

## CHAPTER 3

ECONOMIC DEVELOPMENT

Bangkok-Thonburi area has long been recognized as the major centre of economic activities in Thailand. It is both the capital and important Sea and Air Port city. Consequently incomes and expenditures are relatively rather high. Families living in the Bangkok-Thonburi Municipal Area in the year 1962 reported an averages monthly income of <sup>1</sup>1,519 baht and families spent an average of <sup>2</sup>1,386 baht per month. The density of population seems to be overcrowded when compared with the other parts of the country. There are many institutions, offices and agencies in this metropolitan area such as government offices, royal palaces, temples, universities, military institutes etc. Moreover it is a centre of foreign agencies such as, USOM, USIS, JUSMAG, United Nation Office, SEATO head Quarters etc. In the point of view for industry it will be found as small industrial firms in the central metropolitan area, so that the characteristics of the city people work in offices more than working in industrial firm.

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<sup>1</sup>National Statistical Office, Household Expenditure Survey B.E. 2505 in the Bangkok-Thonburi Municipal Area (National Statistical Office, Office of the Prime Minister, 1962), p. 13.

<sup>2</sup>ibid

## LAND AND WATER USE

Land Use Close to the centre of developed area such as Sparm Khai, Pratoe Nam etc. Some pieces of land are vacant. It cannot expect to what it will be used for in the future. These areas are subjected to land speculation. Unfortunately this cannot be stopped owing to lack of law to control the proper land use which is proposed by Greater Bangkok Plan 2533.

<sup>3</sup>In the following statements concern with land values and the land uses in the metropolitan area. Most assessed values of land are highest at places immediately adjacent to roads and klongs, and decreases to lowest values in the interior of blocks or other relatively inaccessible areas. In many of large blocks in the central city, the value of the land on the frontage streets was 12 to 14 times higher than the value of the interior portion.

In the Municipal area of Bangkok-Thonburi, there are

1. Land belonging to crown property or the personal property of the king.
2. Government land, including national and municipally owned land.

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<sup>3</sup>Litchfield Whiting Bowne & Associates, Greater Bangkok Plan 2533 (Department of Town & Country Planning, 1960), pp. 48-50.

3. Land of the government sponsored organization, including such industrial enterprises as the Port Area, or The State Railway Organization.

4. military owned land, including army, navy and air force but excluding police force land,

Water Use Surface water as Chao Phraya River are used for harbor commerce, shipping, transportation, domestic water supply, royal barge exhibition and use klongs for waterway, irrigation and drainage.

#### RESIDENTIAL DEVELOPMENT

Due to people move to the outskirts of Bangkok, new industrial firms such as Pharmacy Firms, Tire Firm etc. are established in Bang Na, Samrong and some parts of Nonthaburi & Samutprakarn. Consequently major portion of the metropolitan area is now and in the future would be residential use only. <sup>4</sup>The survey was taken place in 1960 by National Statistical Office. The average family size was 5.5 persons and over half (54 %) of all dwellings in the Bangkok-Thonburi Municipal Area were detached houses; over one-third (35.5 %) were row houses and the rest were commercial structures or shops.

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<sup>4</sup>National Statistical Office, Household Expenditure Survey B.E. 2505 in the Bangkok-Thonburi Municipal Area (National Statistical Office, Office of the Prime Minister, 1962), pp. 37-40.

## INDUSTRIAL DEVELOPMENT

In the Bangkok-Thonburi Municipal Area about <sup>5</sup>53 % of industries are handicrafts. It indicated that in the metropolitan area there are light industries. Growth in industry results in an extension of industrial areas, so far such industrial development has taken place in Samutprakarn and Nonthaburi.

The recent survey of employees on various manufacturing establishment from 1961 to 1964 in the vicinity to the municipal area showed that most of development occurred in textile fabricated, metal products, chemicals clay, glass, cement, printing. On the contrary sawmill and wood product decreased due to lack of raw material. Beverages and soft drinks do not increase because of transfer of establishment to another provinces. Number of workers in some large enterprises such as the Tobacco Company are slightly decreased by the outcome of replacement of machine. The Bangkok-Thonburi employment are shown in Table 2 indicates that in the future the various industry would not go far from the present.

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<sup>5</sup>Department of Public Welfare, Employment Market Information Jan 1961-July 1964 (Bureau of Labour, Department of Public Welfare), p. 5.

Table 2  
BANGKOK-THONBURI EMPLOYMENT STATISTICS

CLASSIFICATION	1960	1961	1961	1961	1962	1962	1963	1964
	JULY	JAN	JULY	JAN	JULY	JAN	JULY	JAN
MANUFACTURING	48,272	47,939	48,743	52,981	59,559	57,871	62,488	64,601
TRADE AND FINANCE	26,504	26,578	26,912	26,670	29,053	28,361	30,402	32,293
TRANSPORTATION, COMMUNICATION, AND POWER	32,389	35,230	36,861	41,000	41,872	40,599	40,106	41,667
SERVICE (EXCLUSIVE GOVERNMENT)	32,954	35,301	35,542	39,913	39,731	43,423	43,989	44,013
REGULAR GOVERNMENT AGENCIES	47,627	51,456	51,456	54,021	54,021	59,554	58,554	59,286
OTHER INDUSTRY	1,846	2,450	1,613	5,568	5,606	5,324	6,887	6,900
TOTAL	189,892	199,052	203,127	219,153	227,842	234,252	242,409	247,947
PERCENT INCREASED	—	4.93	2.04	7.90	3.96	2.82	3.48	2.1

SOURCE: BUREAU OF LABOUR, DEPARTMENT OF PUBLIC WELFARE, "EMPLOYMENT MARKET INFORMATION JAN 1961—JULY 1964"

## 6 FISHERIES

Fish ponds can be found in Bangkok, Minburi, Phrakong etc. outside the municipal area they do this as sidelines more than as for a living or an industry. The number of ponds and the fish pond areas were listed as follows:-

	BANGKOK		THONBURI	
	ponds	area (m <sup>2</sup> )	ponds	area (m <sup>2</sup> )
1962	409	85,410	65	148,426
1963	374	127,684	77	18,810
1964	394	648,265	70	19,478

Sea Fishing is done in all parts of the long sea-coast of Thailand. Bangkok acts as the centre of distribution for both freshwater and seawater fish to other cities throughout the country.

## 7 AGRICULTURE

From the report on "Area and Production of Rice" 1937-1962, the number of farms in Thonburi has decreased from 147,412 rais in 1947 to 109,548 rais in 1962 and in Bangkok it has decreased from 588,760 rais in 1947 to 478,375 rais in 1962. The greater part of Agricultural land is in the outskirts of

<sup>6</sup>The Extension Service Section. Inland Fisheries Division, Ministry of Agriculture.

<sup>7</sup>Department of Rice, Ministry of Agriculture.

the city. At present the people from the central part of the city established houses and industrial firms in the agriculture area. It is expected that in future the number of farms will be lower than it is at the present time.

### TRANSPORTATION

Bangkok does not serve as a centre of buses and railways throughout the country but being the gateway to air and sea routes from the foreign country. Chao Phraya River is the mainblood water transport system. The Port of Bangkok, the main port of Thailand, is situated on the bank of the Chao Phraya River, 28 km. from the Gulf of Thailand. Klong in the metropolitan area are reserved for irrigation purposes and act as waterways but some klongs have been filled up to construct roads to solve traffic congestion problem.

### POWER

Electric Power and Light system serving the metropolitan area is generated from the hydroelectric Yanhee Dam by transmitting 160 mw. to the substation, North Bangkok Power Plant. North Bangkok Power Plant can generate about 150 mw. then 69 Kv. was sold to Metropolitan Electricity Authority before it was distributed to the people Lumpini Diesel Plant and Thonburi Deisel Plant can help producing about 30 mw. In the future about 2 years Yanhee Dam can in addition transmit 230 mw. to Bangkok. Power consumption as reported by

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<sup>8</sup>Department of Rice, Ministry of Agriculture.

the metropolitan Electricity Authority in 1965 was about 2.33 million kilowatts per day.

The cost of Power to various plants, such as Water Treatment Plant from North Bangkok Power Plant about .30 baht per unit at present.

### <sup>9</sup>WATER SUPPLY

At present, raw water is obtained from Chao Phraya River at Samla which is about 89 kilometres from the Gulf of Thailand. Extension and development of water supply system in the metropolitan area has been done by Degremont Co. Ltd. In 1964 Samsen Water Treatment Plant can produce 600,000 m<sup>3</sup>/day and about 80,000 m<sup>3</sup>/day by Thonburi Water Treatment Plant. The quality of water supplied by the Bangkok-Thonburi, is fairly good and is suitable for almost all domestic without any other treatment other than chlorination. The chemical quality of raw water is shown in Table 3. The average annual consumption supplied by Samsen Plant has increased from 174,000 m<sup>3</sup>/day in 1960 to 494,000 m<sup>3</sup>/day in 1965 and for Thonburi plant in 1965 produced about 87,800 m<sup>2</sup>/day. It is estimated that the consumption per capita is about 50 gal/day at the present time and the cost is of .50 baht per cubic metre in Bangkok and 1.50 baht per cubic metre in Thonburi.

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<sup>9</sup>Samsen Treatment Plant, Bangkok Water Works.



Table 3 CHEMICAL QUALITY OF RAW WATER

Constituent	Concentration ppm		
	Nov, 26, 1965	Dec, 24, 1965	Jan, 27, 1966
Methyl orange alkalinity	40	84	90
Total residual	220	190	200
Suspended matter	20	30	60
Total hardness	48	80	94
Non-carbonate hardness	8	nil	4
Carbonate hardness	40	80	90
Chloride as $Cl_2$	7.5	10.5	15.5
Chloride as Na Cl	12.38	16.5	25.58
$O_2$ consumed 37°C/3hr	1.7	2.05	2.15
Nitrite as $N_2$	.008	.012	.012
Fe	.05	2.5	1.1
Mg	3.89	trace	11.664
pH	7.3	7.3	7.6

### Land Use

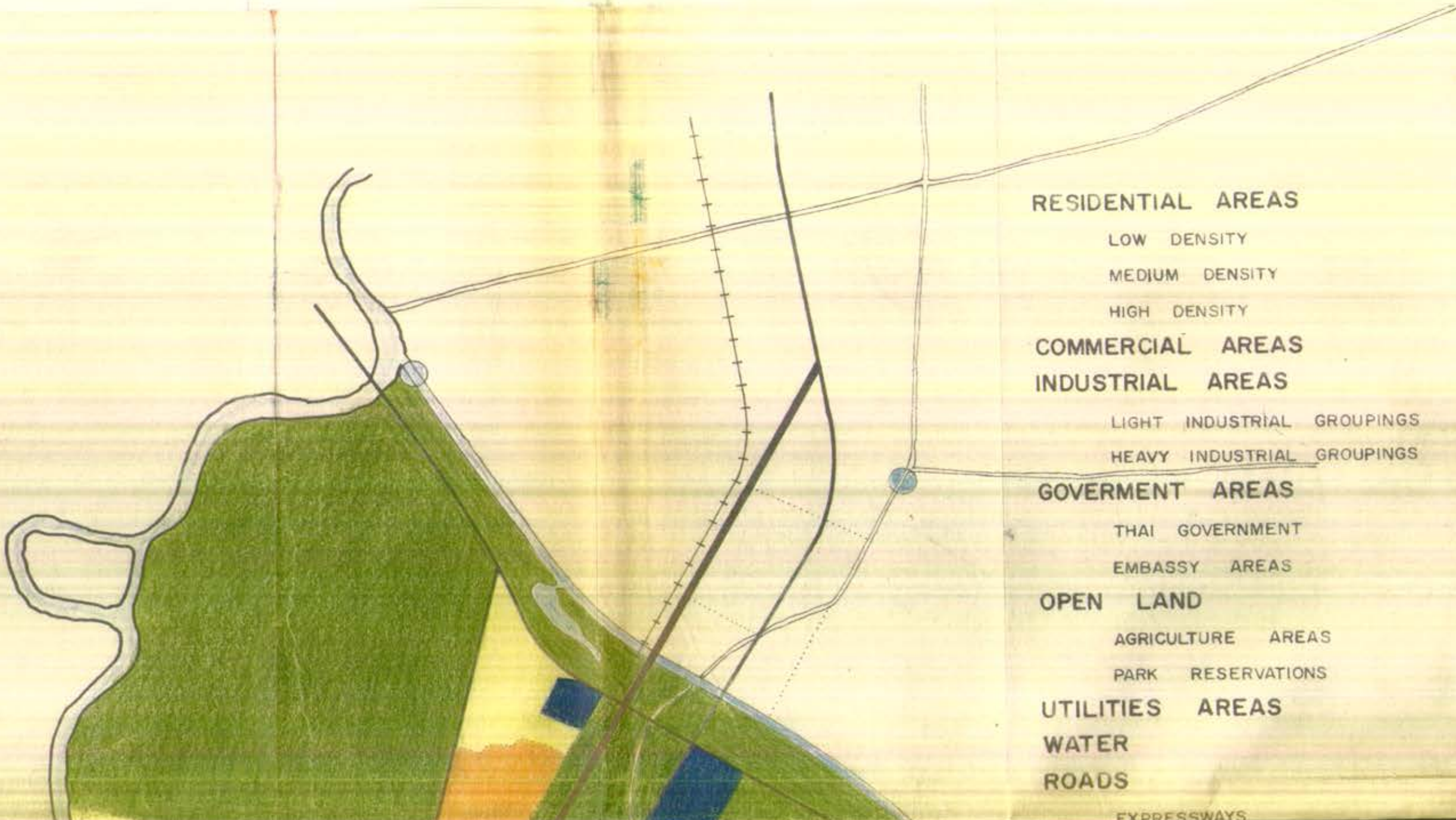
The future land use plan is one of the most important aspects of the planning program for sewerage and drainage works. Land Use 2533 program is shown in Figure 6 is Litchfield proposal for an essentially compact, economical and livable Metropolitan Area. The city planning for Bangkok-Thonburi was firstly done in the year 1960 and after that the people try to follow the planning. However the law to control the city planning has not produced until up to the present. Table 4 is summary for future land use area requirements and population 2533 proposed by Litchfield Whiting Bowne & Associates.



**TABLE 4**  
**SUMMARY--FUTURE LAND AREA REQUIREMENTS**  
**AND POPULATION 2533**  
**(IN THOUSANDS)**

	TOTAL		INNER RING		OUTER RING	
	RAI	PERSONS	RAI	PERSONS	RAI	PERSONS
TOTAL	487.6 (1)	4,500	11.5	605	476.1	3,901
RESIDENTIAL						
LOW DENSITY	91.6	1,063	—	—	91.6	1,063
MED DENSITY	83.1	1,997	1.1	28	82.0	1,969
HIGH DENSITY	15.9	705	4.8	230	11.3	475
COMMERCIAL	11.0 (2)	291	5.8	263	5.2	28
INDUSTRIAL	25.0	—	—	—	25.0	—
INSTITUTIONAL	28.0 (2)	400	—	84	28.0	316
UTILITY	18.0	—	—	—	18.0	—
RECREATIONAL	17.0 (2)	—	—	—	17.0	—
AGRICULTURAL	200.0	50	—	—	200.0	50

SOURCE : GREATER BANGKOK PLAN 2533, DEPARTMENT OF TOWN AND COUNTRY PLANNING.



**RESIDENTIAL AREAS**

LOW DENSITY

MEDIUM DENSITY

HIGH DENSITY

**COMMERCIAL AREAS**

**INDUSTRIAL AREAS**

LIGHT INDUSTRIAL GROUPINGS

HEAVY INDUSTRIAL GROUPINGS

**GOVERNMENT AREAS**

THAI GOVERNMENT

EMBASSY AREAS

**OPEN LAND**

AGRICULTURE AREAS

PARK RESERVATIONS

**UTILITIES AREAS**

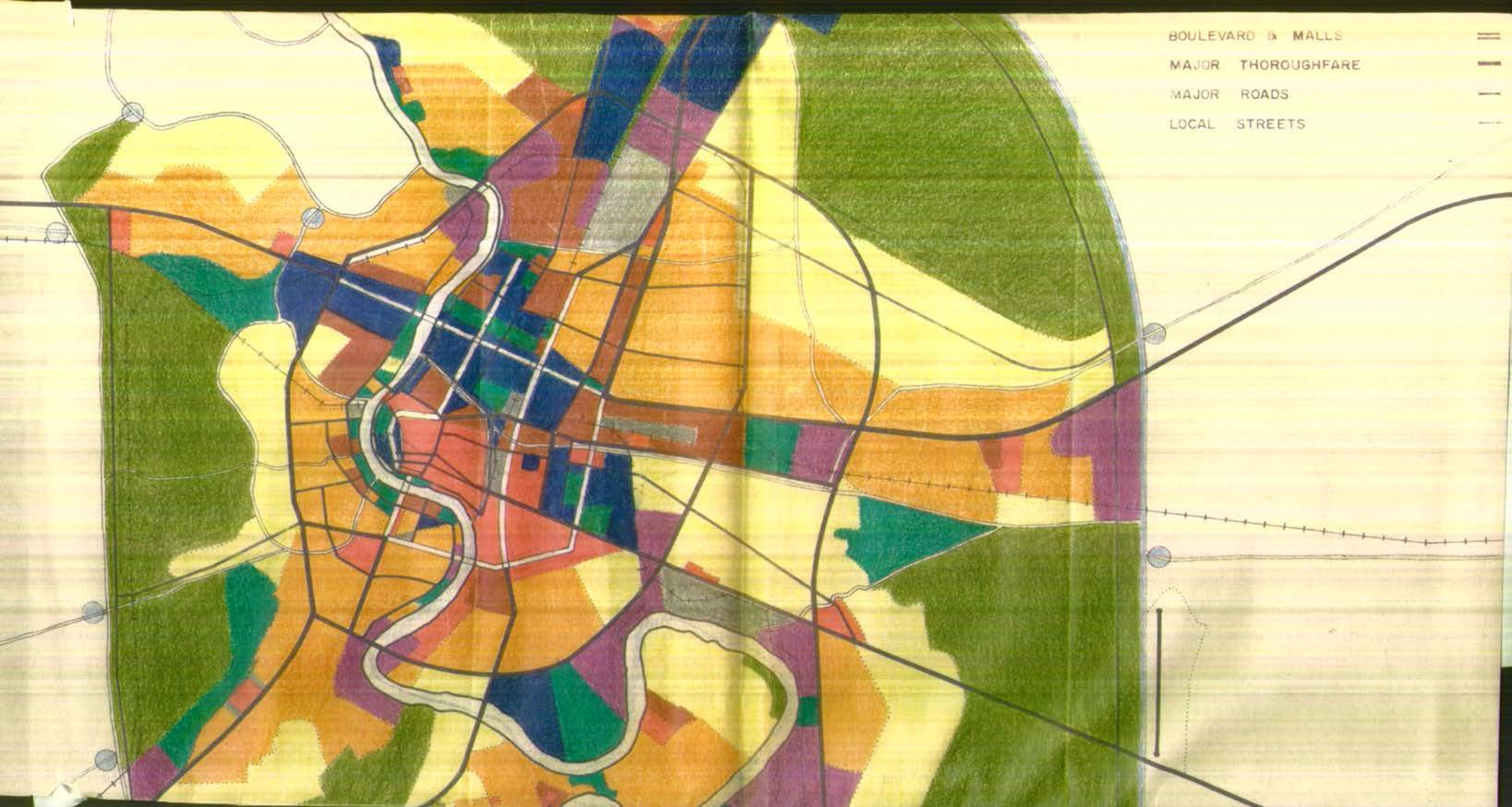
**WATER**

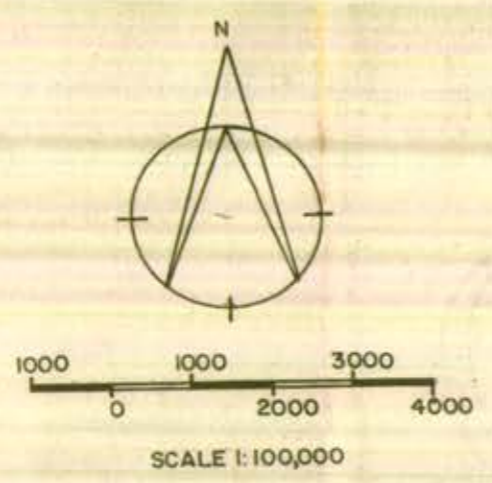
**ROADS**

EXPRESSWAYS



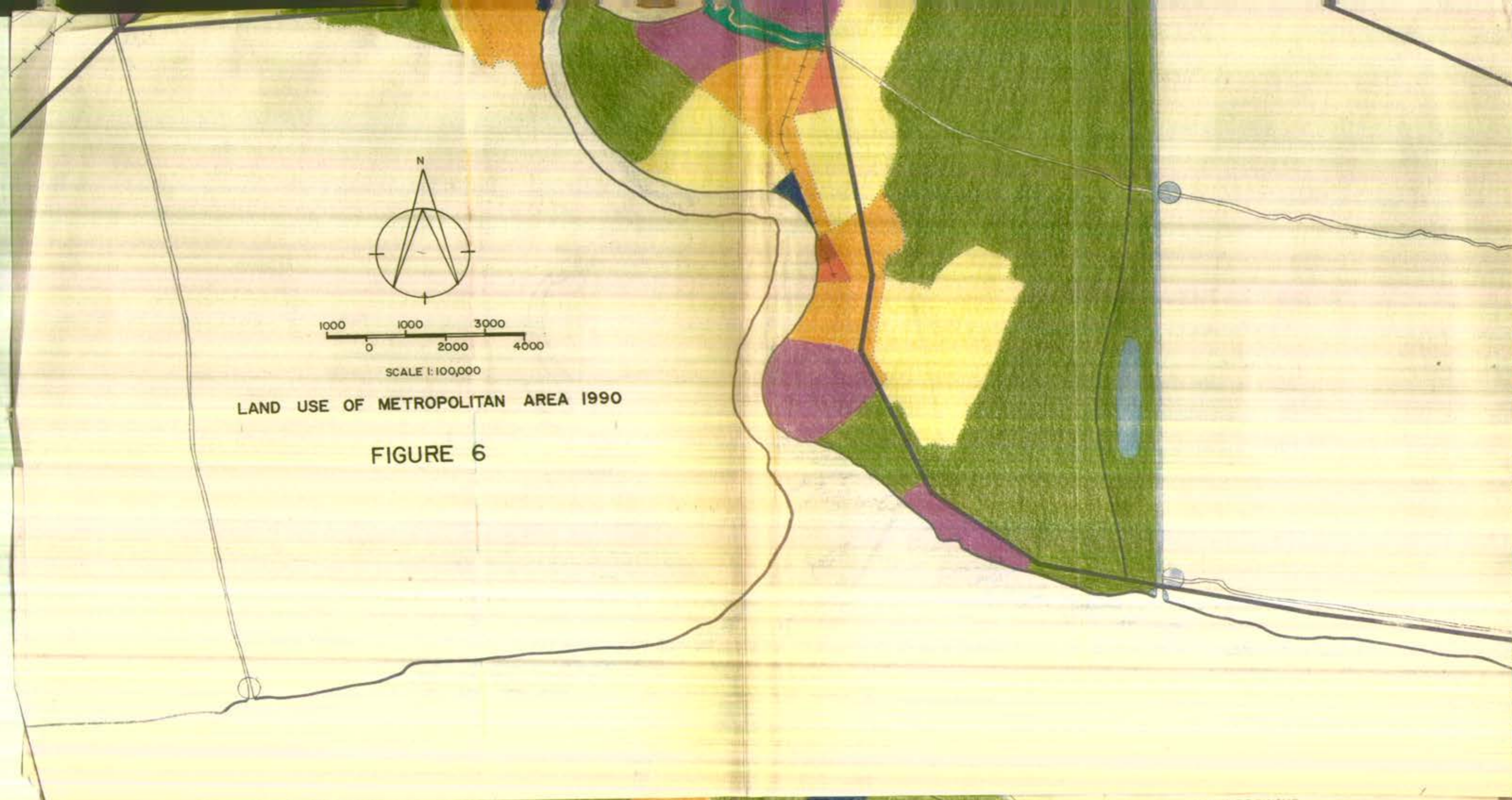
BOULEVARD & MALLS  
MAJOR THOROUGHFARE  
MAJOR ROADS  
LOCAL STREETS





LAND USE OF METROPOLITAN AREA 1990

FIGURE 6



EXPRESSWAYS