source: Contraloria General, Indicadores Economicos y Sociales (Primer Semestre de 1980)

A review of past trends shows that both the number of employees and the amount of sales declined from 1973 until 1976 or 1977, after which they turned upwards. However, in consideration of upward trends in prices, real expansion in the scope of those activities must have been moderate.

The commercial center of Panama has long been Centro, represented by Corregimiento de Santa Ana and Calidonia. Now medium/high-class specialty stores and supermarkets are being opened along with the development of an international financial center and high-rise dwelling houses in Bella Vista and a suburban type shopping center has been constructed and is being expanded Ave. Ricardo J. Alfaro in Urb. Betania. This shows that the function of Centro as a commercial center is losing its importance, while a new urban center is being formed in Bella Vista and shopping centers are being formed in suburban areas.

#### (5) Finance, Insurance, Real Estate, and Business Services

The Republic of Panama has no central bank; the National Bank of Panama (Banco Nacional

de Panama) manages government funds and issues coins, but does not perform monetary adjustment function. The Banking Law (No. 238) of 1970 placed financial institutions in Panama under the supervision of the National Banking Commission (Comision Bancaria Nacional), and banks are allowed to do banking business under the license issued by this Commission. Banking licenses are classified into three: (1) general license, which allows both international and domestic banking (at the end of 1980, 60 banks were operating under this license), (2) international license, which allows only international banking (likewise, 36 banks), and (3) license of representation, which allows only the establishments of a liaison office (12 banks).

TABLE 2-9 NUMBER OF PERSONS ENGAGED IN FINANCE, INSURANCE, REAL ESTATE AND BUSINESS SERVICES, STUDY AREA AND SOME COMMUNITIES (1980)

	Study Area	Panama Urban Area				Total
	Total	Santa Ana	Calidonia	Bella Vista	San Francisco	
Finance	6,840	630	760	3,630	480	5,500
Insurance	1,430	40	410	690	90	1,230
Real Estate and Business Services	7,670	300	1,950	2,910	580	5,740
Total	15,940	970	3,120	7,230	1,150	12,470

Source: Contraloria General

TABLE 2-10 NUMBER OF PERSONS ENGAGED IN REAL ESTATE AND BUSINESS SERVICES, CALIDONIA AND BELLA VISTA (1980)

Items	Calidonia	Bella Vista
Real Estate	1,170	700
Juridical Services	260	550
Accounting, Auditorial and Bookkeeping Services	170	420
Data Elaborating and Tabulating Services	5	40
Engineering and Architectural Services	30	110
Publicity Services	60	120
Lending of Machines and Equipments	30	240
Miscellaneous Business Services	225	730
Total	1,950	2,910

Source: Contraloria General

In the Study Area, persons engaged in the financial sector counted about 7,000, those in insurance industry was about 1,500, and those in real estate and business services, about 7,500, for a total of approximately 16,000. Foreign banks have opened their offices in Panama, as they were attracted by the favorable situation offered under the 1970 Banking Law of no tax imposition of off-shore transactions and the free usage of U.S. dollars without foreign exchange control, with resultant increase in persons engaged in the banking sector and the opening of related offices in Panama City.

These late-comer foreign banks are concentrated in Bella Vista and an estimated 3,600 people were working for them in 1980, which was more than one-half of the total banking workers in the Study Area. Other activities associated with banking are also concentrated in Bella Vista, where 700 people are working in real estate, 2,200 in law offices and other office-serving activities, and 700 in insurance, for a total of 7,200. On the other hand, there are a concentration of 3,100 workers in Corregimiento de Calidonia, 1,000 in Corregimiento de Santa Ana, both in the old urban center, and 1,100 in Corregimiento de San Francisco, adjacent to Bella Vista. All together, these workers represent as much as 78% of total workers in these sectors in the Study Area.

#### (6) Tourism

Tourism is an important sector which contributes to Panamanian international balance of payment. The central tourist attraction is the Canal, and tours to the Canal can include visits to historical sites in the city, shopping and other amusements. There are also tours to Contadora Island in the Pacific and San Blas Island in the Caribbean Sea. Whatever the itinerary, most tourists enter Panama through Omar Torrijos Herrera International Airport in the suburb of Panama City and spend most of their money in the City.

The importance of tourist spending is evident from the fact that, while Panama's international balance of payment was at a deficit of 310 million dollars, tourism income was 165 million dollars (according to preliminary figures) in 1979. In 1979, 370,000 visitors and 420,000 transit passengers for a total of about 800,000 foreign travellers spent more than 160 million dollars in Panama. On the other hand, Panamanians spend 48.4 million dollars abroad, but a comparable 50.7 million dollars were earned through foreigner spending in the Canal Area. Therefore, tourism income was a straight contribution to the international balance of payment, without the need of offsetting the foreign spending of Panamanians.

TABLE 2-11 NUMBER OF VISITORS AND VALUE CONSUMED IN PANAMA

Items	1978		1979 (P)	
	Number of Persons	Value Consumed	Number of Persons	Value Consumed
Total	725,349	143,752	795,319	162,878
Tourista	376,201	117,796	371,028	127,036
Recreation	313,731	96,569	297,310	101,122
Family Affairs	2,709	616	3,097	853
Business	50,327	18,118	59,114	21,930
Official Mission	2,840	921	3,021	1,029
Others	6,594	1,572	8,486	2,102
Transit	349,148	25,956	424,291	35,842

Source: Contraloria General, Balanza de Pagos, Años 1978 y 1979

**TABLE 2-12 NUMBER AND CONSUMPTION BY FOREIGN PASSENGERS  
BY ORIGINATING CONTINENTS, 1979**

Region	Number of Persons	Values Consumed (Thousand Balboas)
Total	795,319	162,878
North America	222,819	43,504
Central America	144,108	31,091
Antillas	15,575	4,219
South America	323,496	66,856
Europe	30,184	9,017
Africa	499	155
Asia	8,125	2,852
Oceania	955	306
Transit Passengers at Balboa and Cristobal Port	49,558	4,878

Source: Contraloria General, Situacion Economica, Balanza de Pagos,  
Años 1978 y 1979

**TABLE 2-13 FIRST CLASS HOTEL ROOM OCCUPANCY, 1980**

	The First Quarter	The Second Quarter
Rooms Available at the end of the quarter	2,243	2,246
Rooms occupied daily during the quarter	1,620	1,445
Room Occupancy Rate (%)	72	64

Source: Contraloria General, Indicadores Economicos y Sociales Primer Semestre de 1980

Pure tourists are about 300,000 each spending about 340 dollars on the average. Highest average per capita spending is 371 dollars by business entrants, followed by 341 dollars by official mission entrants for all other purposes and 84 dollars by transit passengers.

By nationality, Americans represented the largest share at 178,000, followed by Costa Ricans at 97,000, Colombians at 93,000, Equadorians at 56,000, and Venezuelans at 46,000. By continent, South Americans counted 323,000 (67 million dollars), North Americans, 223,000 (43.5 million dollars), Central Americans, 144,000 (31 million dollars) – altogether representing 87% of the total.

To accommodate these visitors, there are about 2,200 first-class hotel rooms, whose occupancy rate is at least 70% in the first quarter, or the dry season, and at least 60% even in the rainy season in 1980.

#### (7) Canal Area

Foreign exchange revenue from, and employment opportunities in the Canal Area are very important to the Republic. In 1979, revenue from the Area was 334 million dollars, the largest portion of which was employment income of 135 million dollars, followed by petroleum and other commodity sales of 85 million dollars, and consumption expenditures by the Area residents of 51 million dollars. Since October 1979, some Canal land and facilities were reverted to the Republic

of Panama and the Panamanian government has started to participate in some aspects of the Canal operation. Also, the new Canal Treaty effected some change in the system by which payment is made to Panama by the Panama Canal Commission.

Total number of Canal-related workers are estimated at 19,000 in 1980, over 5,000 of which are on the Colon City side and, in the Study Area, about 13,300 are concentrated in Corregimiento de Ancon of Panama District. These workers can be classified by employer as follows:

American Employers		Panamanian Employers	
Panama Canal Commission	4,800	Government	1,400
U.S. Forces	2,600	Private Enterprises	2,600
Other Governmental Agencies	1,100	Self-employed	200
Domestic Households Workers	400	Unknown	200
Total	8,900	Total	4,400

This means that Panamanian employers now have a one-third share in the Canal employment, which corresponds to the portion of Canal activities which have been reverted to Panama and incorporated into the Panamanian economy, as well as to the accompanying reduction in the economy's revenue from American employers.

TABLE 2-14 TRANSACTIONS WITH THE PANAMA CANAL AREA (1979)

Item	(In thousands of Balboas)		
	Debt	Credit	Net
Exports		84,857	84,857
(Petroleum products)		(45,400)	
Imports	7,271		-7,271
(Water)	(3,188)		
Payments for Transportation facilities	932		-932
Consumption by residents in the Canal Area		50,708	50,708
Services rendered for the Canal Area		15,576	15,576
Rent for facilities in the Canal Area	22		-22
Net income of Panamanian employees in the Canal Area		135,118	135,118
Illegal purchase by Panamanians in the Canal Area	14,996		-14,996
Sales of goods and services to businesses in the Canal Area		19,659	19,659
Payments for medical services etc. in the Canal Area	1,108		-1,108
Pensions		37,888	37,888
Annuity		14,828	14,828
Total	24,329	358,634	334,305

Source: Contraloria General, Situacion Economica, Balanza de Pagos, Años 1978 y 1979

### 3) Population

#### (1) Total Population

The population of the Republic of Panama grew from a mere 337,000 in 1911, just before the opening of the Canal, by an average annual rate of 2.5% up to 1,830,000 in 1980.

The population of the Study Area, on the other hand, grew from 332,000 in 1960 (30.8% of

Republic's population then) by an average annual rate of 4.2% up to 2.3 times or 759,000 in 1980. This figure includes the residents of Corregimiento de Ancon (Panama District), which was newly established in the Canal Area that was partially reverted to the Republic of Panama. Therefore, after adjustment by deducting the residents of the non-reverted part of Corregimiento de Ancon, an estimated 733,000 (or to be exact. 732,840) is to be used as the population of the Study Area.

TABLE 2-15 POPULATION OF THE REPUBLIC AND STUDY AREA  
1960, 1970, 1980

	1960	1970	1980
Republic of Panama	1,075,541	1,428,082	1,830,175
Study Area	331,804	519,643	759,153 (732,840)*
Percentage	30.8	36.4	41.5

\* Excluding the population which belongs to the non-reverted area of Ancon Corregimiento  
Source: Contraloria General, Censos Nacionales (1960, 1970, 1980)

## (2) Age Structure Characteristic

In comparison with the age structure of the Republic's population, the Study Area, into which rural people gather for jobs and where birth rate is low, shows a relatively large portion of those in the working ages. As a result, the ratio of dependent population – an index of average dependency on each working age person – is 66.6 in the Study Area as opposed to the Republic's average of 78.3. Thus, every three persons in the prime of life are supporting two dependents on the average in the Study Area.

TABLE 2-16 ESTIMATED AGE STRUCTURE OF THE REPUBLIC  
AND STUDY AREA POPULATIONS (1980)

Age Group	(Percentages)	
	Republic of Panama	Study Area
0-14	39.7	35.3
15-64	56.1	60.0
65-	4.2	4.7
TOTAL	100.0	100.0

Source: ESTAMPA

## (3) Working Population and Employment

The Study Area's population at work (number of workers) is estimated at 221,000 : 9,500 in primary industries (agriculture, forestry, and fishery), 48,900 in secondary industries (of which 28,900 in manufacturing), and 162,700 in tertiary industries. Worker/total population ratio is 30.2%. The total number of workers of 221,000 is only about one-half of the working age population (60% of 733,000, or about 440,000), which means that half of the working age population is not working. If allowance is made for the fact that the working age population includes those

aged 15 to 19 in higher education, the worker/working age population ratio is quite low.

A review of the ratio of those employed in the Study Area (some of whom may be living outside the Area) to the Study Area population at work (some of whom may be working outside the Area) by industrial sectors indicates that secondary industries in the Study Area are attracting more people than losing, while primary and tertiary industries are losing more than attracting. A major part of the net loss of primary industry workers goes to sugarcane plantations in Chepo District, immediately to the East, while the residents of Panama City who go to work in the free zone and other parts of Colon City account for a major part of the tertiary industry worker net loss.

TABLE 2-17 EMPLOYMENT/WORKER RATIO IN STUDY AREA BY INDUSTRY

	(A) Resident Workers	(B) Employment	(B)/(A) Ratio
Primary Industries	9,445	8,155	0.864
Secondary Industries (Manufacturing)	48,925 (28,935)	49,020 (29,680)	1.002 (1.026)
Tertiary Industries	162,700	162,355	0.998
Total	221,070	219,530	0.993

Source: Contraloria General

The occupational distribution of workers in the Study Area is presented in Table 2-18. It shows that the proportions of those who are in professional, technical, managerial, and clerical jobs are high, together representing 38.2% (or as many as 84,000) of the total workers. The number

TABLE 2-18 WORKING POPULATION BY OCCUPATION IN THE STUDY AREA, 1980

Occupation	Number	Percentage
Professional and Technical Workers	33,260	15.0
Managers and Officials	16,090	7.3
Clerical and Related Workers	35,000	15.8
Sales Workers	18,560	8.4
Agricultural, Forestry and Fisheries Workers	7,600	3.4
Workers in Transport and Communications Occupations	13,200	6.0
Craftsmen, Production Process Workers and Labourers	49,150	22.2
Service Workers	43,890	19.9
Unclassified	4,320	2.0
Total	221,070	100.0

Source: Contraloria General



of workers in industrial occupations is, on the other hand, small, reflecting the fact that secondary industry activities are low. This trend is believed to further intensify in the future.

#### (4) Population Distribution and Trend of its Change

This section will discuss the distribution of Study Area population by its zones. (Hereinafter in this Report, zone identification will be by the zone titles listed in Fig. 2-1, as a principle; the zones identified by code number 01 through 63 are small zones (P.T. zones) in which the person-trip survey was conducted, and those identified by code numbers I through XVII are big zones (integrated zones) ).

During the two decades from 1960 to 1980, Study Area population grew by 2.2 times from 330,000 to 730,000 (see Table 2-19).

Average annual population increase rate in the Study Area was 4.6% in the 1960s and 3.5% in the 1970s. In contrast to this, the population of the Panama Urban Area increased by an average 2.3% in the 1960s but decreased in the 1970s. Population swell was experienced in the 1960s in San Miguelito (average annual increase rate was 18.1%), Juan Diaz-Pedregal, and Tocumen. Population in other zones also nearly doubled. As a result, the share of Panama Urban Area in the Study Area's population declined from the 74% in 1960 to 60% in 1970. In the 1970s, both

TABLE 2-19 POPULATION BY ZONE GROUP

Zone Group	Population			Growth Rate per Year (%)		Ratio to the Total (%)		
	1960	1970	1980	1960-70	1970-80	1960	1970	1980
Panama Urban Area (01-22)	245,430	309,449	304,127	2.3	-0.2	74.0	59.6	41.5
Juan Diaz-Pedregal (23-25)	14,985	39,255	84,511	10.1	8.0	4.5	7.6	11.5
Tocumen (26-27)	2,088	6,170	21,745	11.4	13.4	0.6	1.2	3.0
San Miguelito (28-34)	12,975	68,400	157,063	18.1	8.7	3.9	13.2	21.4
Las Cumbres-Chilibre (35-36)	14,565	25,564*1	49,075*1	5.8	6.7	4.4	4.9	6.7
Ancon (37-43)	N.A	N.A	1,800*2	N.A	N.A	-	-	0.2
Arraijan (44-46)	8,930	16,550	34,019	6.4	7.5	2.7	3.2	4.6
La Chorrera (47-49)	17,475	34,116	55,385	6.9	5.0	5.3	6.6	7.6
Sub-Total (Planning Area)	316,498	499,504	707,725	4.7	3.5	95.4	96.1	96.6
Pacora-Nuevo Emperador (50-53)	15,306	20,139	25,115	2.8	2.2	4.6	3.9	3.4
Total (Study Area)	331,804	519,643	732,840	4.6	3.5	100.0	100.0	100.0

\*1 Population in mountain side of Corregimiento de Chilibre is counted in Pacora-Nuevo Emperador.

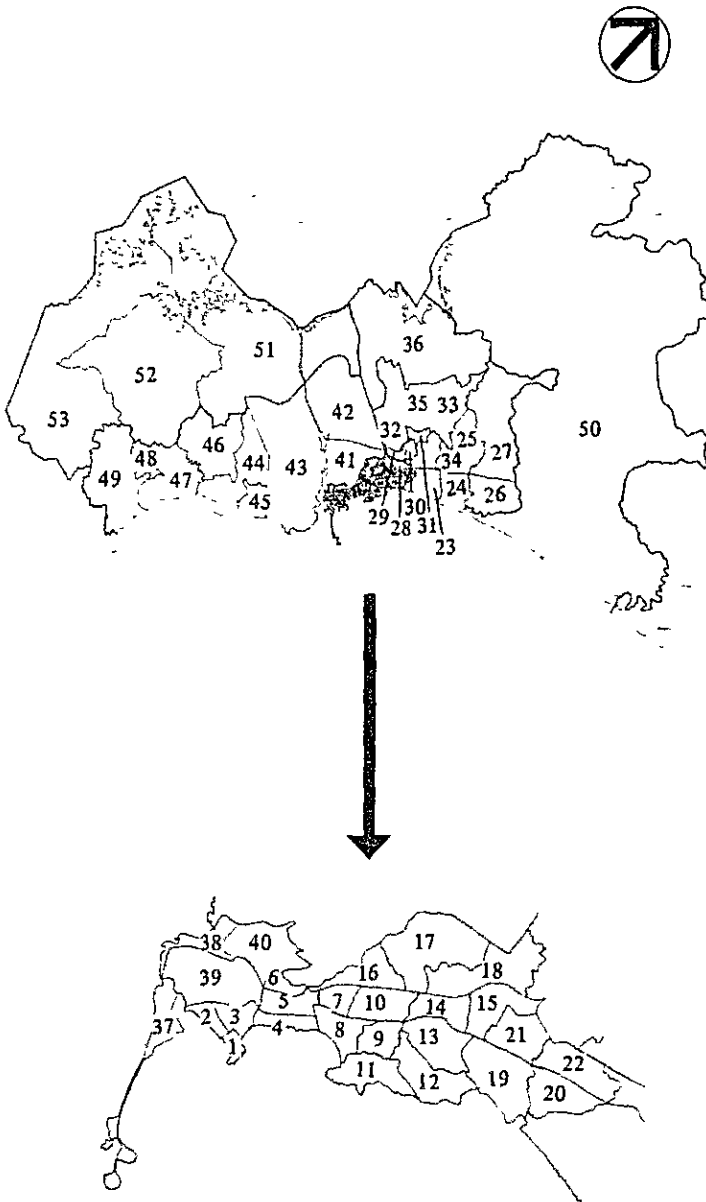
\*2 Population of Corregimiento de Ancon in 1980 is estimated only for the reverted area.

Source: Contraloria General

San Miguelito and Juan Diaz-Pedregal continued to grow in population, but population swell moved away to Tocumen, where average annual increase was by 13.4% and further outwards. The population share of the Panama Urban Area dropped to 42% in 1980, while the share of San Miguelito rose to 21% and that of Juan Diaz-Pedregal, to 12%.

Review of corregimientos, smaller divisions of integrated zones, indicates that population decline has continued in such parts of Corregimiento de Herrera (P.T. Zone 52) and Corregimiento de Hurtado (P.T. Zone 53), which are suburbs of La Chorrera, and in the old city center (Corregimi-

ZONE CODE AND NAME



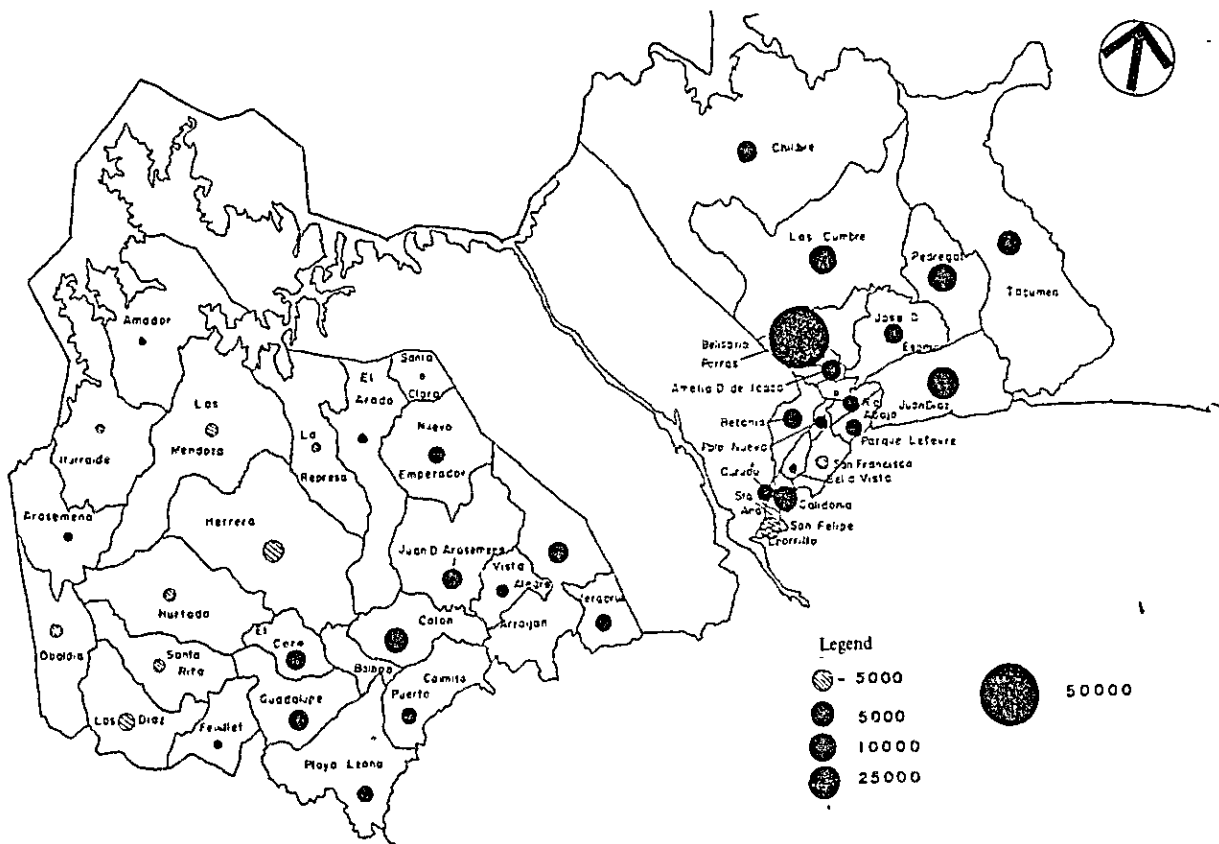
INTEGRATED ZONE No.	ZONE NAME	
	No.	CORREGIMIENTO*
I CENTRO	01	San Felipe
	02	El Chorrillo
	03	Santa Ana
	04	Calahorra Sur
	05	Calahorra Norte
II BELLA VISTA	06	Curundú
	07	La Cuesta
	08	Urrutia-Campo Alegre
	09	Obispo
III AREA RESIDENCIAL	10	El Cangrejo
	11	Punta Pavilla
	12	San Francisco
	13	El Golf
	14	Vista Hermosa
	15	Pueblo Nuevo
	16	Loceña
	17	El Dorado
	18	Betania
	19	Parque Lefevre
IV JUAN DIAZ PEDREGAL	20	Chama
	21	Rio Abajo
	22	Villa Lorena
V TOCUMEN	23	Hipódromo
	24	Juan Diaz
	25	Pedregal
VI SAN MIGUELITO	26	Nuevo Aeropuerto
	27	Tocumen
VII LAS CUMBRES CHILIBRE	28	Area de Paraiso
	29	Amelia Denis de Icaza
	30	Samará
	31	San Isidro
	32	Los Andes No. 2
	33	La Pulida
	34	Cerro Viejo
VIII ANCON ESTE	35	Las Cumbres
	36	Chilibre
	37	Fuerte Amador
	38	La Boca
	39	Balboa
	40	Albrook Field
IX ANCON OESTE	41	Fuerte Clayton
	42	Pedro Miguel
	43	Cocoli
	44	Ancon
X ARRAIJAN	45	Arraján Cabecera
	46	Veracruz
	47	Nuevo Arraján
XI CHORRERA	48	Barrio Colón y Puerto Caamaño
	49	Barrio Balboa
	50	Area de Cuadalupe
XII PACORA	51	Barrio Colón y Puerto Caamaño
	52	Barrio Balboa
XIII SLEVO EMPERADOR	53	Playa Leona, El Coco, Guadalupe
	54	Area de Pacora
	55	Area Nuevo Emperador
XIV SECTOR ESTE	56	Pacora y San Martín
	57	Santa Clara y Nuevo Emperador
	58	El Arado, Herrera, La Represa y Mendoza
XV SECTOR NORTE	59	Amador, Anconena, Hurtado, Hurtado, Los Diaz, Fresaltes, Obaldia, Santa Rita
	60	Provincia de Colón
	61	Provincia de Colón
XVI SECTOR OESTE	62	Barrio Norte y Barrio Sur
	63	Comarca de San Blas
	64	Distrito Capua, Chame
	65	San Carlos
XVII ISLAS DEL GOLFO DE PANAMA	66	Provincia de Coclé
	67	Prov. de Herrera y Los Santos
	68	Prov. de Veraguas, Chiriquí, Bocas del Toro
	69	Taboga

\*In the case of the external area, the division is at the level of District or Province.

FIG. 2-1 ZONE CODE NUMBERS AND NAMES

entos de San Felipe and de Calidonia), and Corregimiento de San Francisco. Population has been increasing in all other corregimientos.

In suburban areas, population density is high only in the parts (P.T. Zones 28 through 30) of San Miguelito which are close to the Panama Urban Area, and it is less than 50 persons per hectare in all other areas. Panama Urban Area itself shows a density of 86.6 persons per hectare, while it is extremely high at 200 to 500 persons per hectare in Centro, where population is being lost. The lowest density in Panama Urban Area is 51.7 persons per hectare in Corregimiento de Betania, where a fair amount of open spaces still remain and where population increase from 1970 to 1980 was over 9,000. In Corregimiento de San Francisco, where large-scale public facilities are located, including Marcos Gelabert Airport, and park (formerly golf link), population has started to decline and density is not very high (58.2 persons per hectare), but, when such facilities are disregarded, density would be high.



Source : Contraloria General

FIG. 2-2 POPULATION INCREASES IN CORREGIMIENTOS (1970-1980)

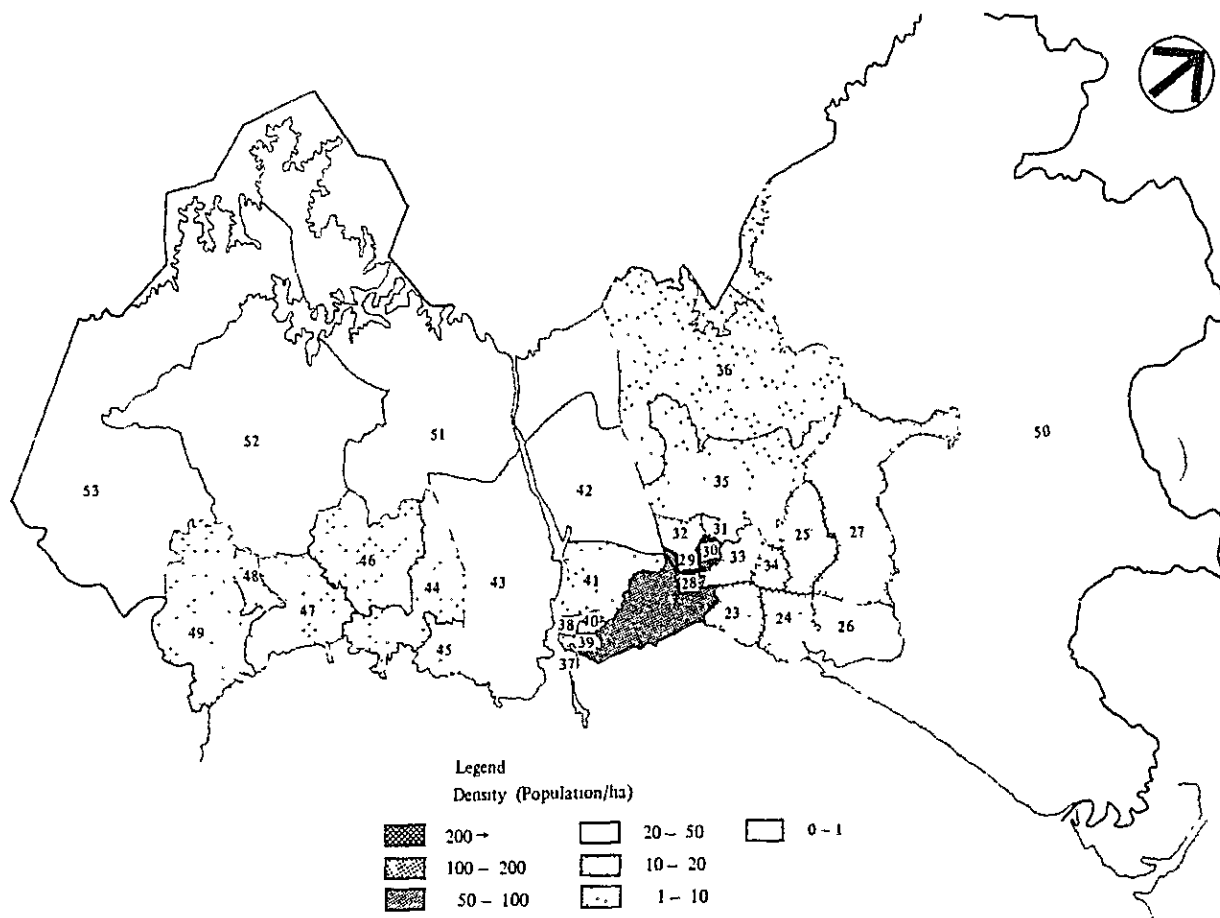


FIG 2-3 POPULATION DENSITY BY P.T. ZONE (1980)

Source : Contraloria General

TABLE 2-20 POPULATION AND DENSITY IN PANAMA URBAN AREA

Zone Group	Population			Growth Rate per Year (%)		Population Density (Person/ha)		
	1960	1970	1980	1960-70	1970-80	1960	1970	1980
San Felipe (01)	13,276	14,145	11,704	0.6	-1.9	442.5	471.5	390.1
El Chorrillo (02)	29,502	27,834	25,209	-0.6	-1.0	590.0	556.7	504.2
Santa Ana (03)	35,644	32,023	27,803	-1.1	-1.4	445.6	400.3	347.5
Calidonia-Curundu (04-06)	53,794	57,628	45,579	0.7	-3.0	244.5	261.9	193.5
Bella Vista (07-10)	15,681	26,659	28,091	5.5	0.5	34.8	59.2	62.4
San Francisco (11-13)	25,242	35,995	35,044	3.6	-0.3	42.1	60.0	58.4
Pueblo Nuevo (14-15)	17,070	19,376	21,075	1.3	0.8	55.1	62.5	68.0
Betania (16-18)	15,758	37,271	46,544	9.0	2.2	17.5	41.4	51.7
Parque Lefevre (19-20)	18,540	31,165	34,122	5.3	0.9	37.8	63.6	69.6
Río Abajo (21-22)	20,973	27,353	31,956	2.7	1.6	55.2	72.0	84.1
Total	245,480	309,449	304,127	2.3	-0.2	69.9	88.2	86.6

Source: Contraloria General

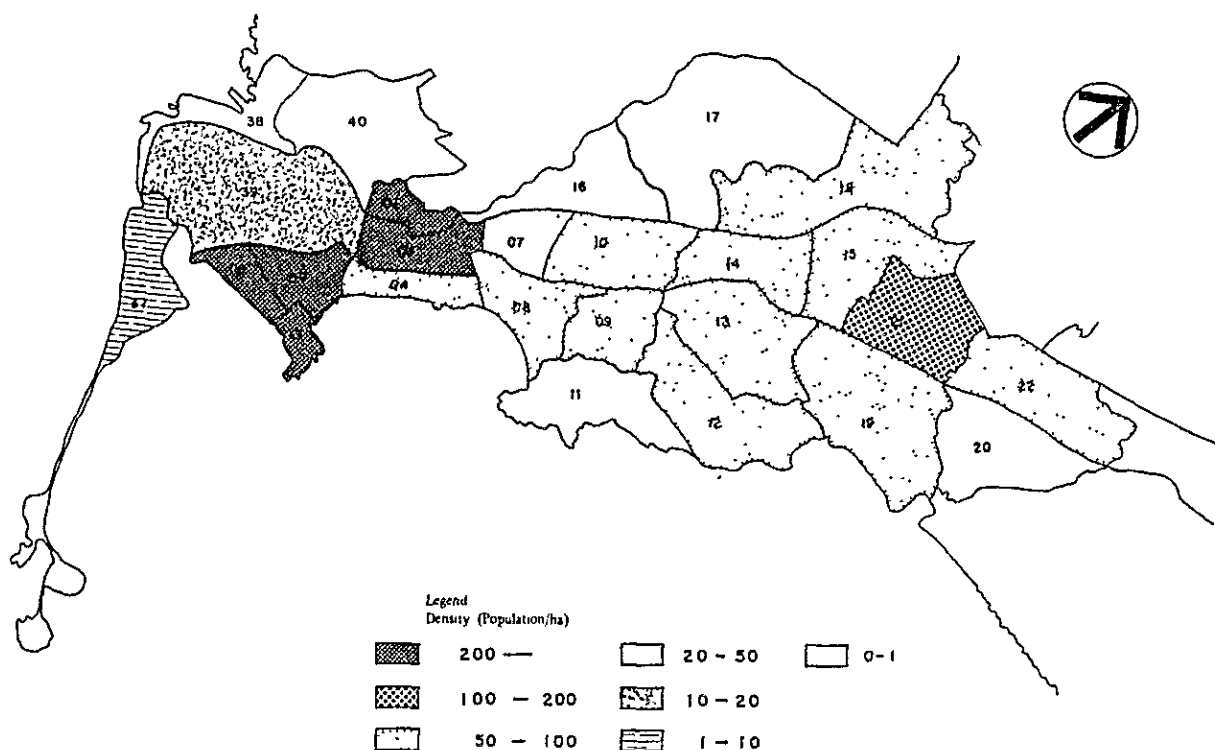


FIG 2-4 POPULATION DENSITY IN PANAMA URBAN AREA BY P.T. ZONE (1980)

Source : Estimated by ESTAMPA based on data from Contraloria General

#### (5) Job Distribution

Labor demand (employment) and supply (workers) are nearly balanced in the Study Area with a slight tip toward net labor outflow (oversupply), with 221,000 workers against 219,500 jobs.

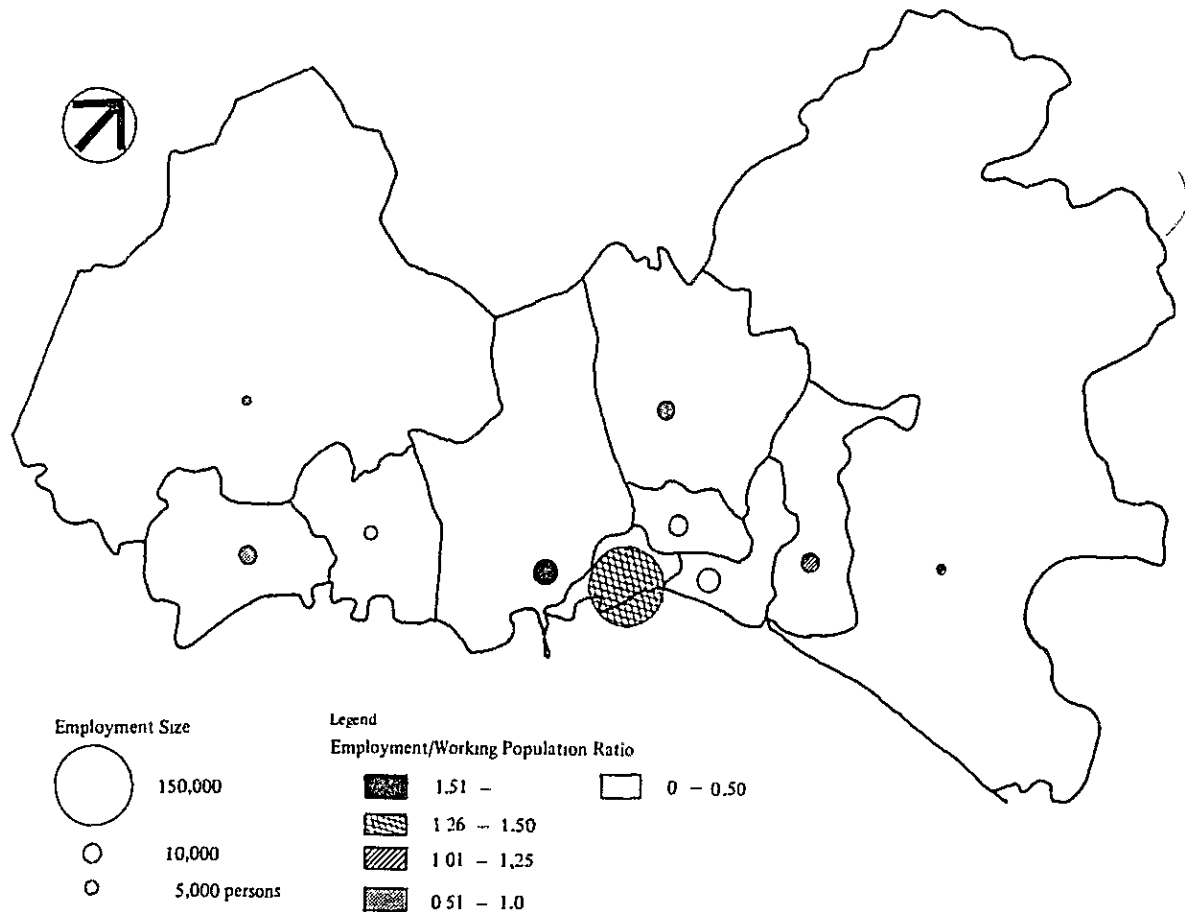
Internally, however, 70% of total jobs are concentrated in Panama Urban Area, where jobs

TABLE 2-21 EXISTING POPULATION AND EMPLOYMENT/WORKER RATIO (1980)

Zone Group	Population	Worker	Employment	E/W Ratio
1. Panama Urban Area 01-22	304,100	105,100	152,500	1.45
2. Juan Diaz Pedregal 23-25	84,500	24,800	12,100	0.49
3. Tocumen 26-27	21,700	5,500	5,900	1.07
4. San Miguelito 28-34	157,100	44,000	11,000	0.25
5. Las Cumbres-Chilibre 35-36	49,100	12,700	5,400	0.43
6. Ancon 37-43	1,800	600	15,100	25.17
7. Arraijan 44-46	34,000	8,400	3,800	0.45
8. La Chorrera 47-49	55,400	13,700	8,200	0.60
Sub-Total (Planning Area) 01-49	707,800	214,800	214,000	100
9. Pacora-Nvo. Emperador 50-53	25,100	6,200	5,500	0.89
Total (Study Area) 01-53	732,900	221,000	219,500	0.99

Source: Estimated by ESTAMPA based on data from Contraloria General

are 1.5 times the number of working population and employment density is particularly high in the old center of Corregimientos from San Felipe to Curundu (100 to 200 jobs per hectate) and in the new business center of Bella Vista (50 to 100 jobs per hectare). In Corregimiento de Ancon, where Canal and defense base activities are present, the number of jobs (15 thousand) is huge in relation to the number of working population there. Tocumen's employment/working population ratio is also over 1.0 because of the presence of international airport-related jobs. In contrast, the number of jobs is only 11,000 against 44,000 workers living in San Miguelito, where population has been swelling recently. (See Tabel 2-21 and Figures 2-5 and 2-6).



Source Estimated by ESTAMPA based on data from Contraloria General

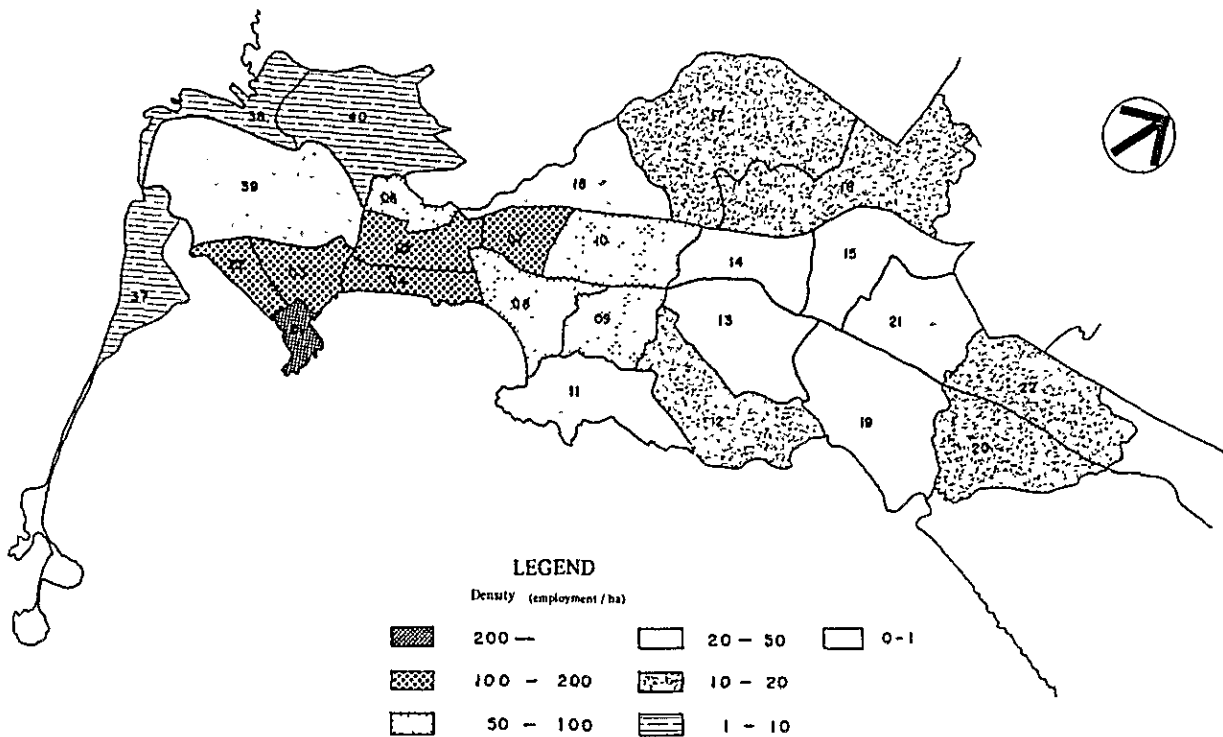
**FIG. 2-5 EMPLOYMENT DISTRIBUTION AND RATIO OF EMPLOYMENT TO WORKERS**

#### 4) Land Use

##### (1) Study Area

###### (i) Topographical Feature

The Study Area comprises a strip of land oriented roughly east-west facing the Pacific Ocean on the south and bounded by hills gradually rising to a dividing ridge on the north. Transversing north to south in the middle of this Area is the Panama Canal, and the northern hills retain rain-water to feed Gatun Lake and Alajuela Lake, which are the source of water for the Canal. The Pacific coastal waters are shallow for some distance, and the coastal area abounds in marshy lands.



Source : Estimated by ESTAMPA based on data from Contraloria General  
**FIG. 2-6 EMPLOYMENT DENSITY IN PANAMA URBAN AREA**

Low hills of 100 to 200 meters above sea level exist close to the coastal area, forming relatively small river systems.

(ii) Urban Development

The nucleus of the old town established on the east side of the Canal on the estuary first extended eastwards. In the 1960s, urbanization extended along Via Transistmica toward San Miguelito and along Via Espana toward Juan Diaz—Pedregal, forming an upside-down “T”. (See Fig. 2-7)

On the other, or west, side of the Canal, a low density urban belt is growing from Arraijan along Pan American Highway.

(iii) Urban Pattern and Traffic Network

The pattern of urbanization in this Area is that of an upside-down “T” formed by the initial urbanization spread along the Pan American Highway, which is the east-west axis, and by the recent progress of urbanization along Via Transistmica, which runs from San Miguelito up to Colon City in the north. Also, the Canal running north to south divides this Area into east part and west part, which are connected with each other only by the American Bridge.

The progress of urbanization only in two directions, east to west and north to south, along said roads was short of achieving areal spread of traffic demands brought about by the concentration of urban functions in Panama Urban Area (See Fig. 2-8).

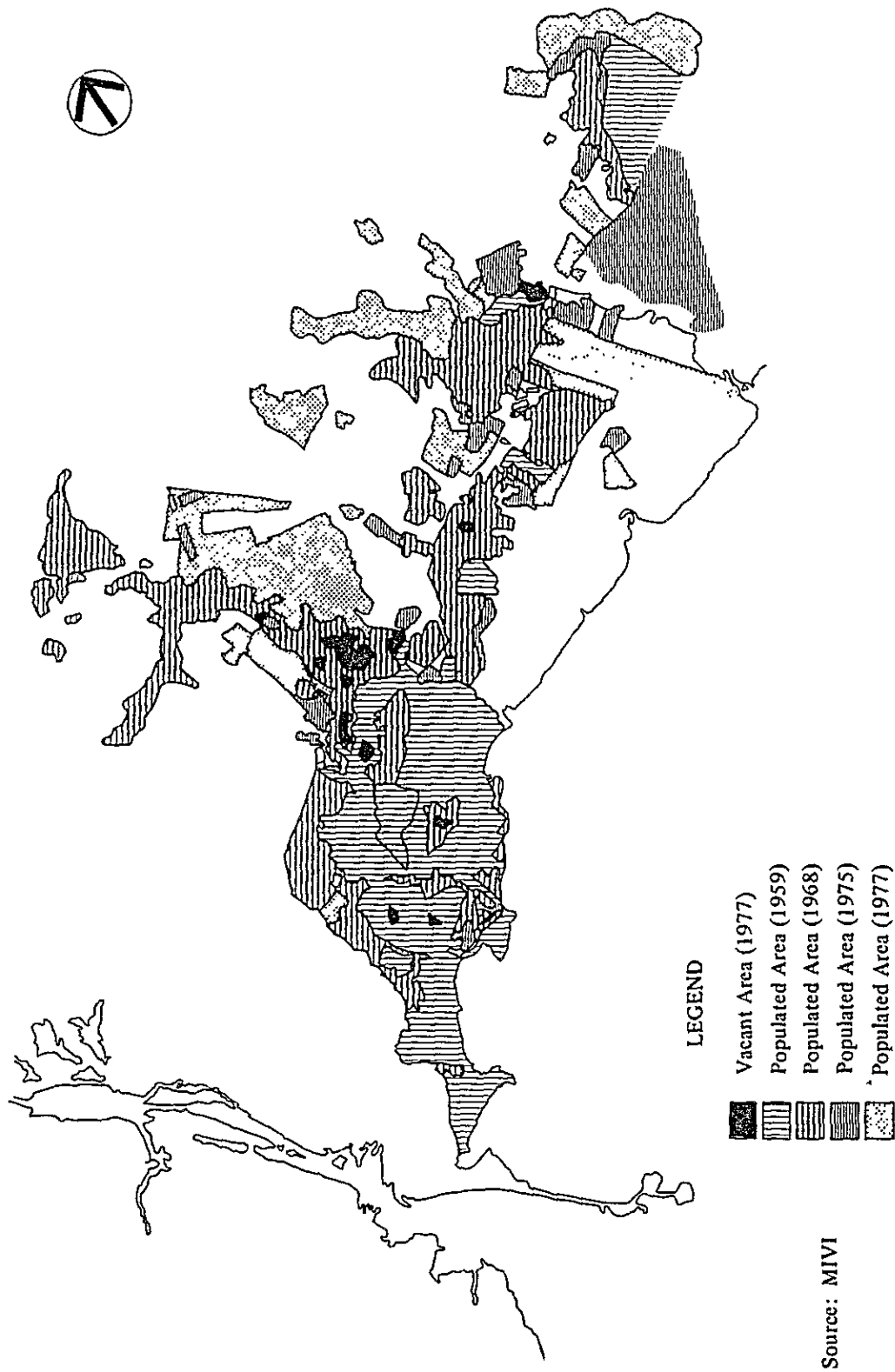


FIG. 2-7 EXPANSION OF URBANIZED AREA



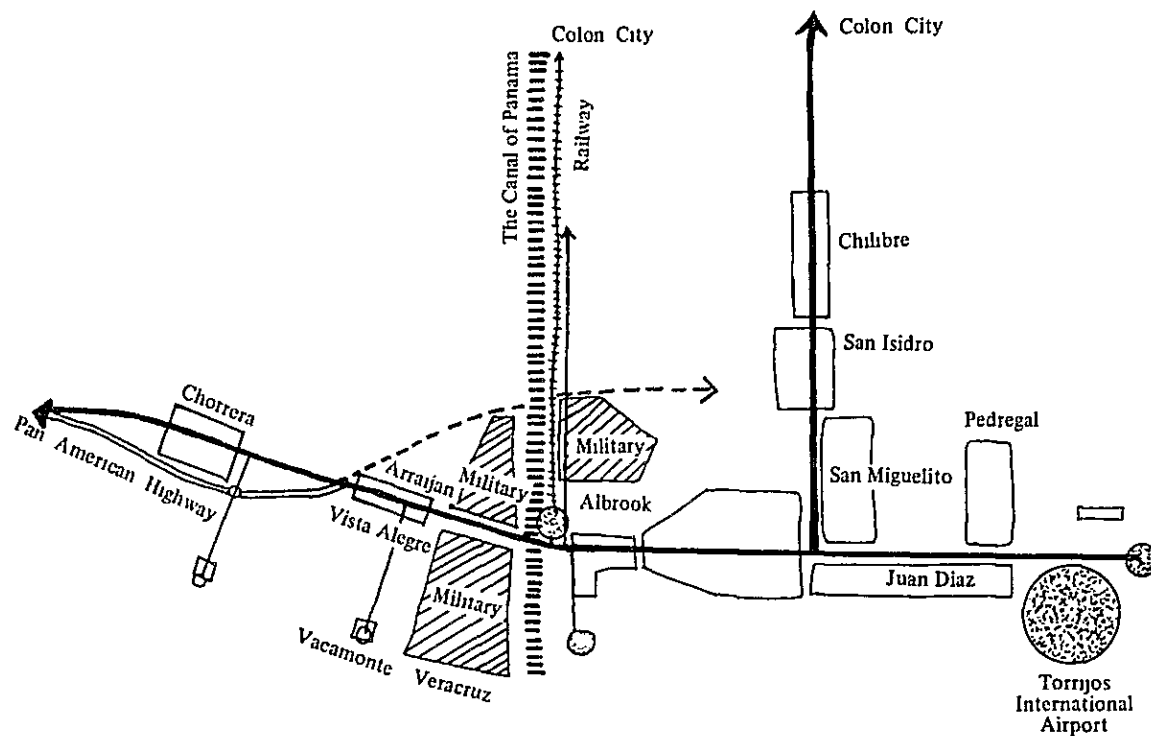


FIG. 2-8 URBAN STRUCTURE PATTERN OF PANAMA

Source: ESTAMPA

(iv) Area by Uses

The total areal size of the Study Area is 357,000 hectares, of which 13,000 hectares is urbanized. Agricultural land of 269,000 hectares is the largest land in use. The Canal site and military bases taking up 32,000 hectares of land characterize this Area. The remaining 43,000 hectares is mostly swamps and body of water, most of which is the part of Gatun Lake which has been reverted to the Republic (See Fig. 2-9).

TABLE 2-22 AREA BY USE

Zone Group	(Hectares)				
	Total	Urbanized	Agricultural	Canal, Military	Other
Panama Urban Area (01-22)	3,510	3,510	-	-	-
Juan Diaz-Pedregal (23-25)	7,140	2,380	2,485	-	2,275
Tocumen (26-27)	12,620	1,515	10,910	-	195
San Miguelito (28-34)	5,130	2,500	2,630	-	-
Las Cumbres-Chilibre (35-36)	28,490	710	27,780	-	-
Ancon (37-43)	24,550	670	-	16,110	7,770
Arraijan (44-46)	11,530	970	10,560	-	-
La Chorrera (47-49)	14,650	560	14,090	-	-
Sub-Total (Planning Area)	107,620	12,815	68,455	16,110	10,240
Pacora-Nvo. Emperador (50-53)	249,380	130	200,590	15,840	32,820
Total (Study Area)	357,000	12,985	269,045	31,950	43,060

Source: Measured by ESTAMPA from various maps.



## (2) Panama Urban Area

### (i) Central Business Districts

Panama Urban Area as a whole functions as the commercial and business center of the Study Area, but, internally, it consists of the old towns of Corregimiento de Santa Ana and Calidonia as the commercial and amusement center and Bella Vista as the newly created central commercial and business district. Located in the latter are banks from all over the world, which came to enjoy the tax incentives offered by the Panamanian Government and high-class specialty stores and hotels catering to high and middle-class people and foreigners gathered there. In addition, a new commercial nucleus is being formed around suburban-type shopping center opened along Ave. Ricardo J. Alfaro in Corregimiento de Betania.

### (ii) Residential Land

The commercial/residential area of the old town used to be the central area of living, from which middle-class people moved to the housing areas newly developed toward the east. Bella Vista, which is now a central business district, was initially developed as a housing area. Thus commercial and business functions have not only been established in vacant lots but houses have also been bought and remodeled into offices. Many residents moving out from Bella Vista and foreigners are finding their new residences in high-rise apartment house buildings which are being constructed in Punta Paitilla and its vicinity.

The low income people who have been left in the old town inevitably live in over-crowded worn-out houses, and after surveys MIVI has designated four areas (El Chorrillo, El Marañon, Santa Cruz and Santa Ana), where superannuated houses are concentrated, for urban renewal, and is currently engaged in the acquisition of land and replacement of houses.

### (iii) Industrial Land

Chief industrial activities in the Republic of Panama in the past, when no industry of importance existed, were downtown bakeries, tailors, and printing shops, but in the 1960s efforts for import substitution resulted in the rise of beer brewing, tobacco manufacturing, and other consumer goods industries. In Panama Urban Area, various types of industries are found along Via Ricardo J. Alfaro and Via Transistmica. Newly established industries have recently been located more in suburban areas, such as Corregimiento de Juan Diaz and San Miguelito District.

### (iv) Other Uses

In addition to Corregimiento de San Felipe, where the Presidential office is located, government agencies are scattered to Corregimiento de Calidonia, Bella Vista, and other locations, without forming any administrative center.

The National University of Panama and the Panama Institute of Technology have their main campuses in Bella Vista, and Santa Maria University, a private school, is located in Corregimiento de Betania. A number of private primary and secondary schools have gathered to form a school district in Corregimiento de San Francisco.

Other noteworthy land uses are the domestic airport located in Corregimiento de San Francisco and the central market located on the coast of Corregimiento de Santa Ana.

### (v) Land Area by Uses



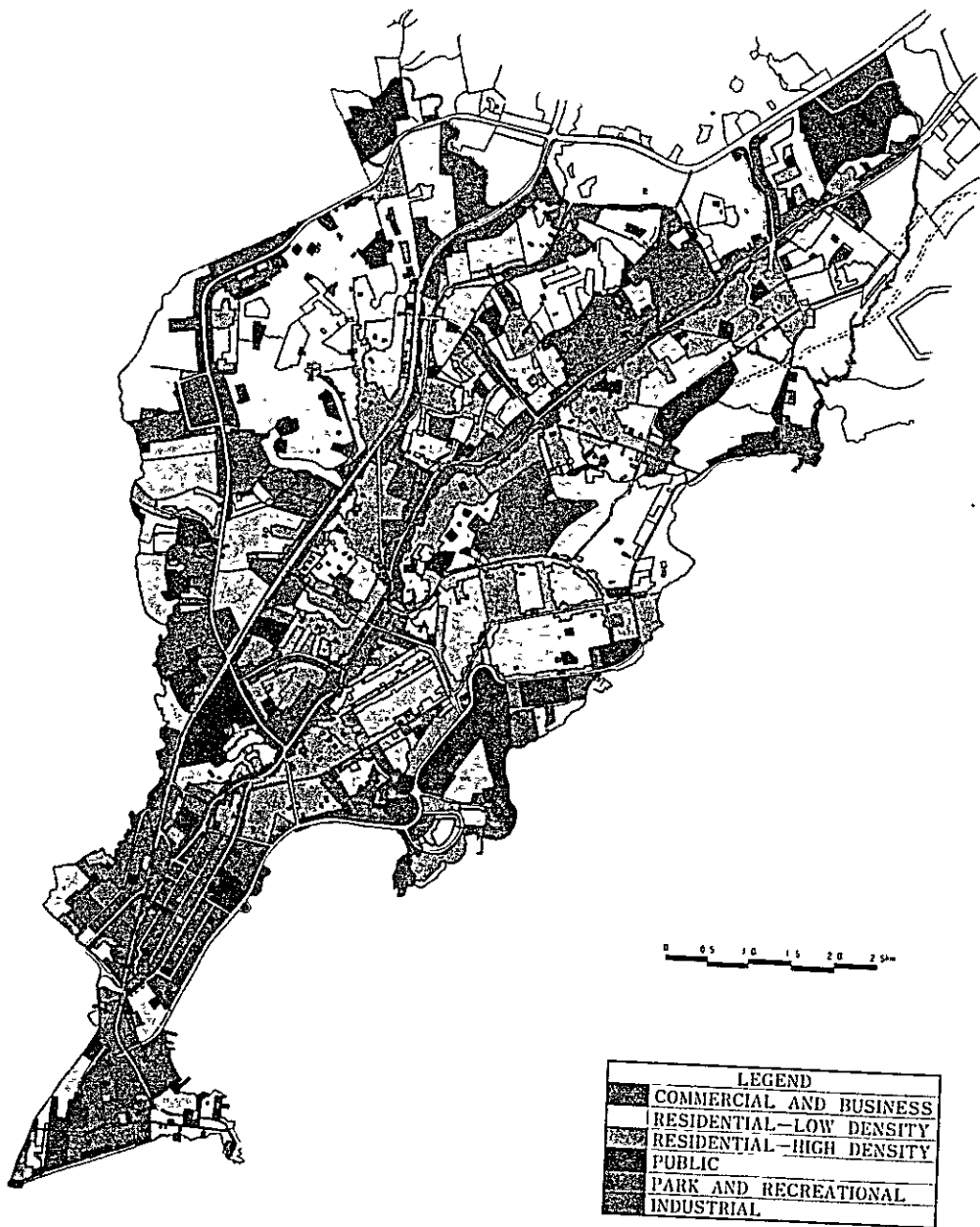


FIG. 2-10 CURRENT LAND USE (PANAMA URBAN AREA)



TABLE 2-23 AREA BY USE (PANAMA URBAN AREA)

Zone	(Hectares)						
	Urbanized	Residential	Residential and Commercial	Commercial	Industrial	Commercial and Industrial	Public
San Felipe (01)	30	—	24.5	—	—	—	5.5
El Chorrillo (02)	50	3.5	30.3	0.5	—	—	15.7
Santa Ana (03)	80	—	67.5	1.0	—	—	11.5
Calidonia Sur (04)	60	13.5	36.2	—	—	—	10.3
Calidonia Norte (05)	110	5.7	93.1	3.7	—	—	7.5
Curundu (06)	50	15.0	—	0.5	29.5	—	5.0
La Cresta (07)	70	24.2	11.7	—	0.9	—	33.2
Urraca-Campo Alegre (08)	120	71.1	36.7	5.9	—	—	8.3
Obarrio (09)	110	67.2	30.7	6.1	—	2.1	3.9
El Cangrejo (10)	150	87.3	44.5	3.7	—	—	14.5
Sub-Total	830	287.5	375.2	21.4	30.4	2.1	113.4
Punta Paitilla (11)	170	45.4	23.1	9.8	8.9	—	82.8
San Francisco (12)	225	210.8	—	4.4	—	—	9.8
El Golf (13)	205	121.7	16.6	1.7	1.2	—	63.8
Vista Hermosa (14)	110	49.5	16.9	16.3	2.6	18.3	6.4
Pueblo Nuevo (15)	200	132.5	18.2	5.4	16.7	12.4	14.8
Locena (16)	130	59.5	0.1	3.5	3.0	35.1	28.8
El Dorado (17)	420	281.8	35.4	36.5	6.3	28.6	31.4
Betania (18)	350	250.0	4.4	6.9	0.6	30.5	57.6
Parque Lefevre (19)	270	203.6	12.8	0.7	0.5	7.1	45.3
Chanis (20)	220	201.4	3.3	8.5	0.2	—	6.6
Rio Abajo (21)	175	80.7	89.3	1.1	0.5	—	3.4
Villa Lorena (22)	205	94.8	31.3	14.2	0.8	—	83.9
Sub-Total	2680	1731.7	251.4	109.0	41.3	132.0	414.6
Total	3510	2019.2	626.6	130.4	71.7	134.1	528.0

Source: MIVI

Of the total space of Panama Urban Area of 3,510 hectares, a total of 75% is used for residential purposes: 57% or 2,020 hectares as housing residential area and 18% or 630 hectares as commercial/residential area. Commercial land, industrial land, and commercial/industrial land together occupy 340 hectares or 10% of the total. The remainder is public facility land. (See Table 2-23)

### (3) Zonal Features of Land Use

#### (i) Centro (Integrated Zone I) (P.T. Zones 01–06)

Centro is identified as Integrated Zone I and consists of Person Trip Zones 01 through 06.

San Felipe (P.T. Zone 01), where the new Panama City started in 1673, has many historical monuments, as well as the Presidential Office and other public buildings. San Felipe, in its entirety, is designated a historical memorial area and the Tourist Agency is engaged in the restoration and preservation of historical assets.

El Chorrillo (P.T. Zone 02) contains the National Guard headquarters and other large public buildings, but with abutting concentrations of old houses.

Santa Ana (P.T. Zone 03) is an old commercial and amusement center and is the busiest quarter of the Republic, with shops lining both sides of Central Avenue down to the entrance of San Felipe. Its coastal part holds the central public market and other perishable-food markets.

Central Avenue has only two lanes and in the market area commodities are displayed for sale out in the open on both sides of the narrow meandering paths. Therefore, Corregimiento de Santa Ana is plagued by traffic congestion all day.

Calidonia (P.T. Zones 04 and 05) was reclaimed early in this century and has relatively wide streets forming a gridiron network. Found in its northern part are commercial activities along Central Avenue, and in southern, public buildings, schools, hospitals, and houses.

Curundu (P.T. Zone 06) presents an image of mixed industrial and housing area, with automobile retailers, repair shops, and warehouses located in the area designated for industrial use. Squatters' areas are formed along the Curundu River, which floods in heavy rains, often causing the submersion of squatters' shacks.

A large number of wooden neighborhood houses which were built to accommodate the construction laborers and other old houses still remain in Centro.

Many of them are "casa condenada," whose lease contracts have been abandoned by the landlords. MIVI has designated areas where such houses are concentrated as "urban renewal area" and is having them replaced with new houses. In Centro, the following four urban renewal areas have been designated:

- o Chorrillo (a part of El Chorrillo)
- o El Maranon (parts of Santa Ana and Calidonia Sur)
- o Santa Cruz (parts of Calidonia Norte and Curundu)
- o Santa Ana (part of Santa Ana)

(ii) Bella Vista (Integrated Zone II) (P.T. Zones 07–10)

In La Cresta (P.T. Zone 07) are large traffic generators: headquarters of the Panama National University and the Panama Institute of Technology in one campus and the Social Insurance Hospital, which is conterminous to said campus.

Branches of major foreign banks and domestic bank stores are located in Campo-Alegre (P.T. Zone 08) and Obarrio (P.T. Zone 09), and over in El Cangrejo across Via Espana is the headoffice of the Panama National Bank, altogether presenting a picture of an international financial center.

Bella Vista is now in the process of growing into a new commercial and business center of the Republic, with financial institutions, high-rise office and apartments now under construction in vacant lots or in replacement of independent houses with large yards, and high-class specialty stores, restaurants, and hotels, which are currently increasing in number. The entire area of Bella Vista will eventually be crowded with tall buildings.

(iii) Area Residencial (Integrated Zone III) (P.T. Zones 11–22)

Punta Paitilla (P.T. Zone 11), abutting to Bella Vista, is known as a high-class residential area, with large independent houses and high-rise apartments inhabited by many foreigners. Also, with the presence of high-rise hotels, Punta Paitilla is closely connected with the new commercial and business center.

Next to this high-class residential area are a group of private schools and a domestic airport. Around the airport are several factories and squatters' areas.

Many government personnel, teachers, physicians, and lawyers live in the middle-class residential area developed on the hilly land of El Dorado (P.T. Zone 17) and Betania (P.T. Zone 18).



Of Area Residencial, these zones still have some vacant lots, where housing projects are being implemented by private developers. Along Via Ricardo J. Alfaro in El Dorado, a suburban type shopping center has been opened, around which the construction of new commercial facilities are now going on. This can be seen as the formation of a new commercial nucleus suited to a motorized society.

In the coastal area of Parque Lefevre (P.T. Zone 19) are the ruins of the old Panama City which was built in 1519. This area is, along with San Felipe, designated as a historical, memorial area and is subject to restoration and preservation measures of the Panamanian Institute of Tourism.

Rio Abajo (P.T. Zone 21), the old commercial center of Area Residencial, has a casual atmosphere, with stores and restaurants lining both sides of Via Espana.

Small-scale light industry areas, with little environmental problems, are mainly located in Vista Hermosa (P.T. Zone 14) and Loceria (P.T. Zone 16).

Area Residencial in general is a land of matured housing towns.

(iv) Juan Diaz—Pedregal (Integrated Zone IV) (P.T. Zones 23–25)

Urbanization process is rapidly progressing in this zone, creating emerging traffic pressures upon Centro and Bella Vista Zones.

Hipodromo (P.T. Zone 23) has a horserace track, as the name implies, which, together with other facilities, makes the zone a sports and recreation center of the Panama City.

Steel and various other significant industries are located in the designated industrial areas along Via Domingo Diaz, where unused land is still available.

The mangrove-covered coastal part of this zone is generally ill-drained and usually floods under torrential rains. After fully coordinating with related ministries, MIVI has established land use regulations and is providing guidance on development projects with the aim of achieving well-balanced ecological system preservation, draining facilities improvement, and town development.

(v) Tocumen (Integrated Zone V) (P.T. Zones 26 and 27)

In Nuevo Aeropuerto (P.T. Zone 26) are a campus of the Panama Institute of Technology, an international airport, and other facilities. The farmland in the environment is the experimental farm of the Agricultural Department of the Panama National University.

Relatively low-density towns are spread in Tocumen (P.T. Zone 27), where population concentration has occurred around the airport.

(vi) San Miguelito (Integrated Zone VI) (P.T. Zones 28–34)

San Miguelito is an independent district geographically enclosed in another district, Panama District. It started to grow rapidly as a residential area since about 1960 and presently has a population of 157,000 but inadequate employment opportunities.

This rapid process of housing development all started from squatters' shacks in Area de Paraiso (P.T. Zone 28), Amelia Denis de Icaza (P.T. Zone 29), and Samaria (P.T. Zone 30). These residential areas have spread to the graded sides of the hills.

MIVI, on the other hand, has developed residential areas for low income people under for instance, Urb. Torrijos Carter Project, Urb. Roberto Duran Project, and Urb. Santa Librada Project, but the entire area of land owned by MIVI has already been worked on, and only a few parts of such land remain for construction work yet to be started.

Little developed in San Miguelito are La Pulida (P.T. Zone 33) and Cerro Viento (P.T. Zone 34), where development has been limited to that of residential areas for the middle-and high-income classes by private developers, due to strong hesitancy on the part of landowners to sell their land. Lots are wide in these residential areas, and the car-owning ratio of the residents is high.

Along Via Transistmica, some number of factories and depots are located, but many vacant lots still remain in the designated industrial areas.

(vii) Las Cumbres-Chilibre (Integrated Zone VII) (P.T. Zones 35 and 36)

The part of Las Cumbres (P.T. Zone 35) which adjoins San Isidro (P.T. Zone 31) is included in the Urb. Torrijos Carter Project for the development of residential area for low-income people. A little off to the north is a high-class residential area, and in Alcalde Diaz is an old community.

Existing in Chilibre (P.T. Zone 36) is a mixture of sporadic communities, farming and pasture lands, and forests. Development in this zone must be accomplished with adequate care because it not only is a source of water supply to Panama City and vicinity, but also faces the Lake of Alajuela, which serves the Canal.

(viii) Ancon Este (Integrated Zone VIII) (P.T. Zones 37-42)

Of the land reverted to the Republic of Panama under the new Canal Treaty of 1979, significant were: (1) Balboa Port located in La Boca (P.T. Zone 38), (2) Cerro Ancon in Balboa (P.T. Zone 39), (3) Albrook Field (P.T. Zone 40), (4) the hilly land on Curundu River in Fuerte Clayton (P.T. Zone 41), and (5) a part of Pedro Miguel (P.T. Zone 42). Of these, (3) and (4) are important as developable land. MIVI and related ministries are presently studying plans for the use of Albrook Field as sites for port-related functions, and industrial, commercial and public facilities and the use of Fuerte Clayton chiefly as residential land and public-facility land.

(ix) Ancon Oeste (Integrated Zone IX) (P.T. Zone 43)

A part of this zone adjoining Arraijan is about the only sizeable piece of land that has been reverted, and the remainder is mostly still held by the United States.

(x) Arraijan (Integrated Zone X) (P.T. Zones 44-46)

Arraijan is rapidly developing into a suburban residential area for Panama City. Between Arraijan and La Chorrera along the Pan American Highway is a progressing conurbation.

MIVI, the District, and private enterprises separately have their concepts for high-density residential area development, and the application of zoning regulations, such as effective in Panama City, to Arraijan Cabecera (P.T. Zone 44) is now under consideration.

Vacamonte Port is given the function of a fishery base, and its harbor facilities are currently being developed.

Veracruz (P.T. Zone 45) has the potential of developing a tourist industry and, in fact, villas

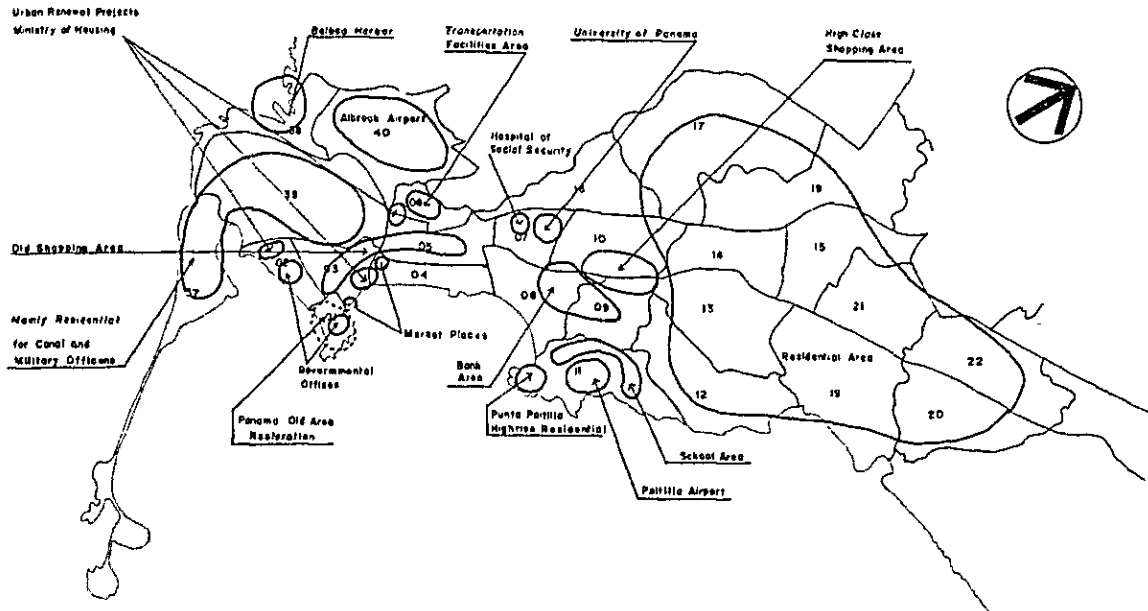


FIG. 2-11 MAJOR LAND USE IN PANAMA URBAN AREA

Source: ESTAMPA

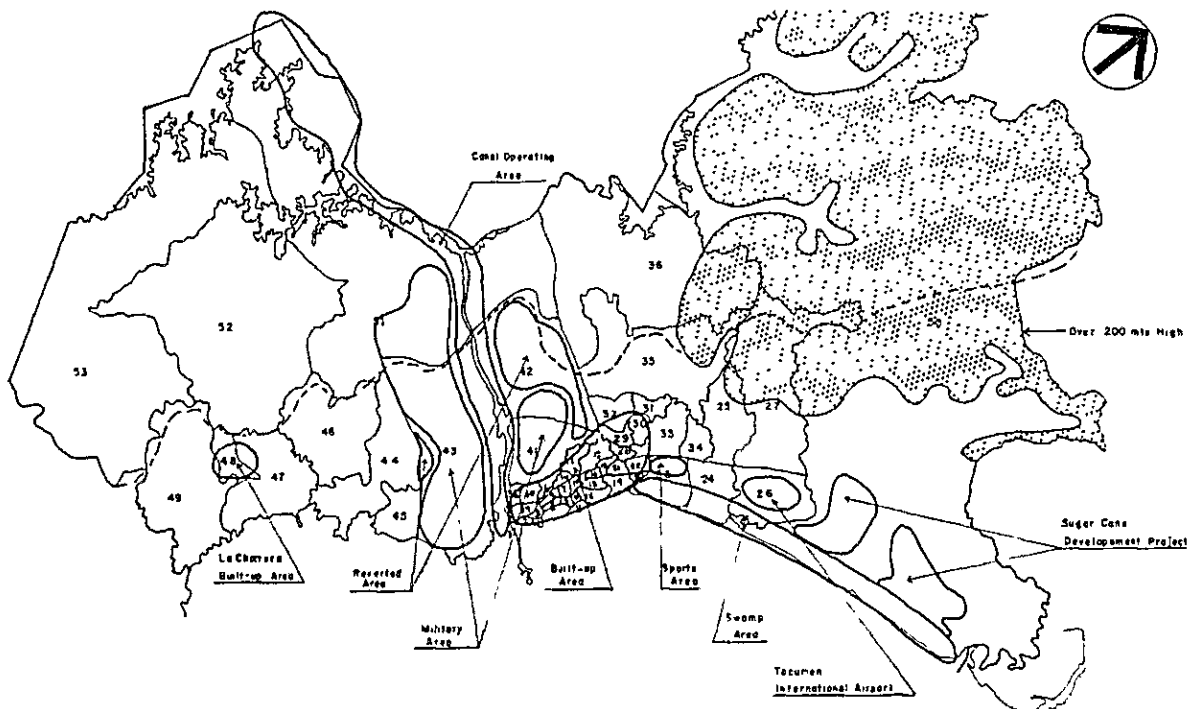


FIG. 2-12 MAJOR LAND USE IN STUDY AREA

Source: ESTAMPA

stand on the hills in a row. But the inconvenience is that, although it is a part of Arraijan District, the only access to the center of Arraijan is via Ancon Oeste.

The concentration of commercial functions in Arraijan Cabecera, the center of Arraijan District, is still less than adequate.

(xi) La Chorrera (Integrated Zone XI) (P.T. Zones 47 through 49)

La Chorrera, which used to be relatively independent, has become a suburban residential area for Panama City, with housing projects going on around the existing downtown. MIVI is implementing projects for the construction of both urban-type houses and rural-type houses at several locations.

The development of an industrial estate in an area conterminous to the urbanized area and the formation of cultural nucleus centering around a university are being contemplated as objectives. Also, the promotion of fisheries with Puerto Caimito as the base and the development of a tourist industry on Playa Leona are being held as important goals.

(4) Distribution of Developable Lands

(i) Suburbs

Developable lands whose elevation is fundamentally less than 100 meters above sea level have been included in the inventory of suburban developable lands presented in Table 2-24.

The inventory shows that a total of 35,000 hectares of developable lands are available in the Planning Area, mostly in Arraijan and La Chorrera, west of the Canal. The important developable land near Panama Urban Area is the 3,500 hectares of developable land existing in Chilibre (T.T. Zone 36) where contains the rain catchment area for the canal and, therefore, should be developed with care.

(ii) Vacant Land and Population Absorption Capacity of Panama Urban Area

As for Panama Urban Area, vacant lands have been counted for by use zoning. (See Table 2-25)

These lands came to a total of 366 hectares. As for residential use, 233 hectares are designated as residential zones, with additional 70 hectares as residential, commercial zones. From the experience of previously implemented housing projects (see Table 2-26), it is assumed that a population density of about one-half of maximum limit will be realized. Under this assumption, the population density to be realized in each of the areas under residential-type zoning has been estimated below.

Use Zoning	Maximum Zone Density	Estimated Density to be Realized
R <sub>1</sub> E	200	100
RE	400	160
R <sub>1</sub>	200	100
R <sub>2</sub>	400	160
RM <sub>1</sub>	500	350
RM <sub>2</sub>	1000	500
RM <sub>3</sub>	1500	750
RM <sub>2</sub> C <sub>2</sub>	1000	500
RM <sub>3</sub> C <sub>2</sub>	1500	750

TABLE 2-24 INVENTORY OF DEVELOPABLE LAND

Zone	Developable Land Size (Hectares)	Remarks
23	0	975 Ha of marshland exists in coastal part, of which 255 Ha is designated as housing land and 50 Ha as commercial land, but, in view of difficulties of development, this land is considered unsuitable.
24	0	1,300 Ha of marshland in coastal area (of which 125 Ha is designated as housing land and 145 Ha as industrial) is considered unsuitable as in Zone 23.
25	1,910	Of the 2,485 Ha of farming/pastureland, 1,910 Ha. of moderate slope within 100 meters above sea level is considered developable.
Sub Total	1,910	
26	0	2,170 Ha of farm/pastureland and 195 Ha of marshland exist around Omar Torrijos Airport (755 Ha), but no large-scale development, except for the expansion of the airport, will be considered.
27	1,510	Of 8,740 Ha of farm/pastureland, 1,510 Ha of moderate slope within 100 meters above sea level is considered suitable for development.
Sub Total	1,510	
28	0	
29	0	Nearly completely developed and no developable land of suitable size exists.
30	0	
31	80	
32	450	Farm/pastureland within 100 meters above sea level is listed as developable land
33	890	
34	730	
35	2,160	Farm/pastureland within 100 meters above sea level is listed as developable land.
36	3,330	3,330 Ha of farm/pastureland exists within 100 meters above sea level but within the catchment area of water for the Panama Canal. Although developable, no large-scale development will be desirable.
Sub Total	5,490	
37	0	The military land, the Canal Area, and the land returned to the Republic are all completely urbanized, and, therefore, no further development will be possible. The returned land (190 Ha) in Albrook (Zone 40) is a former airfield and can be used as commercial, industrial or housing land in the future.
38	0	
39	0	
40	0	
41	490	Of the 920 Ha of returned land, 100 Ha is built-up. The remaining 820 Ha includes steep land. 920 Ha of returned land exists, of which 100 Ha is built up. Excluding steep land from the remaining 820 Ha, 490 Ha is available for development.
42	2,500	5,010 Ha of returned land exists, of which 100 Ha is Paraiso and Pedro Miguel Housing Areas. Of the remaining 4,910 Ha, about 2,500 Ha can be developed in view of the topography.
43	500	Of the 2,000 Ha of returned land, 600 Ha is in water or swamp and 250 Ha is roads and roadside forests. Of the remaining 1,150 Ha, about 500 Ha can be developed in view of the topography.
Sub Total	3,490	
44	3,330	
45	550	Farm/pastureland within 100 meters above sea level is considered developable.
46	4,600	
Sub Total	8,480	
47	4,810	
48	780	Farm/pastureland within 100 meters above sea level is considered developable.
49	6,440	
Sub Total	12,030	
Grand Total	35,060	

Source: ESTAMPA

Applying the average realizable population density per hectare for each use zoning to the P.T. Zones in Panama Urban Area according to their standards, the total population absorption capacity of the Area has been estimated at approximately 90,000 (See Table 2-27).

TABLE 2-25 AREA OF VACANT LAND CLASSIFIED BY USE ZONING

Zone		Residential										Special Zone				Total area			
Number	RL	RE	R <sub>1</sub>	R <sub>2</sub>	RM <sub>1</sub>	R-M <sub>2</sub>	R-M <sub>3</sub>	Sub-total	C <sub>1</sub>	I	P	RM <sub>2</sub> C <sub>2</sub>	RM <sub>1</sub> C <sub>3</sub>	IC <sub>2</sub>	Historical Monument		Special Disposition	Urban Renewal	Not Specified
01																			0.4
02					0.2			0.2					1.7				0.2		2.1
03													6.8						6.8
04							0.7	0.7					2.9				4.0		7.6
05									0.4				0.8			0.1	1.1		2.4
06										4.8									4.8
07			1.0	0.1	0.8	0.4	0.1	2.4					1.5					3.6	7.5
08					0.3	2.3		2.6	3.3			2.2	2.6			0.4			11.1
09	0.5		0.7	2.0	0.6	0.8	0.6	5.2	1.6				2.6						9.4
10	0.1		0.3	0.8	2.2	2.0	0.9	6.3	0.2		1.3		6.6						14.4
11				0.8	0.7	0.8	3.5	5.8	3.6				2.2						11.6
12	0.9		1.9	3.2	1.8		0.2	8.0	0.28		0.08								8.36
13	0.7		1.5	0.3	1.3	2.1		5.9	0.18	0.14			1.2						7.42
14	0.8		1.2	1.3	0.2	1.1	0.1	4.7	1.1					8.8					14.6
15	6.25		2.0	10.1	0.7	2.1		21.15		2.7	1.31		1.5	1.7					28.36
16	15.9		0.7	0.1	0.1			16.8											16.8
		RE 14.28																	
17	0.5	R=20.78	7.2	2.4	1.5	0.75		47.41	3.6		1.5		22.0	4.1					79.21
18		3.7	6.4	3.4	2.6			16.1	0.4		0.4		0.3					10.12	27.32
19	0.2	0.2	22.8	0.9	2.1	0.4	0.9	27.5											27.5
20		19.4	1.8	1.3	1.9	1.5		25.9	1.1										27.0
21	0.3		0.5	6.6				7.4				R <sub>1</sub> C <sub>1</sub> 7.1	0.3						14.8
22			5.0	22.1		2.2		29.3				6.0	R <sub>1</sub> C <sub>1</sub> 1.3						36.6
Total	26.15	58.36	53.0	55.4	17.0	16.45	7.0	223.36	15.76	7.64	5.19	15.3	54.3	14.6	0.4	0.5	5.3	13.72	366.07

Source : MIVI

### (5) Urban Development Systems

Outlined in this part will be major institutional systems and technical standards important to land use planning for the Planning Area.

#### (i) Designation of Urban Renewal Area

Under the provisions of Law No. 95 of October 4, 1973, MIVI is empowered to designate as "Area sujeta a renovacion urbana (urban renewal area)" any place where local promotion measures, rehabilitation, remodelling, or replacement of buildings are necessary because of the collapse of buildings, insanitation, or for other social or economic reasons.

Once so designated, any act of development in the area, public or private, as well as the transfer of real estate or renting/leasing of properties, is subject to prior permission of MIVI

In order to effectuate this regulation, MIVI sends copies of plans and details of parcels of land and buildings subject to the designation to the Public Registry, and when an application is filed with the Public Registry for the sale, transfer, purchase, renting, or leasing, the Public Registry refers it to MIVI for approval or disapproval.

TABLE 2-26 HOUSING DEVELOPMENT PROJECT PRECEDENTS

Classification of Norm	Housing Development Project Title	Population (1980)	Net Area (ha)	Net Density (P/ha)
RE (400 P/ha)	Sara Sotillo	150	1.4	107.1
	Puente del Rey	1,030	7.0	147.1
	Don Ahorro	830	3.5	237.1
	Santa Clara	2,050	15.8	129.7
	San Cristobal	2,950	9.8	301.0
	Villa Venus	490	2.6	188.5
	Las Estaciones	600	4.8	125.0
	Juan Diaz	370	1.9	194.7
	Villa Bonita	110	0.4	275.0
	Villa Anayansi	210	1.5	140.0
	Nueva California	760	5.1	149.0
	Pedregalito	180	1.3	138.5
	Balmoral	570	3.6	158.3
	Villa Internacional	470	2.9	162.1
	Santa Pera	210	1.3	161.5
	Don Bosco	3,820	31.1	122.1
San Antonio	4,230	26.3	160.8	
	Total and Average	19,030	120.3	158.2
R.E (200 P/ha)	Loma Alegre	990	12.2	81.1
R <sub>1</sub> (200 P/ha)	Villa Lilla	490	4.0	122.5
	Villa Rica	670	2.2	81.7
	Total and Average	1,160	12.2	95.1
R <sub>2</sub> (400 P/ha)	El Nacar	400	1.5	266.7
	Miraflores	1,050	12.5	84.0
	Marcasa	480	4.4	109.1
	Total and Average	1,930	18.4	104.9
RM <sub>2</sub> (1000 P/ha)	Los Pinos	150	0.5	300.0
	Villa Gabriela	1,390	2.7	514.8
	Total and Average	1,590	3.2	481.3
RM <sub>3</sub> (1500 P/ha)	Villa Lorena	2,920	3.9	748.7
RM <sub>3</sub> C <sub>2</sub> (1500 P/ha)	Jardín Olímpico	1,570	2.4	654.0

Source: Estimated by ESTAMPA based on data from Contraloria General

Designations effected by government decrees to date are as follows:

A. Decree No. 18 of March 2, 1974, designated a part of Corregimiento de San Francisco as an area for public facilities development through urban renewal.

B. Decree No.30 of December 5, 1983, designated a part of Corregimiento de El Chorrillo as an urban renewal area.