

PHILIPPINE PLANNING JOURNAL

ISSN—0048-3850



SCHOOL OF URBAN AND REGIONAL PLANNING

● Vol. XXIII, No. 1 October 1991 ●



METROPOLITAN

MANILA

PHILIPPINE PLANNING JOURNAL

Vol. XXIII, No. 1 October 1991

Issue Editor

Ernesto M. Serote

Managing Editor

Delia R. Alcaide

Editorial Assistant

Edith P. Dela Rosa

Layout Artist

Visitacion P. Nuval

Circulation Manager

Emily M. Mateo

The Philippine Planning Journal is published in October and April by the School of Urban and Regional Planning, University of the Philippines. Views and opinions expressed in signs and articles are those of the authors and do not necessarily reflect those of the School of Urban and Regional Planning. All communications should be addressed to the Managing Editor and orders for subscription should be sent to the Circulation Manager, Philippine Planning Journal, School of Urban and Regional Planning, University of the Philippines, Diliman, Quezon City, Philippines 1101.

Annual Subscription Rate: Domestic,	₱40.00;	Foreign	\$12.00
Single copies:	₱20.00;		\$ 6.00.
Back issues:	₱20.00;		\$ 6.00

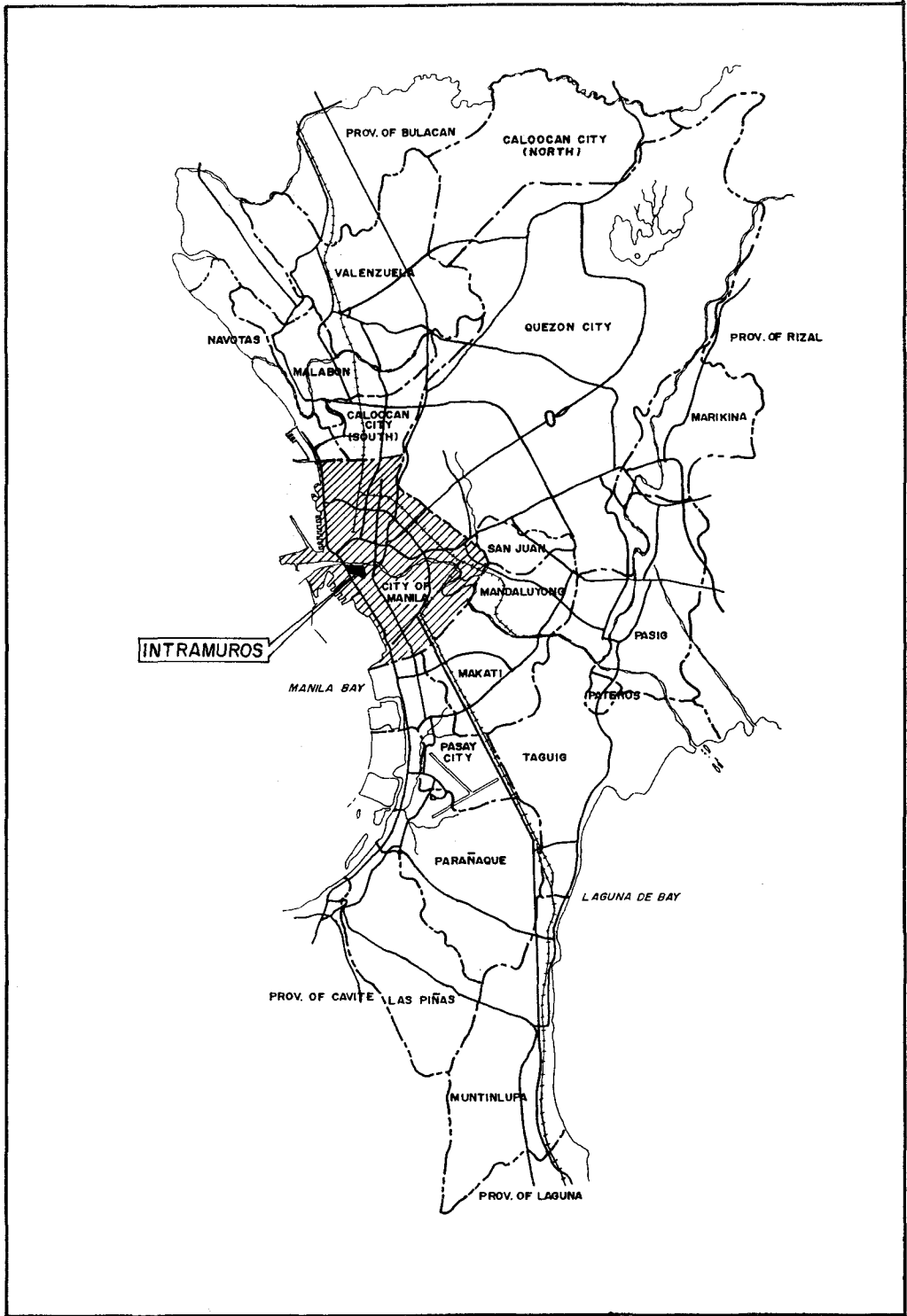
TABLE OF CONTENTS

- 1** Socio-Spatial Structure of the Colonial Third World City: The Case of Manila, Philippines
 - Ernesto M. Serote

- 15** Traffic Simulation Models for the Digital Road Map System of Metro Manila
 - Herculano A. Felias, Jr. & Hisao Uchiyama

- 32** Makati: Contrasts in Urban Planning
 - Jejomar C. Binay

- 42** Urban Development and Administration in the Philippines: An Institutional Response
 - Asteya M. Santiago



THE SOCIO-SPATIAL STRUCTURE OF THE COLONIAL THIRD WORLD CITY: THE CASE OF MANILA, PHILIPPINES

Ernesto M. Serote

Introduction

Of the few things that Third World countries have in common, we can cite the fact that nearly all of them have come under domination by one or more European/North American countries. Their colonial experience has had a profound impact on their social and economic structure. The structure of society that emerged from such colonial contact has, in turn, influenced the physical and spatial structure of their cities.

The evolution of spatial forms of the Third World City (TWC) therefore, can be traced to the changes in the social organization of the colonized inhabitants imposed on them by, or in response to the policies of their colonial masters. These policies are in turn shaped by the global political economy, on the one hand, and the specific purposes that the particular colonizing power wanted to accomplish, on the other.

Initial changes in the social organization of the colonized peoples varied according to the level of civilization they have attained at the moment of European contact. In some countries, European urban civilization was easily superimposed on the indigenous society that was essentially rural. In other countries that had already developed a high level of urban civilization, the indigenous urban forms were modified but not entirely supplanted.

Subsequent changes in the social structure of the colonial TWC would depend in part on the transition of capitalism from mercantilism. Social restructuring in the TWC took place as it reorganized itself to perform the functions assigned to it by the metropolitan power within the whole scheme of international divi-

sion of labor. Along with this, the state of technological development also affected city structures. Finally, changes in the TWC structure resulted in part from specific colonial policies of the European nations that were engaged in colonialism.

In this paper, the evolution of the socio-spatial structure of the TWC will be analyzed according to the framework outlined above. First, general patterns of the changes in social structures and urban forms which are the effect of the transformation of world capitalism will be sketched. Then the case of Manila, Philippines will be presented to highlight the ways in which the Philippine colonial experience is similar to, or varies from the general pattern. Variations will be shown to be a function of the aims and motivations of their colonial masters, in this case, Spain and the United States, and also of the kind of indigenous society that existed at the point of European contact. The paper will conclude with identification of some of the surviving effects of such colonial experience — social traits, institutions and artifacts—that seem to underlie some of the important urban problems of today.

Colonialism: Some concepts defined

Colonialism is defined by King (1976) as the "establishment and maintenance, for an extended time, of rule over an alien people that is separate and subordinate to the ruling power." For colonialism to take place, certain conditions must be satisfied, which King enumerates: (1) That a contact situation occurs between two cultures and the value systems on which they are based. (2) That the contact

takes place between two cultures which have different forms or 'level' of economic, social, technological and political organization and development. (3) That the relationship in which this contact takes place is one of dominance-dependence where the ultimate source of social, economic and political power rests in the metropolitan society, with physical force being the ultimate sanction in the colonized society.

Further expounding on the three conditions of colonialism, King (1976, Chapter 2) extracts three variables which are inherent in the concept of colonialism and which are essential for understanding the socio-spatial structure of the colonial TWC, namely, culture, technology, and power structure.

- (1) *Culture*. The colonial city is the product of a contact between at least two different cultures. Hence, there exists, in the indigenous and colonial sectors, areas of urban spaces allocated by power relations of colonialism which are perceived, structured and utilized according to value systems unique to the culture in question. It is these value systems that legitimize the religious, social, economic and political institutions of the culture and it is these institutions which determine the spatial form of each settlement area.
- (2) *Technology*. The colonial settlement is also a product of cultures with very different forms of technological, social, economic and political organization and development. Whereas the indigenous settlement area is the product largely of an agrarian and craft-based economy using mainly animate sources of energy, the European sector expresses the physical, spatial and social forms of the industrial city which, in turn, result from the use of inanimate energy. In spatial terms, the indigenous sector is characterized by mixed land uses. The colonial sector, in contrast, exhibits a spatial segregation between work, non-work, and recreational spaces.
- (3) *Power structure of colonialism*. Charac-

terized by the dominance-dependence relationship, the power structure in the colonial city is such that the colonial society is dependent on the metropolitan one. Consequently, the colonial settlement is primarily devoted to political, military and administrative functions. The colonial settlement contained the managers of the colonial system while industrialization took place in the metropolitan society. The economy of the colonial society was therefore confined to the tertiary sector (in the city) and primary sector in the rural area. Moreover, the indigenous and colonial parts of the city were kept apart from economic, social, political and racial reasons. The enforcement of segregation was either explicit or implicit. Explicitly, distinct areas for different social groups with separate and unequal facilities were created. Implicitly, residential areas were so characterized by cultural or economic deterrents as to prevent infiltration except by those willing to adopt the attributes and life-styles of the colonial inhabitants.

King summarizes these generalizations by drawing a picture of the ideal type structure of the TWC consisting of three sectors: the indigenous sector, the European sector, and squatter settlements.

Evolution of the Socio-Spatial Structure of TWCs

The picture of the colonial Third World City drawn by King is viewed, as it were, with a telescopic lens. The image is clear but the depth of field is lost. We shall now attempt to get a historical perspective of the development of the structure of TWCs.

The need to place the ideal-type colonial TWC in historical context stems from the fact that the socio-spatial structure of the TWC has changed through time. These changes were the result of the interplay of three major factors, two of which are internal to the cultures that came in contact and the third external to both.

Hence, the need to view the formation of the socio-spatial structure of the TWC as an evolutionary process.

According to Lowder (1986, Chapter 3), the colonial period spans four centuries, more or less, from 1550 to 1950. The earliest and longest players were the Spaniards and the Portuguese, lasting from the Columbian conquest of the 1500s to the first quarter of the 1800s, by which time nearly all Latin American colonies had become independent. Thus, Iberian colonial rule was practically over when other European countries began theirs. It was not until the middle of the nineteenth century that the British occupied India, Ceylon and Malaya. Africa's colonial experience is relatively brief, lasting for 50 to 70 years. The Middle East was under protectorate status for even shorter period, two decades between the two world wars. The most enduring colonies were the small isolated islands of the Caribbean (Cuba, West Indies), the Pacific (Philippines) and the Indian Ocean (Singapore, Hong Kong, Macao). These islands lay along principal sea routes, or on the "doorstep of powers" that the Europeans could not colonize (Lowder 1986, 52).

The impact of European expansion transformed the structure of TWCs. The nature and extent of such transformation depended on a number of factors, the major ones being: the level of urban civilization already attained by the indigenous society at the time of the European contact, the aims of the colonizing powers, and the stages in the development of capitalism and technology.

Pre-colonial Civilizations

Indigenous cities of the pre-colonial period were creations of complex societies that had political systems sophisticated enough to organize and extend their territories even without the benefit of modern communications. Although predominantly agrarian, these societies exhibited the capability to accumulate surplus wealth and to transform this wealth into works of art, fine architecture, jewelry, and textiles. Their internal structures showed evidences of

discrete self-contained neighborhoods. Sense of community was fostered through provision by the wealthy of utilities and services and through communal rights over property, especially land (Lowder 1986, Chapter 2).

Countries with such high levels of civilization include China, India, the Middle East, and parts of West Africa. Although in some cases they were radically altered, the indigenous cultures in these countries were otherwise preserved. Exceptions to this were the Aztecs of Mexico and the Incas of Peru which had achieved a high level of civilization but were completely obliterated by Spanish conquest and replaced with entirely new forms. In other places where the indigenous society was basically rural, European urban civilization was superimposed with greater ease.

Motives of Colonial Powers

All colonizing powers were motivated by economic expansion. An exception was Spain which added a religious motive to her colonial exploits. The bulk of the Spanish conquerors consisted of redundant veterans of the Moor wars who were imbued with a high sense of "intolerance for anything other than strict Catholic conformity" (Lowder 1986, 52). The large number of clergy that accompanied the Spanish expeditions gave these voyages a semblance of missionary journeys. It turned out later that the friars succumbed to the temptation of accumulating wealth themselves. In short, the aims of Spanish colonialism were to discover and found new territories to provide wealth to the Crown and to subjugate indigenous populations to be "civilized" and converted to Catholicism (Gilbert and Gugler 1981, 15). Spanish colonial cities invariably sport the most prominent symbol of their evangelization motive, the Catholic church, which dominates the landscape of every town they founded. Moreover, asserts Gilbert, the Spaniards used the city as the instrument of conquest. Each urban area was granted a tract of land together with its dependent population. The Spanish settlers preempted land surrounding the towns they founded and incorporated lands held in common by the inhabitants into private owner-

ship. The city became the seat of the local aristocracy which served as the main link in the chain of political control by Spain (in Gilbert and Gugler 1981, 15).

Other European colonial powers did not intend to settle in their colonies for longer than profitable trading required. Some trading posts were in fact abandoned in favor of more profitable ones. A curious case is that of Africa. According to Lowder, the main motive of colonial expansion in Africa was the rivalry among European powers and that the continent only served as the stage on which they acted out their rivalry (1986, 54).

Impact of Capitalism and Technology

The most profound impact of European colonial expansion in TWCs relates to the transition of capitalism from mercantilism through industrial capitalism and finally to monopoly capitalism.

Mercantile capitalism. Mercantilism represents an era of primitive capital accumulation when emerging capitalist states were acquiring the initial capital to launch capitalism as a world economic system (Constantino 1975, 17-18). During this period, which also saw the flourishing of piracy and slave trade, the colonizers were interested mainly in trade and so they had a very limited impact on the internal structure of the TWC. Changes in the colonial society came in the form of metropolitan institutions like the Christian religion and private property in land. These did not lead to social restructuring as long as the pre-capitalist modes of production, subsistence agriculture, artisanal industries, handicrafts, and the like, remained unchanged. Metropolitan traders had to deal with autonomous producers or with middlemen who were mostly nationals of a third country. The cities founded by the colonizers were invariably oriented to the sea, reflecting their main function as collection and dispatch points for products exported to Europe. Transport technology then was dominated by the cumbersome Spanish

sailing caravel or the Mexican galleon. In cases where the colonizers penetrated farther inland, primitive communications such as caravan trails were established.

Industrial capitalism. The advent of the industrial revolution has led to faster changes in the structure of both metropolitan and colonial cities. With the expansion of production capacity of metropolitan factories, the colonial city was increasingly seen as the supplier of raw materials and, to a minor degree, a market for finished products. European capital investments began to pour into TWCs for the establishment of production facilities. This has brought about the integration of the Third World countries into the international division of labor. The use of steamships and the opening of the Suez Canal have helped considerably in the hastening of the integration of the world economy. The period of industrial capitalism has also led to marked changes in the social structure and morphology of the TWC.

Beginning with the late nineteenth century, Gilbert observes, Third World cities began to look increasingly similar (in Gilbert and Gugler 1981, 22) He attributes this to the similarities in the kind of facilities for extraction and transport of raw materials set up during the period of industrial capitalism. Every colony, for instance, had a major port city that served as its link with the metropolitan power. From the port city, railways invariably radiated to the hinterlands from which the products of plantation and mines were collected. In some cases, these products were transported in their raw form direct to Europe. In other cases, break-of-bulk or intermediate processing was necessary. Morphologically, TWCs were looking increasingly like imitations of metropolitan cities, down to such details as names of streets, parks, and public buildings. For the first time, the segregation between work and residential spaces occurred as artisanal and handicraft workers converted to factory workers.

The introduction of the capitalist mode of production gave rise to a new social structure. In agriculture, the emergence of large estate plantations encouraged the cultivation of cash crops. Small landholdings were bought up by the landed estates and former owner-cultivators turned tenants and sharecroppers or else became paid laborers in the haciendas or in city factories. Thus, industrial capitalism has transformed once-autonomous workers into paid laborers and their products were replaced by imported goods from the metropolitan powers.

This stage of capitalism has accentuated the status of dependency of the Third World countries. This role in the dominance-dependence relationship that the colonized country enjoyed has limited the range of functions that the TWCs were allowed to perform. They were never allowed to become major manufacturing centers. Because of the limited manufacturing activity that they were allowed to do, TWCs were characterized as "passive-industrial cities". (De Bruijne in Ross and Telkamp 1985, 233). They did not produce large amounts of industrial goods but accepted and distributed huge quantities of imported European goods which heavily competed with local products. This has totally ruined indigenous handicrafts.

Monopoly capitalism. The period of monopoly capitalism covers for most Third World countries the post-independence era. Being independent politically however, did not automatically guarantee economic independence as well. In fact, under monopoly capitalism Third World countries are coopted into the world economy but continue to be given a peripheral role not only as supplier of raw materials as in the earlier phase of capitalism but also as source of cheap labor. In short, independence has not shielded the colonized Third World from vulnerability to new forms of colonialism. One more quote from Gilbert:

"Today the essential decisions about technology, employment and econo-

mic growth are made in the metropolitan centers of Europe and the United States, and the Third World urban functions and form have come to reflect provincial status. The Third World city forms part of the world economy but its population does not share equal access to the world's resources. For this reason, and despite countervailing power of government, inequality is being perpetuated within the Third World city." (Gilbert and Gugler, 1981, 25).

Morphologically, TWCs have come to look not only like the metropolitan cities but also look like one another. Whether the TWC is in Latin America, Africa or Asia, the ubiquitous high-rise tower blocks, large residential complexes in sprawling suburbs, mass transit systems, expressways with multi-level interchanges dominate the urban landscape. This is due to the internationalization of building technology, transport engineering, and urban planning and design concepts. But of course, unlike its metropolitan counterparts, the TWC still invariably sports its distinctive feature—slums and squattments.

In the case study that follows the monopoly capitalism phase will be omitted for two reasons: it falls outside the colonial period and that it has taken away much of the distinctive character of individual TWCs.

Manila: A Colonial Third World City

Manila, the capital of the Philippines, is situated on the western shore of the island of Luzon, the largest of more than 7,000 islands comprising the archipelago. It lies on the mouth of the Pasig River which drains into the Manila Bay, a well protected cove facing the South China Sea. The flood plain of the Pasig constituted the rich agricultural hinterland of Manila. A greater portion of this once-agricultural delta is now built up and forms part of Metropolitan Manila.

Morphologically, the present metropolitan area extends fan-like from the Manila Bay toward the interior. Integrated in 1975 under a metropolitan authority, Metropolitan Manila

embraces four cities including the city of Manila, and thirteen municipalities covering nearly 636 square kilometers. Manila, the city, is a much smaller jurisdiction with an area of 38 square kilometers but accounts for one-fifth of the total metropolitan population. Manila was incorporated in 1903 during the American occupation. It consists of thirteen districts, one of which is Intramuros. Intramuros was *the* city of Manila during the Spanish regime. As its name implies, Manila was a walled city only 1.2 square kilometers in area. Within this tiny enclosure all the institutions of Spanish colonial administration, both civil and ecclesiastical, were established. From this enclave, Spain extended its power to the entire country. Secular administration was carried out through a hierarchy headed by the Governor-General and below him the Alcalde Mayor (governor) of every province, and the Gobernadorcillo (petty governor or municipal mayor) of every town. Ecclesiastical authority was exercised by the Archbishop of Manila at the apex and the bishoprics and parishes scattered all over the islands. The parishes were manned by priests or friars representing the five religious orders then participating in the evangelization of the Philippines. (See Figure 1.)

The city was supplied through a flea market in the Chinese quarter; just outside the north-east gate. The Japanese who served as live-out domestics were also assigned their own quarter; outside the walls. Filipino carpenters and masons who worked during the day inside the city went home in the evening to their towns farther afield. All Spaniards lived within the walls except the friars, civil officials and soldiers who were assigned elsewhere. The wealthy Spaniards however, built their second homes in choice locations to escape from the heat and humidity of the walled city. They built vacation houses along the bay so that they could savor the salubrious sea breeze while watching the golden sunset. Others built mansions in country estates along the river. Malacañang Palace, the official residence of the Philippine president, was one such country estate. Another favorite was Antipolo, a hilly town 32 kilometers east of Manila overlooking the Bay and the valley below. (See Figure 2.)

Manila, strictly speaking, did not and could not grow. It was confined within the walls, its internal structure was laid out at the beginning and remained unchanged up to the end of the Spanish rule (which lasted for 333 years). Urban growth occurred instead outside the walls within the jurisdiction of surrounding towns which were later incorporated as districts of the City of Manila. These towns and the spaces between them, are now completely built up but the original layout of the town center is still discernible in many of them. To appreciate the evolution of the socio-spatial structure of Manila, therefore, we need to look at these surrounding towns where the real contact between colonizer and colonized took place.

Structure of Pre-Hispanic Filipino society

At the time of the Spanish conquest (second half of the sixteenth century), the natives were found settled in villages (*barríos*) and were divided into kinship groups called *barangays*, composed of 30 to 50 families. The *barangay* was stratified into free men (*maharlika*) who were bound by blood ties, and under them were serfs (*aliping namamahay* or living-out servants) and slaves (*aliping sagigilid*). The head of the *barangay* was the *datu* or patriarchal chief. The serfs had property rights to their homes and the land they cultivated. They gave half of their harvest and their labor to the free men in exchange for the protection given by the free men who constituted the warrior class. The slaves, on the other hand, had no property rights but they belonged to their masters who either acquired them through capture in war or through non-payment of debt. The latter practice of debt slavery was common in Southeast Asia (Cushner 1976, 7-8).

Arable land was held in common. Each family had only usufructuary rights which they enjoyed only as long as they stayed on the land. The *datu* allocated land according to the food requirements of each family. Acquired territorial range by shifting cultivation was also held in common by the *barangay* and use rights of cultivators were only for one recog-

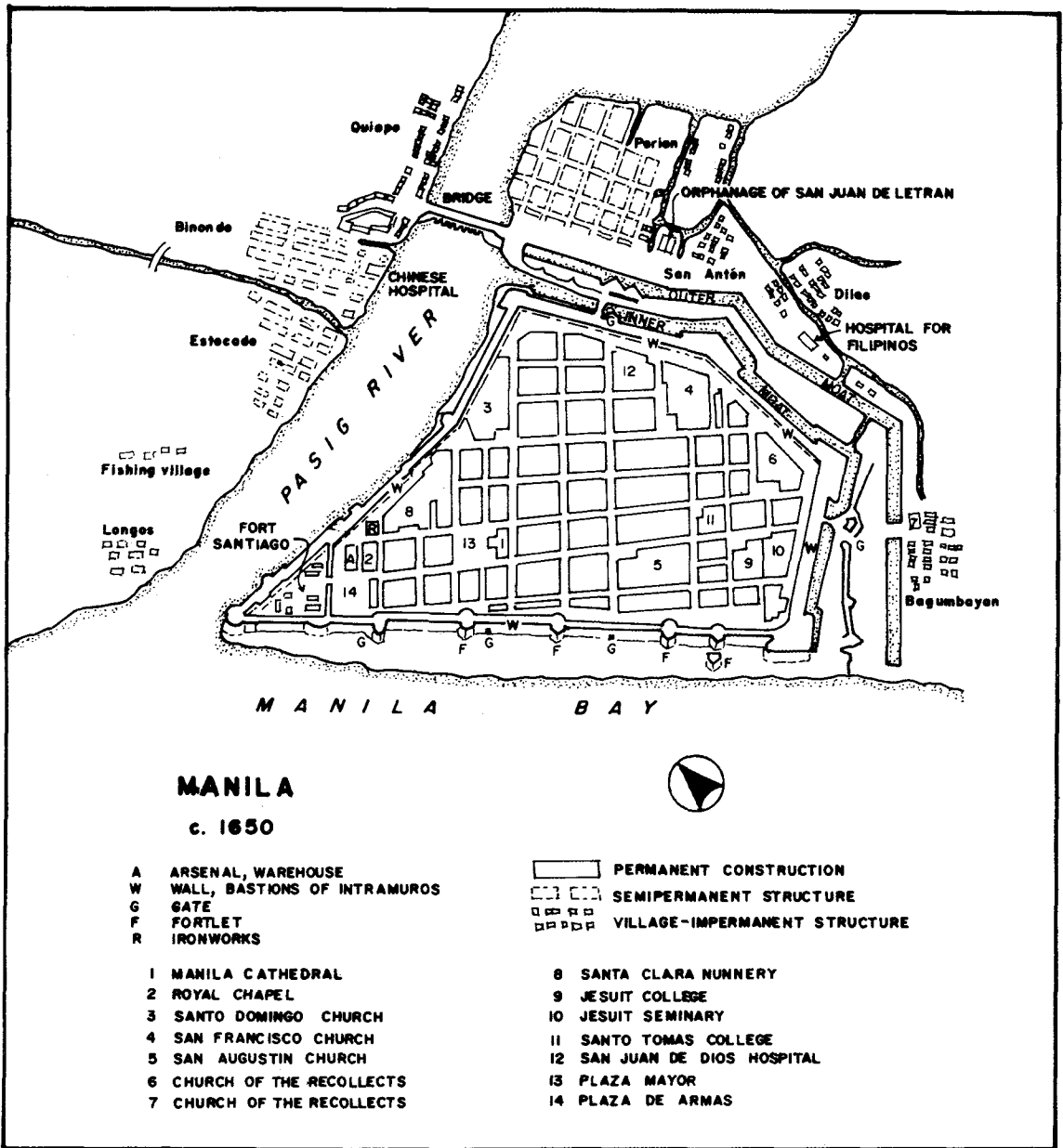


FIGURE 1. EMBRYONIC MANILA WAS CONFINED WITHIN THE WALLS OF INTRAMUROS WITH AN AREA OF APPROXIMATELY 1.2 SQUARE KILOMETERS. (SOURCE: ROBERT R. REED, 1978)

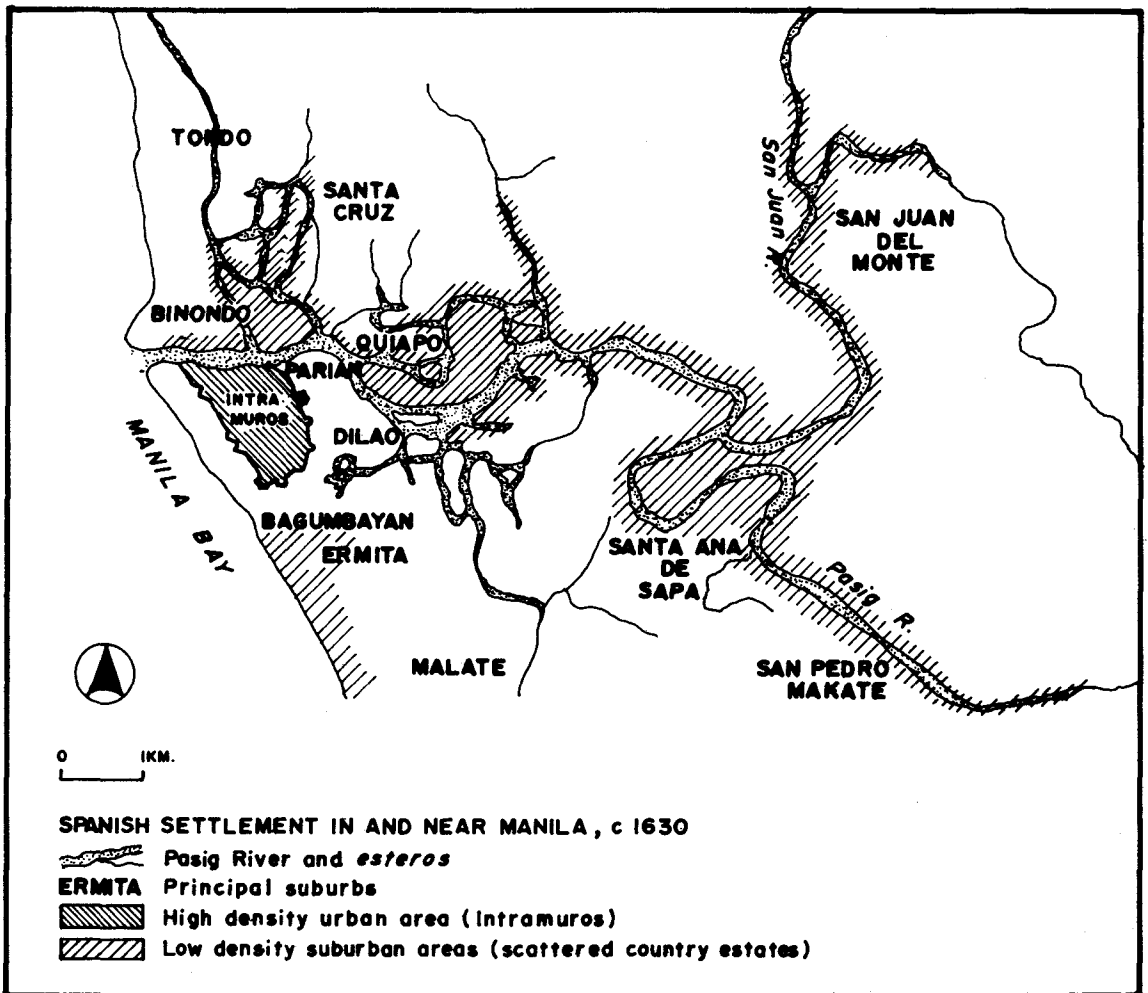


FIGURE 2. INVESTMENTS BY WEALTHY SPANIARDS IN COUNTRY ESTATES OUT-SIDE INTRAMUROS GAVE RISE TO A RIVERSIDE LANDSCAPE FEATURING PALATIAL HOUSES SURROUNDED BY EXTENSIVE GARDENS, ORCHARDS AND MAGNIFICENT ORNAMENTAL PLANTS. (SOURCE: ROBERT R. REED, 1978)

nized cropping cycle. A subsistence economy existed based on one-crop wet-rice agriculture supplemented by hunting and fishing. Due to their excellent location, the villages around Manila had some kind of barter trade with the Chinese (Cushner 1976, 8-9).

Spanish influence

Apart from the introduction of Catholicism, the strongest Spanish influence on native society was the change in land tenure. They introduced the concept of private property ownership. This concept carried with it such rights as alienation by individuals, taxation and confiscation of land by political rulers, and the right of political rulers to make land grants to individuals. Spanish law also declared that uncultivated land reverted to the patrimony of the Crown. Thus, arable farms left in fallow or forest clearings left to regenerate automatically became the property of the Spanish sovereign with the dispossessed villagers ignorant of what had happened.

Resultant social stratification

The institution of private property ownership in land resulted in social stratification that is based on economic power since land is regarded as the real form of wealth. In a typical town, the social structure had the Spaniards at the top, usually the friars who were often the only Spaniards in town. They acquired big landholding through donations in the name of the church, purchase, or outright trickery. Then there were the native *principalia*. These were the traditional ruling class who were coopted into the civil administration due to the shortage of Spaniards, and were accorded the privilege to appropriate municipal commons for their private property. At the bottom of the social scale were the landless masses who worked the land as tenants, or as paid laborers. In the towns near Manila, a fourth layer was composed of the Chinese who were considered slightly higher than the masses.

Morphology of the typical town

The new social structure was reflected in the morphology of the town which the Spaniards established out of their mission fields or oversized villages. A typical town at the suburbs of Intramuros is described by Reed (1978, 60-61) as displaying a characteristic morphology which included a central plaza. On one side of the plaza stood the Catholic church and on another the municipal hall. A few large residences of modified Spanish design owned by wealthy families, a marketplace featuring Chinese shops, rectangular residential blocks where the native *principalia* and other landowners resided, made up the urban area called *poblacion*. An encircling zone in which dispersed houses belonging to the landless tenants situated among rice paddies, fruit trees and bamboo thickets, constituted the rural hinterland. Due to the importance of the church in the life of the people, the rural dwellers were advised by Spanish law to reside within earshot of the church bells.

Benign neglect of the colonial economy

The administration of the towns was left almost entirely in the hands of the friars. Civil authorities in Manila could not provide enough Spaniards to serve as municipal mayors so the friars often served concurrently as parish priest and mayor. Central government authorities were interested in the towns only as a source of tax revenue, tributes, and conscripted labor. The Spanish administrators ensconced in Intramuros or enjoying the opulence of their second homes were too engrossed in the galleon trade to care about the local economy.

The galleon trade was the closest the Philippines ever came to participating in the world mercantilist system. In reality, it was a trade between China and Mexico handled by the Spaniards with Manila serving as a mere transshipment point. Outbound for Acapulco, the Spanish galleon collected Chinese goods that had been brought in by Chinese junks. Inbound it brought Spanish civil servants, royal orders from the Spanish Crown, and Mexican silver for China. Imported goods that were distri-

buted in Manila were for the consumption of the Spanish community and wealthy natives. The only native products that were exported to China were forest and marine products extracted by hunting. Local trade and artisanry were dominated by the Chinese who had come in great numbers, vastly outnumbering the Spanish settlers. In the towns the friars were busy consolidating their landholdings. They had become the biggest landlords. If they were knowledgeable, which was rare, they taught the natives advanced agriculture. For two hundred years, therefore, Philippine economic development suffered from benign neglect by the Spaniards.

Industrial capitalism

The Philippines began to be coopted into the world industrial capitalism after the 1830s. Spain had just lost her colonies in Latin America and the galleon trade had ended. This made Spain rethink her policy toward her remaining colony. The opening of the Suez Canal had also facilitated direct trade with Spain and the rest of Europe. Spain made efforts to promote the cultivation of cash crops which were in demand abroad like sugar, indigo, tobacco, hemp, and coffee. But Spain's efforts came too late. The British, in combination with the Chinese, had been in control of the export trade.

The landscape of Manila, rather the suburban towns near the port namely, Tondo, Binondo and San Nicolas, was being transformed drastically. Banking houses were established to support the cultivation and export of cash crops. Near the port in Tondo, cigar factories were put up to process tobacco from the north (Ilocos) and rope factories to process hemp fibers from the southeast (Bicol). Sugar was for some time being refined in Manila but when the West Visayan port of Iloilo was opened, milling and shipping of sugar were done directly in the provinces. The manufacturing activity in the city no matter how limited had attracted migrants from the provinces and the suburban towns near the port area began to experience rapid urbanization.

Philippine society was also being transformed. The flourishing domestic and international trade gave rise to a new entrepreneurial class composed of Spaniards, Chinese, mestizos, and urbanized natives. They bought up large estates and turned them into plantations to meet the demand for export crops. In the process the old native principalia was increasingly being displaced and dispossessed. Members of this new middle class were relatively well informed having invariably pursued higher education in Manila or in Europe. They had transcended their provincial outlook, been exposed to liberal ideas, and developed a national consciousness. It was this class that led the propaganda movement against Spain in the late 1800s and provided intellectual support to the revolution at the turn of the century.

American occupation

The Filipinos were on the threshold of self-rule when the Americans took possession of the archipelago from 1898 to 1946. The Americans were fighting the Spaniards in Cuba and thought of finishing them off by taking the Philippines as well. Although their short stay was geared mainly to prepare the Filipinos for self-rule, the Americans nonetheless had left an enduring influence on the Philippines.

Being an industrial power, unlike Spain, the United States was in a better position to dominate the indigenous economy. For example, to increase efficiency in the export of cash crops, the Americans built railways. One railway line extended to the north to collect tobacco, gold and copper ore. Another line went to the southeast to convey hemp fiber, gold and iron ore. Both lines converged at the port of Manila. They also upgraded the facilities of the port of Manila to international standards and thereby paved the way for American and European multi-national companies to establish in Manila. Thus, the Americans extended the period of industrial capitalism and introduced the country into the era of monopoly capitalism.

With regard to changing the socio-spatial structure of Manila, the Americans probably had done more in forty years than the Span-

iards in three hundred years. By introducing a system of public education, the Americans changed the rules of social mobility from one based on property ownership to one based on educational attainment and technical know-how. The increasingly technical requirements of the modernizing economy and the Filipinization of the government bureaucracy had encouraged career mobility through education (Doeppers 1984, 2). More and more migrants flowed into Manila either to take jobs in the foreign firms or enroll in the colleges and universities that started to proliferate.

The urban landscape likewise changed in character. In the provincial towns, the public primary school became an added feature of the plaza complex. In provincial capitals secondary schools, trade schools and teacher-training schools were put up. In Manila, universities, both public and private, became a major institutional land use.

By the first decade of the twentieth century Manila had grown by leaps and bounds. It had literally leapt out of the walls of Intramuros and become an extramural city. In 1903 the City of Manila was formally created, incorporating twelve of the fast-growing suburban towns and the walled city which had now become just one of the thirteen districts.

The increasing demand for housing due to rapid in-migration led to another change with respect to land disposition: urban land development. The Americans reinforced the Spanish institution of private property ownership and introduced the business of real estate development. They bought up large estates belonging to the religious orders, subdivided them and sold them to prospective homeowners. The native elite with extensive landholdings likewise converted their agricultural lands to urban housing development.

The biggest influence that the Americans would have made on the physical structure of Manila was the deliberate attempt to control its growth through a master plan. In 1905 they commissioned Daniel Burnham, the famous exponent of the City Beautiful Movement to do a master plan for Manila. The Burnham plan, if fully implemented, would have made

Manila one of the more monumental cities after Washington, Paris, or New Delhi. Unfortunately, construction had barely gone half-way when the Second World War reduced Manila to rubble. After the war, the Philippines became independent and the Burnham plan was abandoned. (See Figure 3.)

Conclusion

To conclude this paper, we compare the experience of the Philippines with the ideal type constructed by King and given a historical perspective by Gilbert and Gugler and Lowder. Regarding King's conditions of colonialism: first, there was indeed a contact between two cultures in which one culture was superior to the other; second, the level of technology of the two cultures also differed; and third, the power relation between colonizer and colonized was reflected in the spatial organization that separated the colonizer and the colonized and other foreign nationals. The third condition was the strongest feature of the Spanish era; the first two leave some basis for doubt. The American influence, on the other hand, was strongly characterized by the second and the third in a subtle way. The first was likewise dubious. Why?

At the point of Spanish contact, the natives were clearly the inferior culture. They were subsistence farmers and hunters, had no religion except perhaps natural animism, and had no suprafamily system of political organization. For this reason the Spaniards were able to subjugate and convert them to Catholicism. But there remained certain tribes, the Muslims in Mindanao and the Igorots in northern Luzon who were never subjugated by either Spain or America. The reason is that they had a higher level of culture and political organization than their lowland counterparts. The imperviousness to foreign influence of these groups comprising about 15 percent of the population, is the main reason for their being granted regional autonomy in the Constitution (Art. X, Sec. 15-21), a short stop to independence which they wanted. The Americans who introduced Protestant Christianity simply proselytized the

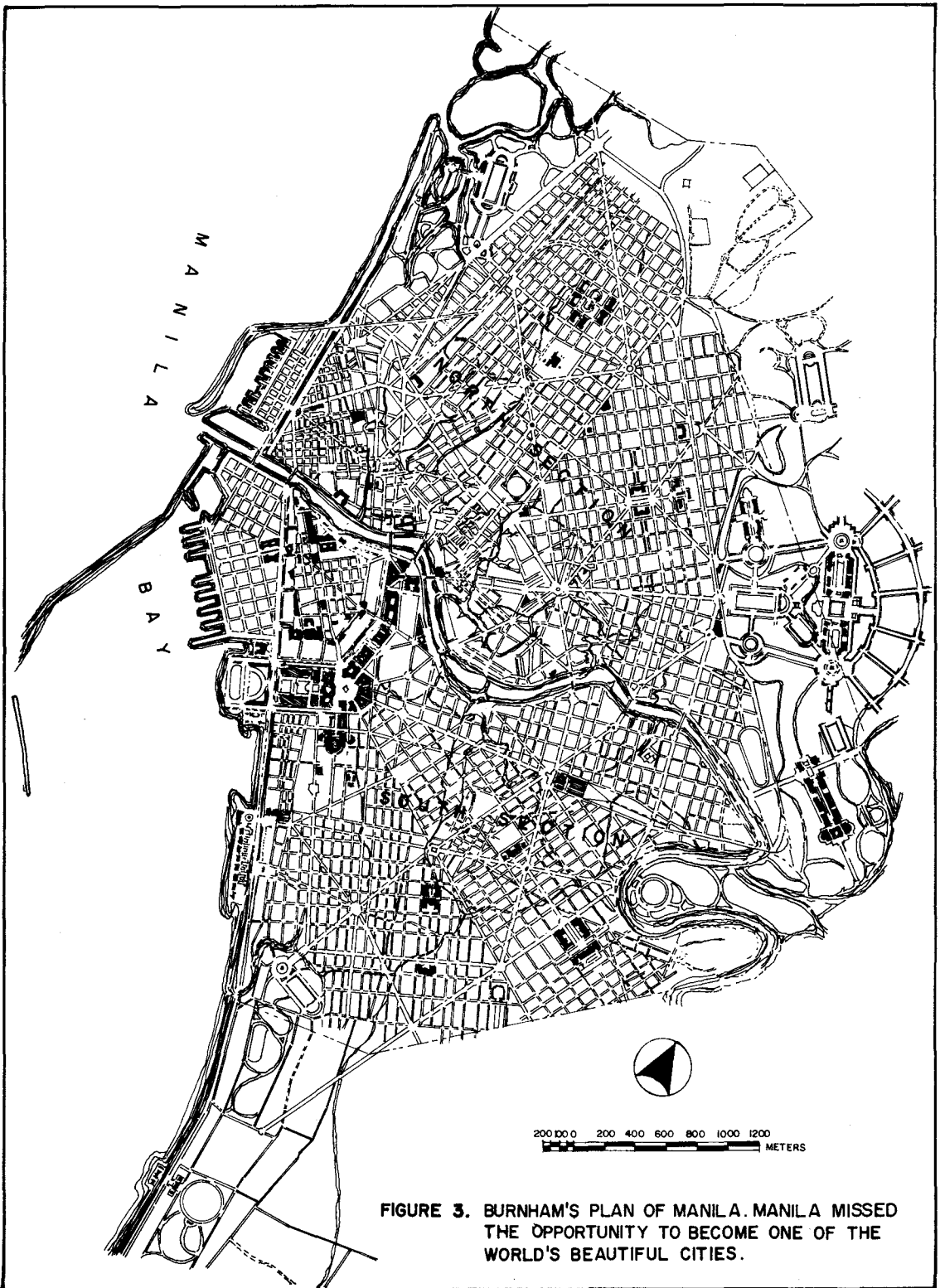


FIGURE 3. BURNHAM'S PLAN OF MANILA. MANILA MISSED THE OPPORTUNITY TO BECOME ONE OF THE WORLD'S BEAUTIFUL CITIES.

Catholics because they, too, could not penetrate the strong tribal minorities.

Technology was obviously America's strength; not so with Spain. The Spaniards neglected the Philippine economy for two hundred years not because they were too busy with the galleon trade but that they had nothing much to impart. Spain had been a dependent power in Europe since the start of the industrial revolution. It was the British and the Americans who brought the country to full integration into the world industrial capitalism.

Spatial segregation in Manila under Spain was based on social status and racial lines. In Intramuros, as in other towns, the Spaniards conspicuously set themselves apart from the rest of the population, native or other foreign nationals. The Americans, on the other hand, transferred the seat of government outside Intramuros and treated the former Spanish enclave as just another district of the new City of Manila. But the Americans also reinforced the role of the native elite because it was through this group that they easily gained the allegiance of the masses (Steinberg, in Bresnan, ed. 1986, 48). Evidences of elitist perquisites still exist today in the form of exclusive suburban subdivisions, land hungry recreational activities in the midst of congested districts like golf courses and polo fields, and the restrictive admissions policies of certain American schools.

Two more ideas related to Philippine colonial experience need to be explored briefly: dependency status and land tenure patterns. Under Spain, it was not clear who was dependent on whom. Clearly, Spain did not have much to offer in return for the wealth she extracted from the colony. The colonized people had been self-supporting and had to support the colonizers, too. It was therefore a relationship wherein the colonizer was both exploitative and parasitic. America, however, exploited and made the Philippines parasitic. Either way, the Philippines was in a no-win situation.

Finally, on land tenure: Ever since the Spaniards introduced private property ownership and concentrated lands in the hands of the

elite, and the status quo was further strengthened by the Americans, it has not been easy to democratize land ownership. Land reform has been a hot issue in the Philippines for over forty years now. The Americans did try to redistribute urban lands but it was strictly a business proposition; they sold land as a commodity of trade. At present, the real estate business in the Philippines remains the most opportunistic and speculative and government efforts to regulate it have only been a partial success. These problems are typical of TWCs, as Taylor and Williams (1982, 12-13) tell us. Eisenstadt and Shachar (1987, 37), recognize that "the crucial element in shaping the internal structure of cities is the control of land and the mechanisms of land allocation" because control of land allocation is "all important in determining building locations, the extent of open spaces, and their land use."

Owing in no small way to the colonial experience of Manila, and of the Philippines for that matter, it is obvious who has control over land and its uses, and that lies at the root of many urban problems that the country currently faces.

REFERENCES

- Abu-Lughod, J.L. ed. (1980). *Third World Urbanization*, London: Methuen.
- Contanstino, R. (1975). *The Philippines: A Past Revisited*. Manila: n.p.
- Cushner, N.P. (1976). *Landed Estates in the Colonial Philippines*. Yale University Southeast Asia Studies Monograph Series No. 20.
- Doeppers, D.F. (1984). *Manila 1900-1941, Social Change in a Late Colonial Metropolis*. Yale University Southeast Asia Studies Monograph Series No. 27.
- Drakakis-Smith, D. (1987). *The Third World City*. London: Methuen.
- Eisenstadt, S.N. and A. Shachar (1987). *Society, Culture and Urbanization*. Beverly Hills: Sage Publications.
- Gilbert, A. and J. Gugler (1981). *Cities, Poverty and Development, Urbanization in the Third World*. London: Oxford University Press.

- King, A.D. (1976). *Colonial Urban Development*. London: Routledge and Kegan Paul.
- Lowder, S. (1986). *Inside Third World Cities*. London: Croom Helm.
- Philippines, Republic of the (1986) "The Constitution of the Republic of the Philippines". The Constitutional Commission of 1986. Quezon City (Pamphlet).
- Reed, R.R. (1978). *Colonial Manila: The Context of Hispanic Urbanism and Process of Morphogenesis*. Berkeley: University of California Press.
- Ross, R. and G.J. Telkamp, eds. (1985). *Colonial Cities*. Dordrecht: Martinus Nijhoff Publications.
- Steinberg, D. (1986) "Tradition and Response", Chapter II in Bresnan, J. ed. *Crisis in the Philippines, the Marcos Era and Beyond*. Princeton, New Jersey: Princeton University Press.

TRAFFIC SIMULATION MODELS FOR THE DIGITAL ROAD MAP SYSTEM OF METRO-MANILA

Herculano A. Felias, Jr. and Hisao Uchiyama

This paper presents three computer traffic flow simulation models which are intended to be used as analytical tools for a digital road map system (DRMS) developed for the city of Metro-Manila. These three models individually focus on different levels of the network namely: a road segment, an intersection, and a specific area represented by a collection of several network links and nodes. Each simulation model may be used for testing traffic stream response to proposed changes in the network or traffic management schemes applied.

BACKGROUND

This paper is a follow up to two previous papers submitted to the Japan Society of Civil Engineers¹ (JSCE) and the World Conference on Transport Research² (WCTR). In these previous papers, the authors discussed the making of a digital road map system (DRMS) for Metro-Manila. The DRMS implements a two-level digital map, a database for major nodes and links of the road network, an information system, and some traffic management applications such as minimum path search over the two-level network and network assignment.

In this paper, the authors present three simulation models which can be integrated with the abovementioned DRMS. Traffic flow simulation is not entirely a new technology. Traffic flow modeling as a science and an art had been vigorously explored soon after the introduction of digital computers. To date, several simulation models are available for use in a wide range of transport planning applications. These applications include among others: vehicle design, highway engineering, route planning, area-wide traffic control, etc. The importance of these models stems from the fact that they help in greatly expanding the opportunities for the development of, and/or

testing of proposed traffic management strategies prior to implementation. They are practical and attractive tools to transportation planners because of the following reasons: (1) they entail little cost, (2) they give results in less time compared to actual field experiments, (3) they can generate data which may not be practically obtained empirically, and (4) they do not require expensive physical changes to existing facilities which cannot be undone later on.³

The models presented in this paper do not incorporate radical simulation innovations, rather they were developed as specific application modules of the Metro-Manila DRMS. These modules, when used with the existing database of the DRMS, are envisioned to provide some practical tools for analyzing traffic flow inherent to Metro-Manila and hence help in formulating more realistic traffic management schemes applicable to the conditions of the metropolis.

The models to be presented in this paper focus on three specific levels of the network. The first simulates vehicle movement along a road segment, the second traces vehicle movement within an intersection, and the third models traffic flow in a defined area which encompasses a collection of several road segments and intersections.

These three models were tested as follows: the road segment model was used to analyze the effect of a man-made road impedance (for example, a road repair activity which necessitates the closure of a portion of one lane in a two-lane road) to traffic flow; the intersection model was used to analyze the effect of a traffic signal in a two-lane by four-lane intersection; and lastly, the network model was used to analyze the performance of three different networks subjected to varying traffic management schemes. Two networks from Japan and

one network from Metro-Manila were used. The Metro-Manila network represents a simplified network within the busy commercial area of Mabini.

SIMULATION ALONG ROAD SEGMENT

Description of the Model

Simulation Frame

This model simulates the movement of vehicles along a straight two-lane road segment between two reference points. The simulation frame is shown in *Figure 1*.

In this model vehicles are randomly generated and fed into the simulation frame at point A. From this entry point each vehicle moves within the simulation frame according to the positions and speeds of other vehicles in its immediate periphery until it reaches point B where it is removed from the simulation frame. The road segment parameters are likewise shown in the same figure. These are lane widths equal to w_l meters, a shoulder width of w_s meters, and a segment length of l_r meters. Lane L_1 is the inner or fast lane while lane L_2 is the outer or slow lane. These road parameters also affect the movement of vehicles and may be freely changed to suit the conditions of the road being modeled. Three simulated vehicle detectors may also be placed freely within the simulation frame to monitor vehicular volume, speed, and headway.

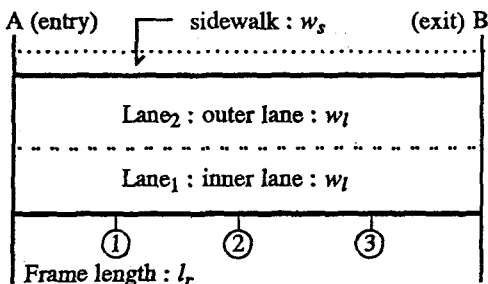


Figure 1 – Simulation Frame For Model 1

Generation of Input Vehicles

The simulation model uses two types of vehicles categorized by size. The small vehicles (cars) are assigned a length of 5 meters whereas the big vehicles (trucks) are assigned a length of 8 meters. Because the road is a two-lane road, two separate queues are implemented for lanes L_1 and L_2 . Vehicles are randomly generated at the entry point using a random function based on the exponential distribution of headway⁴ as shown in equation (1).

$$f(t) = 1/(t'-t_0) \exp[-(t-t_0)/(t'-t_0)] , \quad t' \geq t_0 \dots\dots\dots (1)$$

where:

- t' : average headway
- t_0 : minimum delay
- t : headway

Equation (1) is implemented by the model as a random function shown in equation (2)

$$f(t) = -(1/\lambda) \ln (1-R_i) \dots\dots\dots (2)$$

where:

- R_i : random number
- λ : observed volume at the entry point

The generated vehicle is randomly assigned to the vehicle flow in either lane L_1 or lane L_2 .

A free speed is randomly assigned to the generated vehicle individually according to the normal distribution shown in equation (3)

$$f(v) = 1/(\text{sqrt}(2\pi)) \exp[-(v-\mu)^2/2\sigma^2] \dots (3)$$

where:

- v : free speed
- μ : mean
- σ : standard deviation

Equation (3) is implemented by the model as a random function shown in equation (4)

$$f(v) = \sigma_v \times \{(R_1+R_2+\dots+R_{12})-6\} + \mu_v \dots (4)$$

where R_i is generated according to uniform distribution.

Vehicle Movement

While within the simulation frame, a vehicle changes its speed and/or lane depending on the position and speed of four other vehicles in its vicinity at each time increment of the simulation. For example, a vehicle under consideration (target vehicle) and the four vehicles that affect its movement are shown in *Figure 2*.

The speed of the target vehicle can range from zero (a complete stop) to a maximum speed equal to that initially assigned when the vehicle was generated at the entry point. This is under the assumption that different drivers regardless of the speed limit, tend to maintain a maximum speed that is perceivably "safe". This speed can be lower or higher than the legal maximum speed limit. A safe distance between the target vehicle and the front vehicle is defined in such a way that if the headway between the target vehicle and the front vehicle is less than this distance, the target vehicle decelerates (unless it can change lanes) to maintain that safe distance. If the headway is greater than this distance, the vehicle accelerates in order to achieve the initial speed assigned when it was generated.

A vehicle will tend to keep on using the lane where it was assigned when it was generated at the entry point, hence after changing lanes (to avoid a slow front vehicle) it returns to its original lane at the earliest opportunity. A vehicle in the fast lane will tend to give way to the vehicle behind if that vehicle has a faster speed. This, however, is not true in the slow lane where the faster vehicle behind is left the task of overtaking the target vehicle at the earliest opportunity. Finally, if a vehicle attempts to change lanes, the positions at the next simulation increment are checked for collision conditions. Lane changing is then allowed if such conditions are not detected.

Testing the Model

Simulation Condition

The model was tested by simulating the effects of the closure of a section of one lane on vehicular flow. Such closure often occurs when

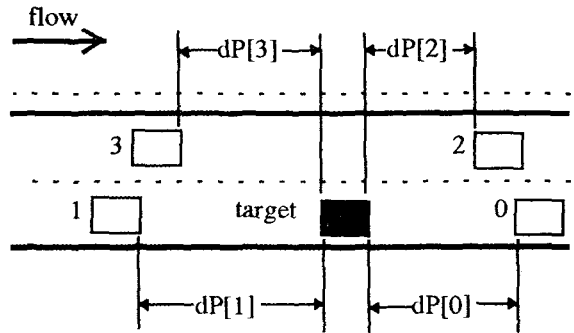


Figure 2 – Target Vehicle and The Surrounding Vehicles That Affect Its Movement

a portion of a lane is under repair say, for a limited length of time. The simulation condition is illustrated in *Figure 3*.

Points A and B in *Figure 3* indicate possible conflict points in as much as flows on the two lanes merge and diverge at these points, respectively.

The data used in the simulation test case were obtained from detector data maintained along the Meishin Expressway. Along this expressway, vehicle detector data are recorded daily on a 5-minute interval basis. On September 20, 1989 a 3,000-meter portion of a lane was closed for repair on this expressway for about 1 hour and 20 minutes. The detector data recorded during this period were used in evaluating the results of the computer simulation.

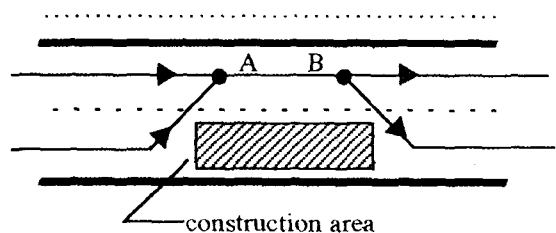


Figure 3 – Simulation Condition

The relevant parameters used in simulating vehicle generation during the simulation are listed in *Table 1*.

		Car	Truck
SLOW LANE	Average Speed (km/h)	25.0	21.0
	Variance (km/h)	3.0	2.0
	Maximum Speed (km/h)	37.0	27.0
	Minimum Speed (km/h)	20.0	17.0
FAST LANE	Average Speed (km/h)	28.0	22.0
	Variance (km/h)	4.0	3.0
	Maximum Speed (km/h)	40.0	27.0
	Minimum Speed (km/h)	20.0	17.0

Table 1 – Simulation Parameters

Three vehicle detectors were also simulated to monitor vehicular flow during simulation runs. These were placed before, within, and after the closed lane to record vehicle counts, speeds, and headways like their real counterparts.

Simulation Output

The output of this simulation model is a summary of detector data from three vehicle detectors placed at strategic locations within the simulation frame. A sample listing of such output is shown in *Figure 4*.

```

SIM_TIME      : 3600 (sec)
SIM_INCREMENT : 1.0 (sec)
SIM_SPACE_FRAME : 3999 (m)
CAR_VOL       : 851 (vph)
TRK_VOL       : 795 (vph)

CONST_START (m post) : 1500
CONST_LENGTH (m)     : 500
CONST_LENGTH (min)   : 30

Detector locations (m post) : 1000 1600 2350
5mprd Det Count (vph)  ave.spd (kph)  ave.headway

[ 5] #1    90    79.8    3.3
      #2    67    44.9    4.5
      #3    53    65.1    5.7

[10] #1   102    85.2    2.9
      #2    92    43.7    3.3
      #3    91    71.7    3.3

[15] #1   103    83.1    2.9
      #2    91    43.7    3.3
      #3    95    72.8    3.2
    
```

Figure 4 – Simulation Detector Output

This listing gives a summary of the main simulation parameters, i.e., time length of simulation (SIM-TIME = 1 hr), simulation increment (SIM-INCREMENT = 1 sec), vehicle volumes (CAR-VOL and TRK-VOL), etc. The length of the road segment is SIM-SPACE-FRAME = 3999 m. The length of the lane closure is CONST-LENGTH (m) = 500 m, and the total time the lane was closed is CONST-LENGTH (min) = 30 min. The start location of the lane closure and the position of the simulated vehicle detectors are with reference to kilometer post 0 at the start of the simulation frame. The detector data are vehicle count (veh/5 min), average speed (km/hr), and average time headway (sec) recorded every 5 minutes.

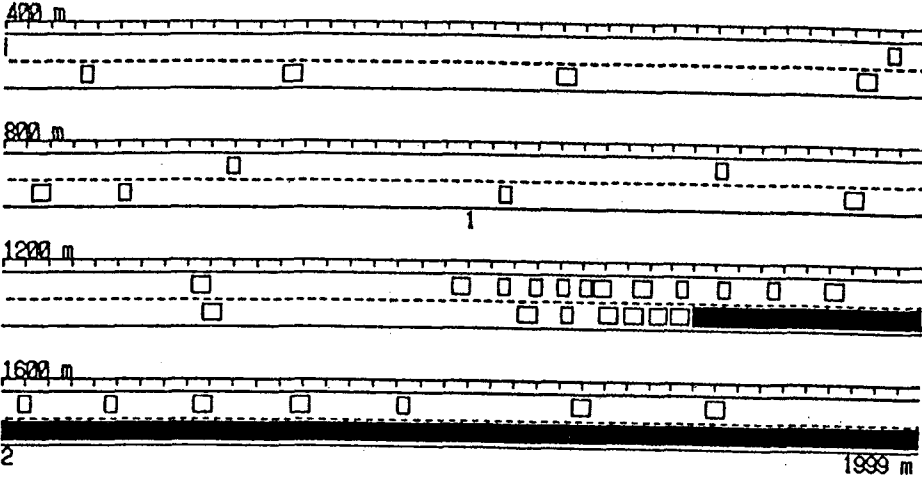
Although the main output of the simulation model is the summary of detector data shown above, the model likewise has graphic output capabilities. *Figure 5* shows two samples of the screen graphic output wherein the actual movement of the vehicles within the simulation frame may be observed. These screens were taken after 5 and 15 minutes into the simulation run respectively. The buildup of the congestion is noticeable after about 15 minutes of simulation.

For maximum visibility, a section of the road segment is displayed at any one time. This section is further divided into five equal subsections and may be scrolled to the left or to the right. The location of the detectors are indicated by the detector numbers (1, 2, or 3) just below the displayed subsection wherever relevant.

The average vehicle speeds from the detector data (located 500 meters before the lane closure) which were accumulated during the simulation run were plotted against the actual average speeds taken from the real detectors. This graph is shown in *Figure 6*. The resulting graph clearly shows that the model can duplicate existing vehicular flow.

The model was further tested for reproducibility, i.e., its capability of producing consistent output for the same condition to be simulated. For this test, a different set of detector data was used. This set was taken on February 26, 1990, when a 2.1 km section of a

SIMULATION IN PROGRESS : 318.0 of 3599.0 sec (5) min Volumes
 simulation frame : 3600 meters Qcar : 851 vph
 [1] : 5-min detector data Qtruck : 795 vph
 Det: count(vph) speed(kph) headway(sec) Number of vehicles
 #1 90.0 79.8 3.3 generated enter : 110
 #2 67.0 44.9 4.5 cars : 55 frame : 73
 #3 53.0 65.1 5.7 trucks : 57 out : 37



SIMULATION IN PROGRESS : 902.0 of 3599.0 sec (15) min Volumes
 simulation frame : 3600 meters Qcar : 851 vph
 [3] : 5-min detector data Qtruck : 795 vph
 Det: count(vph) speed(kph) headway(sec) Number of vehicles
 #1 103.0 83.1 2.9 generated enter : 314
 #2 91.0 43.7 3.3 cars : 160 frame : 92
 #3 95.0 72.8 3.2 trucks : 156 out : 222

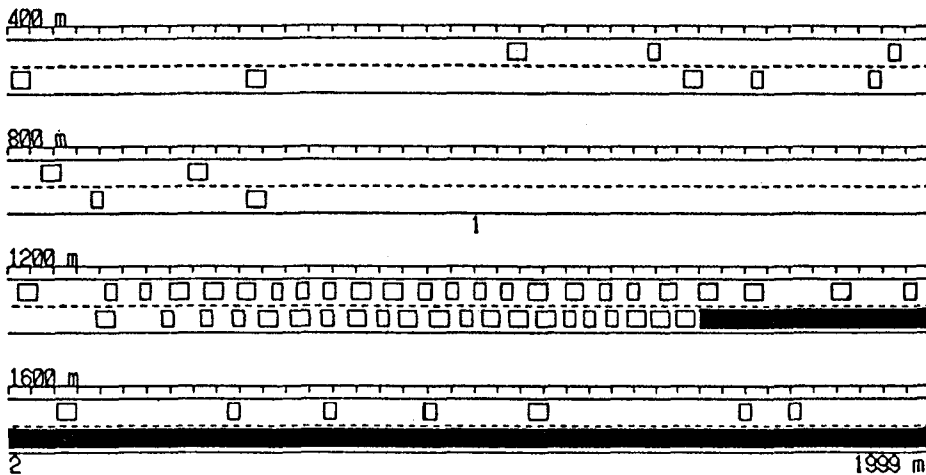


Figure 5 - Two Sample Simulation Graphics
 Screens Showing Congestion

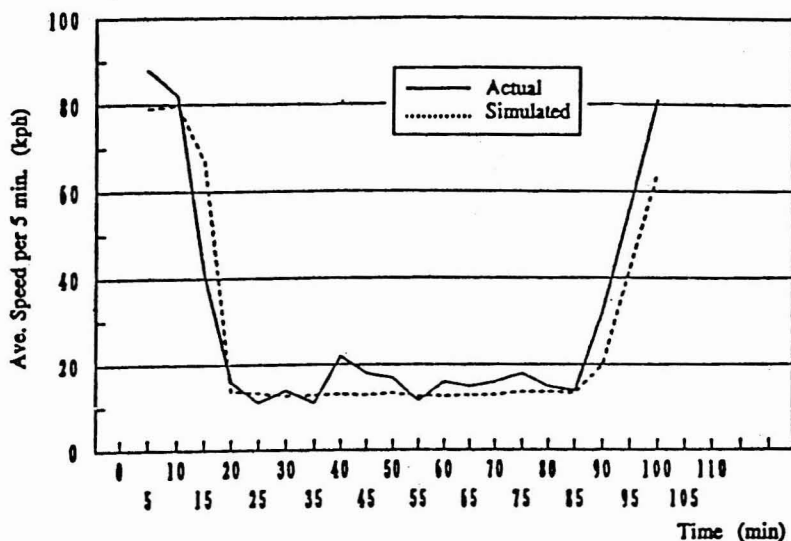


Figure 6 — Actual vs. Simulated Speeds

lane (also in the Meishin Expressway) had to be closed for repair for about 10 minutes. The detector used in this test was located 250 meters before the lane closure and Figure 7 shows the plot of real data versus results from three simulation runs. This graph indicates the consistency of the simulation output.

INTERSECTION SIMULATION

Description of the Model

Simulation Frame

This model simulates the movement of vehicles at signalized intersections. The simulation frame used by the model is shown in Figure 8.

A four-lane (two lanes per direction) major road and a two-lane (one-lane per direction) minor road feed the intersection. The width of the lanes in the major road is w_a meters while the width of the lanes in the minor road is w_b meters. All vehicle movements, i.e., thru, left, and right turns, are allowed for both major and minor roads but exclusive right turning bays are not provided. There is also no exclusive right turn phase and right turners must turn on a chance basis usually during the yellow or the all-red phase. The lane widths affect the movement of the vehicles and may be

freely changed to suit the conditions of the intersection being modeled.

Generation of Input Vehicles

As in Section 2, vehicles enter the simulation frame randomly according to equation (2) and the speed of each vehicle is randomly assigned according to equation (4). Unlike in Section 2 however, four major vehicular flows are defined, i.e., North to South and South to North in the minor road and West to East and East to West in the major road. Vehicle movement along the major road before and after the intersection, e.g., acceleration, deceleration and lane changing is implemented as in Section 2.

Vehicle Movement

Thru and left turn vehicles enter the intersection only during the green phase of the signal cycle. Turning vehicles need to check several conditions before they are allowed to navigate the intersection. For example, the mesh system shown in Figure 9 is defined for a vehicle turning right from the major road to the minor road. This figure likewise lists some of the conditions that must be met before the vehicle is allowed to turn right. These sets of conditions pertain to the presence or absence

of vehicles within the defined grids of the mesh together with the current state of the signal.

In the figure shown above, the turning vehicle is in the inner lane of the East to West flow and is trying to merge with the South to North flow. A mirror image of this mesh system (flipped on both the horizontal and vertical axes) is checked for the case of right turners from the opposite flow i.e., West-East flow merging to the North-South flow.

For the case of a vehicle turning from the minor to the major road, another mesh system is defined and is shown in *Figure 10*. The three conditions that are checked to determine whether the vehicle may turn right or not are likewise listed in this figure.

The model, while simulating vehicular movement, accumulates the waiting time due to the red phase of the signal and the waiting time caused by right turning vehicles imposed on thru vehicles that have to stop while right turn vehicles in front of the queue wait for an opportunity to turn right. The general simulation flow is illustrated in *Figure 11*.

Testing the Model

To test the simulation model, an ocular survey of several intersections was made to locate one which has the same configuration as the simulation frame discussed above. One

intersection which fits this configuration was found along National Route No. 6 in Minami Hanajima Ward. (Route No. 6 is a major arterial not unlike EDSA). To determine the simulation input parameters, the vehicle activity in this intersection was videotaped for analysis. These parameters and the signal attributes are summarized in *Table 2*.

Simulation Output

The main output of the model is a listing of the accumulated delay times due to the red phase of the signal and delay times due to right turning vehicles for each of the legs of the intersection. A sample output is shown in *Figure 12*.

The model also provides a graphic display of actual vehicle movement during the simulation run. A sample simulation graphic screen output is shown in *Figure 13*.

Simulation Results

To test whether the model is properly duplicating actual existing conditions, the accumulated number of vehicles that utilized the intersection taken from the video tapes was graphed against those which used the intersection during the simulation run. The resulting graph is shown in *Figure 14*.

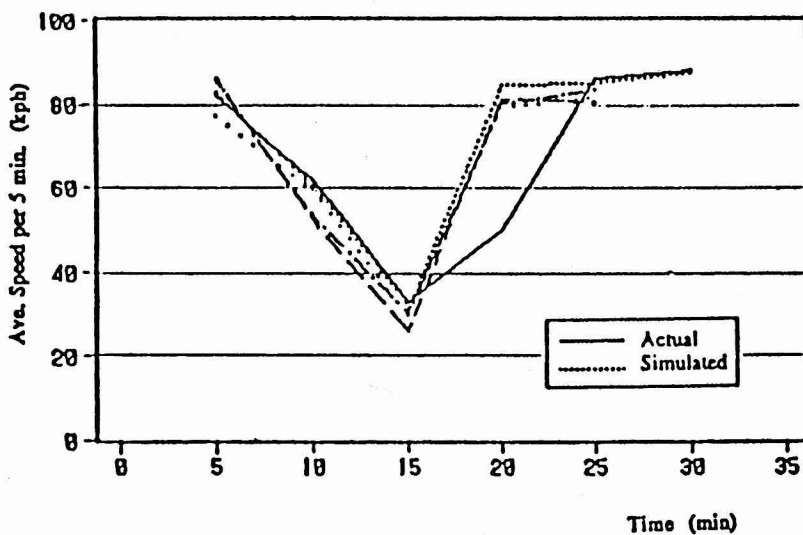


Figure 7 — Actual Speed vs. Simulated For Several Simulation Runs

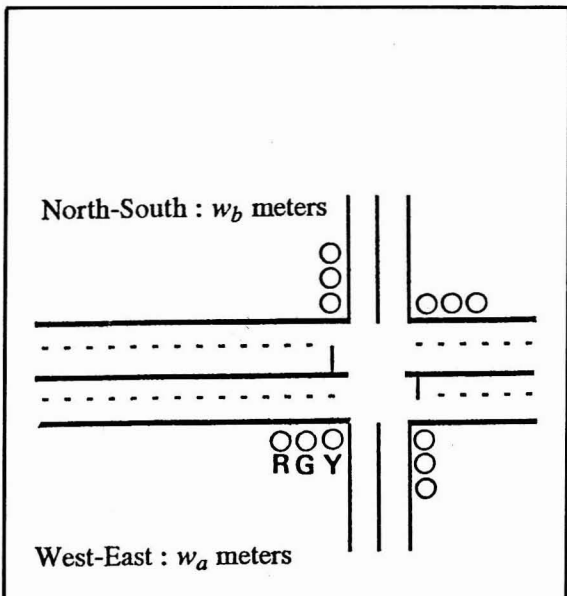
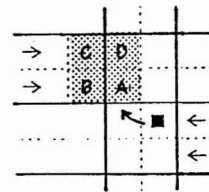


Figure 8 - Simulation Frame for Model 2

Figure 8 - Simulation Frame for Model 2



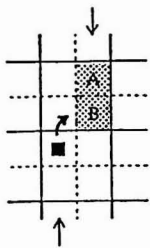
- Condition 1:
- No vehicle in A
 - Right turner in B or No vehicle in B
 - Left turner in C or No vehicle in C
 - No vehicle in D

- Condition 2:
- No vehicle in A or Right turner in A
 - No vehicle in D
 - Signal phase is red

- Condition 3:
- Right turner in A
 - No thru vehicle in C

Figure 9 - Right Turn Logic For Major Road

Figure 9 - Right Turn Logic For Major Road



- Condition 1:
- No vehicle in B or Right turner in B
 - No vehicle in A or Right turner in A or Left turner in A or Speed of vehicle in A is 0 (stopped).

- Condition 2:
- No vehicle in B
 - Right turner in A or Left turner in A or No vehicle in A
- Condition 3:
- Signal is red
 - No thru vehicle in B

Figure 10 - Right Turn Logic For Minor Road

Figure 10 - Right Turn Logic For Minor Road

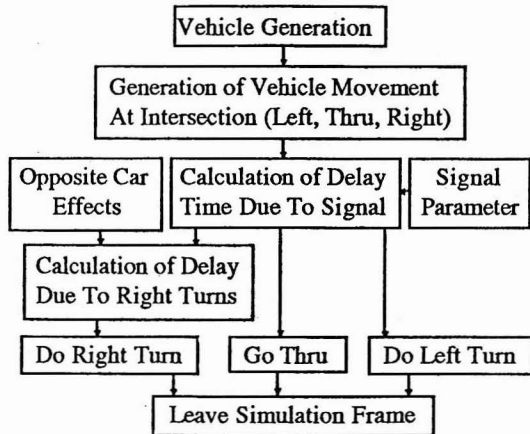


Figure 11 - General Simulation Flow

Figure 11 - General Simulation Flow

		Ave Spd (kph)	Var (kph)	Max Spd (kph)	Min Spd (kph)
W-E	Car	15.4	2.4	22.2	9.7
	Trk	13.7	2.1	19.4	6.9
N-S	Car	14.0	2.0	20.0	8.0
	Trk	12.0	2.0	18.0	5.0

Phase	Green	Yellow	All Red	Red	C _o (sec)
ϕ ₁	30	3	3	107	143
ϕ ₂	101	3	3	36	

Table 2 – Simulation Parameters

<Intersection Simulation Run>

No. of Phases: 2 Cycle length : 143 secs

Splits: Green Yellow ALLRed Red direction
 sec P1: 30 3 3 107 N->S S->N
 sec P2: 101 3 3 36 E->W W->E

Volumes : North East South West (vph)
 Car : 168 2499 154 2499
 Truck : 10 305 2 298

%Through : 59.6 93.0 78.4 98.5
 %Right : 20.2 4.0 6.2 0.2
 %Left : 20.2 3.0 15.4 1.3

Delays :	North	East	South	West	(sec)
C #:	Phase	xxxx	xxxx	xxxx	
	Turn	yyyy	yyyy	yyyy	TOTAL
C 1 :	178	134.5	285	2	
	0	55.5	0	0	655
C 2 :	302.5	52.5	215	1065.5	
	12.5	711.5	7.5	0	2358
C 3 :	129	2711	248	545.5	
	6.5	1801.5	0	0	5441.5

Figure 12 – Simulation Printout

This graph attests to the capability of the model to reproduce existing conditions.

To simulate the effect of vehicle volume and signal cycle length on total delay, several simulation runs were made using different vehicular volumes. At each vehicle volume, the cycle length was varied and the total delay noted.⁵ The summary of the results from these simulation runs are plotted in *Figure 15*.

This graph shows that the current signal cycle length is not optimized for current conditions. This could however be attributed to the fact that the intersection serves a very minor road, a condition where it is sometimes necessary to give a higher priority to the major flow.

NETWORK SIMULATION

The third model, unlike the first two presented, is a macroscopic model which simulates vehicular flow in a general network. This model is based on a simulation method developed by the Tokyo Metropolitan Expressway Corporation (TMEC) called the Input/Output (IO) Method.⁶ The main purpose of the simulation method developed by TMEC is to simulate vehicular flow in expressways, where the target network is an open network with clearly identified ingress and egress nodes. The model to be presented here extends the basic principles of the TMEC IO method so that it can be applied even to a closed network.

IO Method Basic Principles

Figure 16 shows a simple open network which will be referred to in order to explain the basic principles behind the IO method.

In the foregoing figure, nodes A and B are defined as ingress nodes, nodes E and F are egress nodes, node C is a merging node, and node D is a diverging node. The input data for the simulation are input flows in the ingress nodes and output flows in the egress nodes recorded at regular intervals (usually taken from detector data). Additional data are average turning rates at the merging and diverging nodes. Within each increment of the simulation period, two calculations are performed. In the first series of calculations (called up-

stream calculation), the traffic demand and actual demand served in the previous simulation increment are recorded for each network node. After recording these values the link densities, link volumes, and link travel times are computed. At the current simulation increment, the model determines the actual demand on each junction (those that need to exit the node) then using junction capacities, determines how many vehicles could not be served during the simulation increment. The vehicles which could not be served are said to be backed up on their current links.

A second series of calculations (called downstream calculation) is then performed to compute the queue lengths on links where backed up vehicles exist. During this calculation process, the backed up vehicles may stay at their current links (if link capacities allow) or may overspill to backward links. In *Figure 16*, for example, backed up vehicles on link C-D may overspill to links A-C and B-C. The upstream calculations proceed from node to node starting from the main ingress node (usually the expressway entrance) until the main egress node (the main toll gate) is reached. The series of downstream calculations proceed in the reverse order of nodes.

The IO Method As Applied

It should be noted that with the above simulation setup, i.e., an expressway network, vehicles entering the expressway in fact, ultimately leave the simulation system. This is not necessarily true in the case of a closed network.

In order that the basic principles of the IO method described above can apply to a general network configuration, the closed network is simplified by representing it as collection of several network trees. Each tree in the collection has an ingress node for its root and all possible egress nodes in the network as a terminal node. This way, the network is reduced to a series of open networks where the IO basic principles can be recursively applied.

The trees in the abovementioned collection may be said to represent all possible paths from all ingress nodes to all egress nodes. A

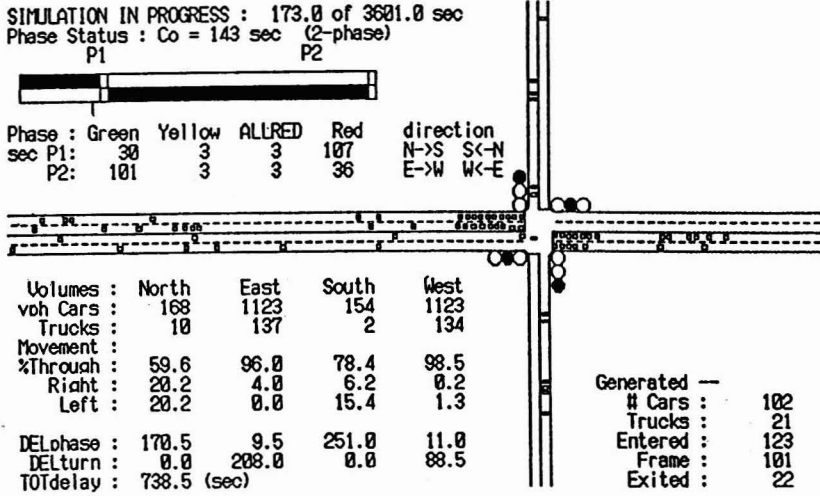


Figure 13 — Graphics Screen Output

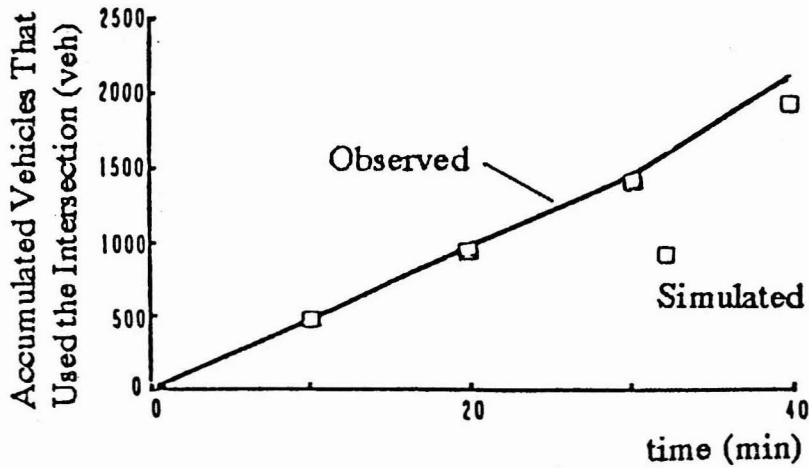


Figure 14 — Accumulated Intersection Utilization

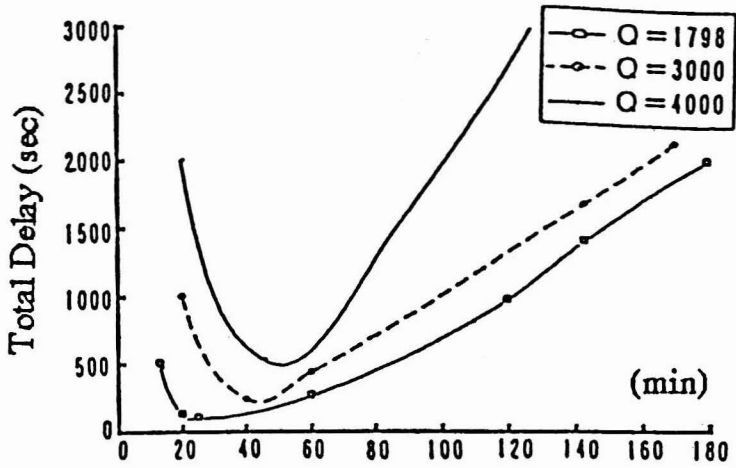


Figure 15 — Total Delay vs. Cycle Length

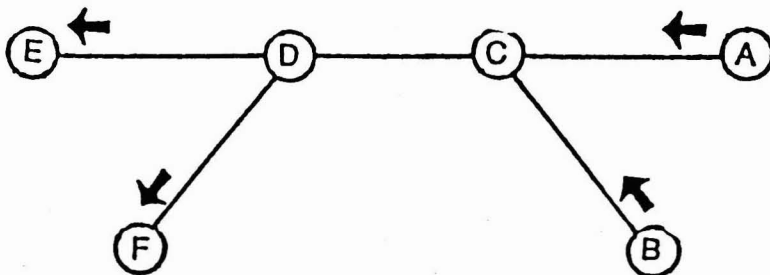


Figure 16 — IO Method Basic Principles

sample network and one possible tree whose root node is ingress node 1 is illustrated in Figure 17.

In setting up the collection of network trees, each tree is automatically "pruned", so that only logical paths are retained. As an example, Figure 17 shows two possible paths from ingress node 1 to egress node 8. These are path 1-2-3-7-6-2-8 and path 1-2-8. It is obvious that vehicles entering the system at node 1 will not take the roundabout path to leave the system at node 8. Hence, it can be seen why the only path 1-2-8 is retained in the tree representation.

Since there is no way of knowing what egress node a vehicle will use when it enters the simulation system, vehicle volumes are distributed to forward links according to the average turning movements at each departure node. For example, the vehicle volume on link 1-2 in Figure 17 will be distributed during the upstream calculations as follows: percent thru to link 2-3, percent left to link 2-6, and percent right to link 2-8.

Some major departures from the original implementation of the IO method are as follows: First, because the implementation of the IO method is based on the above-mentioned tree concept, there is the possibility of a link being scanned several times during the simulation period. An example of this implementation can be seen in Figure 17 where the repeated use of links 6-5 and 7-9 in

different paths from ingress node 1 to egress nodes 5 and 9 respectively can be clearly seen.

Second, downstream calculation in the original implementation proceeds from the main trunk exit up to the main trunk entry node. In the current implementation, downstream calculation is based on the tree structure of possible paths, thus overspilling vehicles are carried up the tree along the path currently being considered. For example, the backup process for path 1-2-6-5 in Figure 17 proceeds along the reverse direction, i.e., 5-6-2-1. The backup process however, pauses at every tree junction and attempts to redistribute the vehicle overspill to other branches before proceeding to the root node. Hence the overspill at link 6-5 is first attempted to be loaded at link 6-7, the excess vehicle after this procedure is done (if any) is then carried up to link 2-6. If an overspill occurs at link 2-6 after adding the overspill volume from link 6-5, the overspill is attempted to be redistributed to links 2-8 and 2-3 first before it is carried up to link 1-2. Any overspill at this point is carried up beyond ingress node 1 and becomes part of the waiting queue which is added to the input flow at the start of the next simulation increment.

Lastly, considering that the main inputs to this simulation model are vehicular flows at timed intervals at the different ingress and egress nodes, the model implicitly assumes some system equilibrium in that what goes into

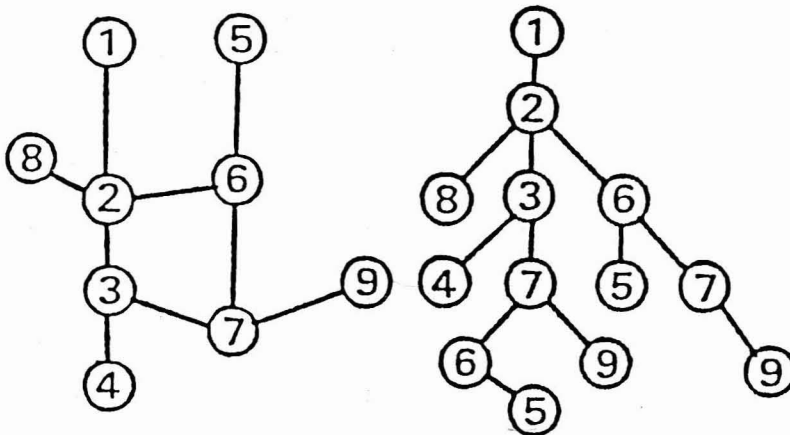


Figure 17 — Sample Network and Derived Tree

the system (as recorded by detectors at the ingress nodes) ultimately leave the system (as recorded by detectors at the egress nodes). In the original implementation of the IO method, all vehicle origins and destinations are clearly outside the expressway network, hence vehicles entering the network ultimately exit via some egress node. This is strictly not the case in the general networks for which the current network simulation model is intended to be used. One reason for this is because the network configuration used in the actual simulation is usually a simplified network where most of the time some minor links have to be deleted. These links however minor are in reality possible entry or exit links. In addition, some vehicles might have their destination points within the network, hence they are recorded as entering the system but never leave it. In contrast, others might originate within the network being modeled, hence they are recorded as leaving the system when in fact they were not recorded coming in. To take these into account, the model defines some source and sink factors for each link which are iteratively changed during the model calibration.

Testing the Model

The network simulation model was tested on three networks, two are in Japan and one derived from the Mabini area network in Metro-Manila. The first test network, located at Matsudo City, Chiba prefecture is shown in *Figure 18*.

Detector data on a 30-minute interval was available for all links. These data were collected in July 1990 from 7:00 a.m. to 7:00 p.m. The simulation output is summarized on a 5-minute interval basis. These results were aggregated into 30-minute intervals and compared to actual data. *Figure 19* shows the result of ordinary least square (OLS) analysis on simulated and actual input flows while *Figure 20* shows the OLS results on output flows. Very high correlation coefficients of 0.98 and 0.97 respectively were calculated⁷ showing the model can simulate existing conditions.

The next network on which the model was tested is shown in *Figure 21*. This network is located in Kashiwa City, also in Chiba prefecture. The data used were taken in December 1989 from 7:00 a.m. to 7:00 p.m. The

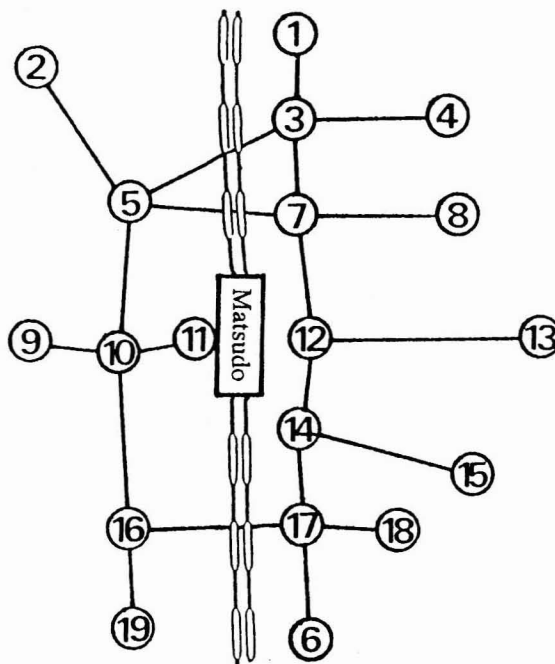


Figure 18 — Matsudo Test Network

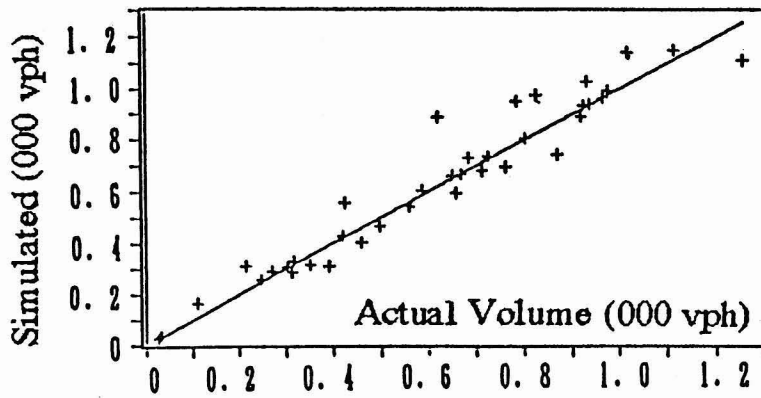


Figure 19 – Scattergram For Input Flows

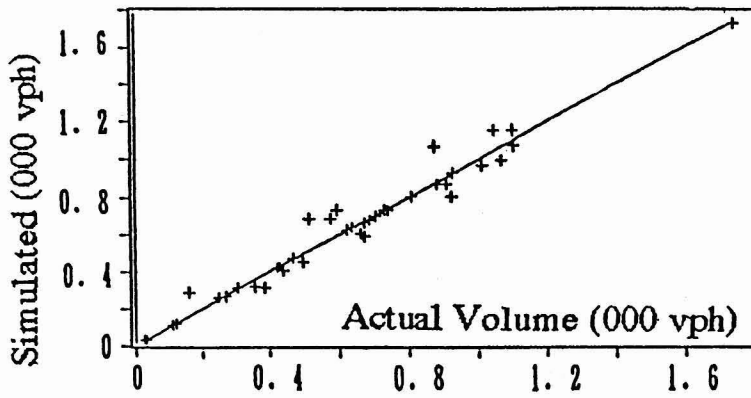


Figure 20 – Scattergram For Output Flows

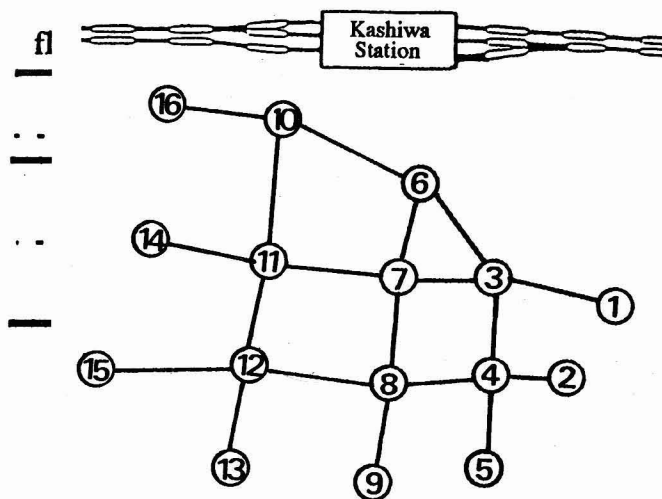


Figure 21 – Kashiwa Test Network

model was run to simulate the conditions on the network using the above data and regression analysis was performed on the simulated results versus the actual data gathered. A correlation coefficient of 0.87 was recorded for input flow analysis whereas a correlation coefficient of 0.95 was recorded for the output flow analysis. These high coefficients again attest to the ability of the model to simulate existing conditions.

The third network tested is shown in Figure 22. This figure shows a simplified network (only major links) of Ermita, one of the busier commercial areas in Metro-Manila. Segment 1-12 is Roxas Boulevard, 2-13 is Taft Avenue, 3-5 is Pres. Quirino, 6-8 is Vito Cruz, and 9-11 is Sen. Gil Puyat Avenue. Although detector data were available in all the entry and exit nodes, only six out of the possible 13 links had detector data which were available for model calibration. The detector data provided by the Traffic Engineering Center were recorded on August 14, 1991. Because of this lack of data, the ordinary least square analysis was done jointly for both input and output flows at intersections where detector data are

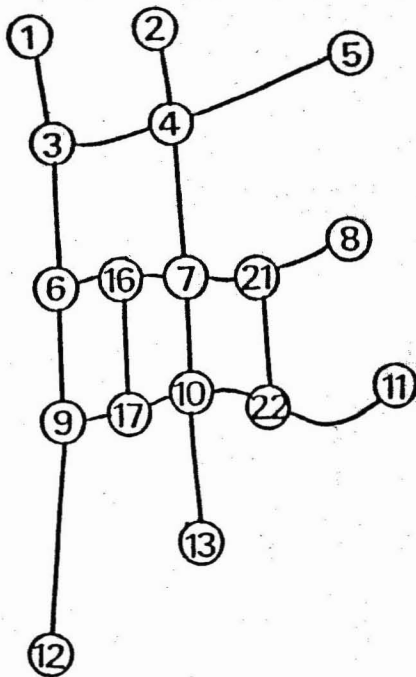


Figure 22 — Mabini Test Network

	Speed (v/hr)	Density (v/km)
Base	23.0	142.9
CW	25.0	138.5
CCW	24.5	143.1

Table 3 — Comparative Case Responses

available. The computed correlation coefficient was rather low ($R^2 = 0.582$). From the modeling experience in the other networks, it is felt that more detector data will increase this correlation coefficient during model calibration.

Two traffic management schemes were tested after the network was calibrated. These pertain to one-way implementation on link pair 16-17 and 21-22 in the first scheme, link 16-17 was made one-way northbound and link 21-22 made one-way southbound. This scheme implements a limited clockwise, (CW) one-way vehicle flow about links 16-7-21-22-10-17-16. The second case implements a limited one-way vehicle flow in the opposite direction, i.e., counter-clockwise (CCW) scheme.

The comparative overall average network response, i.e., averages for all links, is shown in Table 3.

Comparing the three cases, it is clear that implementing a one-way scheme for the abovementioned link pairs will lead to better network performance. Comparing the two one-way schemes, it can be seen that the clockwise implementation is preferable compared to the counter-clockwise scheme.

SUMMARY AND AREAS FOR FURTHER RESEARCH

This paper discussed three simulation models which are intended to be used as supporting analytical tools for the Metro-Manila digital road map system also developed by the authors. These models individually focus on different levels of the network, i.e., a road section, an intersection, and an area composed of several road sections and intersections. Tests were made on each of the three models and results

of these tests show that all the models even at their current implementation have good capabilities to duplicate existing situations.

The Digital Road Map System (DRMS) for Metro-Manila maintains a database of the Metropolis' road network. This database includes road configurations, intersection geometries, public transport routes, link attributes, etc. At present, data for major links and nodes are already available (from previous studies like MMUTSTRAP⁸, JUMSUT⁹). Extensive surveys must still be done to complete this database but once this undertaking is finished, the DRMS is perceived not only to be a common source of traffic-related data but also a major tool for practical transport planning activities. The models presented in this paper illustrate some dynamic utilization of this database.

The development of the models is an initial try at adding simulation capabilities to the DRMS, hence the models tend to handle simple configurations. Further improvements of the models therefore, are necessary. In the road segment simulation for example, multiple lanes and curves should be addressed. In the intersection simulation model, right-turn bays must be included and exclusive right turn phases (and other phase implementation) must also be handled. The network simulation model, in its current form, has no information on vehicular OD, therefore with the tree implementation of the IO method, flows entering ingress nodes are distributed along the tree paths until they exit from the network via some egress nodes. The distribution of vehicular flow is currently simply implemented using average turning movement percentages. Thus, the model must be further improved by adding perhaps a route selection model based on actual OD data. Moreover, the source and sink factor generation must be improved by perhaps some trip generation/attraction model on a microscopic scale. Finally, the network model may be reorganized to operate at the microscopic level, combining the implemen-

tations from the first two models. This model will undoubtedly overburden even the best microcomputers at their current state of technologies but with the rapid progress of the state of the art in both computer software and hardware, such a model (with practical applications) may soon be realized.

END NOTES

1. Felias, Herculano, Jr. and Uchiyama, H. *Towards A Digital Road Map System (DRMS) for Metro-Manila (Part I)* Infrastructure Planning Review. JSCE. No. 14 (2). November 1991. pp. 133-139.
2. Felias, Herculano, Jr. and Uchiyama, H. *Towards A Digital Road Map System (DRMS) for Metro-Manila (Part II)* 6th World Conference on Transport Research. Lyon, France. (To be published, 1993).
3. Morlok, E. *Introduction to Transportation Engineering and Planning*. MacGraw Hill. 1978.
4. Hashiba, H. *Development of A Traffic Simulation Model for the Analysis of Congestion*. Unpublished Graduate Thesis. Science University of Tokyo, March 1990.
5. Webster, F.V. *Traffic Signal Setting*. Road Research Technical Paper. No. 39. 1958.
6. Japan Highway Public Corporation, Nagoya Management Office. *Road Planning: Investigation Into Estimation System of Congestion in Nagoya*. Technical Paper. March 1990.
7. Saitoh, Y. *A Study on the Effects on Area Control of Intersection and Network Flows*. Unpublished Masters Thesis. Science University of Tokyo. March 1992.
8. MMUTSTRAP Report: Metro-Manila Urban Transport Planning Study. Manila. 1984.
9. JUMSUT Report: Metro-Manila Transportation Planning Study. Manila. 1984-85.

MAKATI: CONTRASTS IN URBAN PLANNING

Jejomar C. Binay

INTRODUCTION

To understand Makati one has to situate it against the varied forces that helped shape its socio-political structure. There was the interplay of historical events and socio-economic forces. The colonial era, for instance, introduced a system of landholding which created a great impact on its current structure. Makati's territory is largely owned by the private sector which developed a planned community known as the New City. It contrasts with the informally developed areas of the old poblacion and the military reservation, Fort Bonifacio.

Contrasts are made more distinct in the physical and urban planning sense. For example, the income classes have been spatially polarized such that the affluent live in the closely secured subdivision enclaves while the have-nots squat in either government or private lands; the adequacy of basic services in some parts of Makati and the inadequacy in others; the mix and density of activities in an average residential area reflecting a distinctly Asian character and the exclusivity of land uses in the "villages" suggesting Western influence. The use of the term villages in the names of the affluent residential subdivisions is a deliberate play on irony since the peculiar image that these residential enclaves exude is anything but rural.

By themselves, contrasts are innocuous, though they may be symptomatic of conflicts. Conflict here is defined as a clash of policies, strategies, objectives, attitudes, procedures within one sector or among several sectors (H. Henward, 1985). As different actions and decisions of the various development actors- the government, private sector and the households- interact, possible conflicts or integration result. Scott theorized that this integration occurs in a theoretical space called the urban land nexus (in Serote, 1988).

This student of planning attempts to identify several conflicts in a municipality of which he is privileged to be the Chief Executive. One needs to understand the areas of tension to better appreciate how the city operates. (The term "city" is used here in a generic sense and not in the administrative-political sense). There are subtleties and complexities intrinsic to urban management and identifying these nuances contributes to making our cities better managed.

THE STUDY AREA

Historical Context

In 1571, when the Spanish Conqueror Miguel Lopez de Legaspi sailed into the Manila Bay, he found some forty settlements clustered along the Bay and

on the banks of Pasig River. Makati was one of those and he dismissed it as a worthless piece of swampland. For nearly three centuries, no phenomenal change occurred in Makati. While the City of Manila served as the entrepot for the transshipment of goods from China to Mexico during the fifteenth to eighteenth century, the "visita" or "district" of Makati was almost wholly agricultural with rice and horse fodder as its primary products.

The galleon trade which was the main preoccupation of the Spanish government brought economic progress to the Philippines. And apart from a brief period in the eighteenth century, when it was occupied by the British, the Philippines was the center of Spain's Asian colonial activities.

During this period, a system called the "encomienda" opened the opportunity for favored government officials or the religious orders to own large tracts of land which included San Pedro de Makati - now known as Makati. From the Spaniards, big landholdings in Makati were eventually acquired by the Roxas-Zobel de Ayala family.

Towards the end of the Spanish regime, the galleon trade declined and policies were shifted to promote domestic economic development. Agriculture was being stimulated in the surrounding regions of Manila. Foreign capital also became available to Filipino and Chinese mestizo landowners and cultivators thus accelerating agricultural export. These paved the way for the opening of Manila to world trade. The growth of commercial and industrial activities was also seen.

Metro Manila

Given the strategic location and role of Manila as the country's political, economic and military center, the area

called Greater Manila, later referred to as Metropolitan Manila, grew at a phenomenal rate. By the end of the 19th century, the metro area had a mixed population of 150,000 with Americans, Dutch, and British as well as large numbers of Spanish and Chinese.

After the Second World War, Metro Manila grew in all directions: government-led development to the west; population-forced expansion to the northwest; and private sector-led expansion to the north, south and east. Population increased from 1.7 million to 6.9 million between the period 1945-1980 and around 200,000 people were estimated to be added on to the metro population yearly.

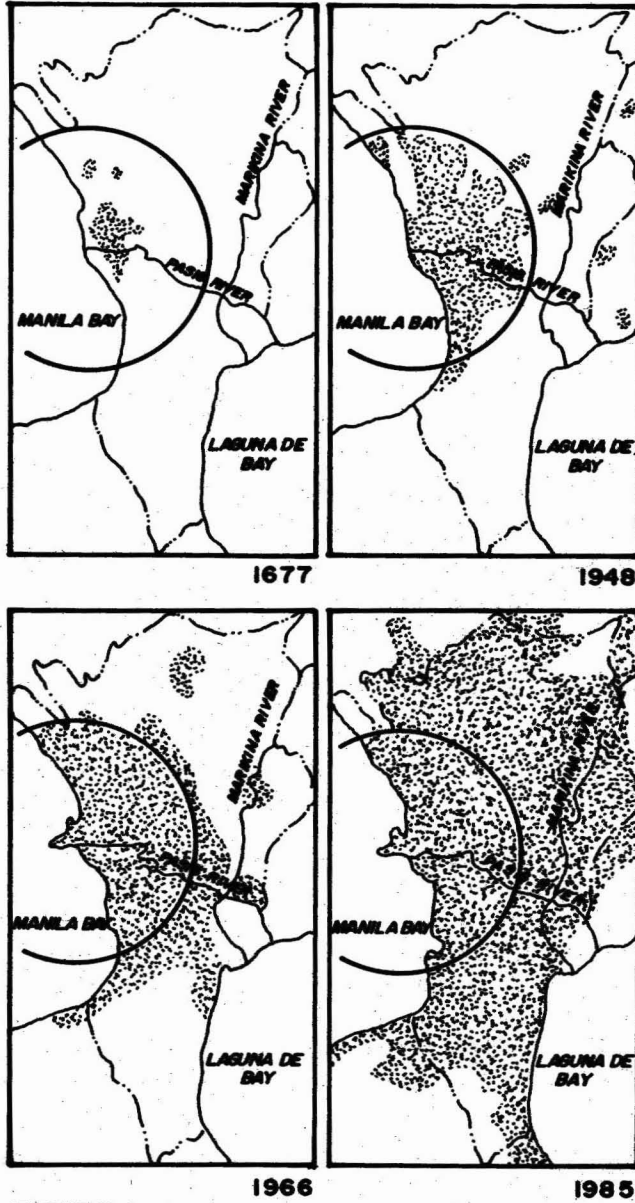
The geographical spread of Metro Manila, increased from eight kilometers radius from the mouth of the Pasig River after the War to around fourteen kilometers in 1985. This growth from the seventeenth century is illustrated in Figure 1.

The city of Manila alone had spread from beyond the walled Spanish town of Intramuros to what then were described as its suburbs of Quiapo, San Miguel and Binondo.

Makati

Makati which is one of the suburbs of Manila, grew from 2,700 in 1903 to 372,631 in 1980. Makati could be geographically divided into: the old town, the New City and the military reservation of Fort Bonifacio. The initial development took place in the tidal flat lands of the old Poblacion. This was where small lots were allocated for low cost housing by the Ayalas. Later the higher grounds of approximately 800 hectares - nearly half of Ayala's properties - was developed as the new city.

In 1970-80 Makati's population tended to concentrate in the western and



**FIGURE 1
GROWTH OF METRO MANILA**

northwestern portions. These were the areas of Bangkal, Singkamas, San Antonio, Olympia, Tejeros and Poblacion - mostly parts of the old town. The trend was reversed in 1980-90 when growth was greater in the eastern portion, particularly in the barangays of Fort Bonifacio.

Conflicts and Contrasts in Urban Planning

Urban planning is a form of government intervention which refers to the process of making decisions about the physical environment and the effect of changes in this environment on people and the environment. These days, practitioners of urban planning are also referred to as urban managers. In the 20th century, cities have increasingly been plagued with serious problems whose magnitudes, complexities and scale have never been before experienced by the decision makers. Scarce resources have to be managed. Choices have to be made whether to keep on building new infrastructures or maintaining existing ones. and a host of other things that need to be dealt with.

In the face of these many options or decisions, one practitioner puts it "we cannot afford to plan anymore, we need to manage."

Three things were considered in the discussion of the conflicts described here. One, the growth and development of Makati into a largely upper social class area has historical underpinnings. Two, the lack of coordination among many actors of development operating in the different tiers in the public sector, on one hand is contrasted to the unitary decision-making of a robust private sector, on the other. Three, the uniqueness of Makati in its form and structure creates a sort of planning dilemma, a situation which this writer calls "managed planning schizophrenia."

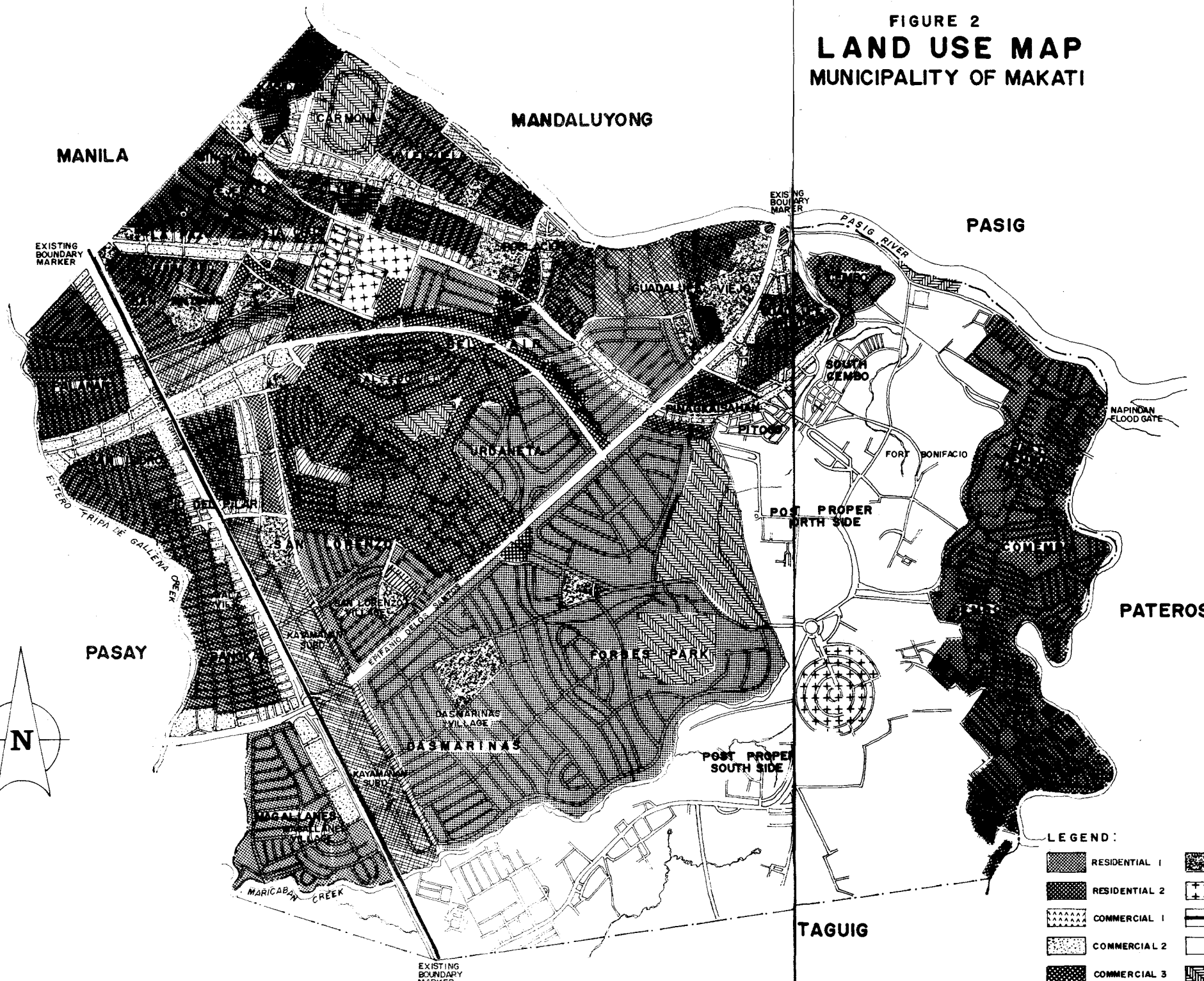
Basic Services

Makati seems to project two different urban areas. One side of Makati portrays modernization and sophistication. Along the Ayala Avenue, line office buildings, banks and hotels. A large commercial complex containing the most varied retail shops sits in a big piece of prime real estate. Around this complex are posh residential subdivisions catering to the upper crust of the society where basic services like water, sanitation and garbage collection are rarely inadequate in this part of the municipality. The affluent employ private contractors to regularly collect garbage and construct deep wells to increase their water supply. As a consequence, most of the deep wells are found in the posh villages. A study (Development Agenda for Makati, 1986) suggests that this contributes to the enlargement of the cone of depression (the deepest water level line of 70 m) which could have partly induced salinity of the water table.

In contrast, the less affluent side at the western part of the municipality - Barangays Singkamas, Tejeros, La Paz, San Antonio, Palanan, San Isidro and Pio del Pilar get flooded at an average of 18 to 20 times a year. As informal housing activity seems to have increased over the years, a number of barangays particularly in the newly emerging residential areas of Fort Bonifacio are faced with low water pressure and lack of sanitation.

In a survey conducted in September 1991, it was estimated that there were 13,948 squatters in Makati. The biggest squatter populations were found in Barangays Bangkal, Tejeros and San Antonio along railway tracts, the estero Tripa de Gallina, and the Trinidad Compound. A big proportion of them fetch water from public faucets and rely on public or communal systems for their sanitation.

FIGURE 2
LAND USE MAP
MUNICIPALITY OF MAKATI



PROFILE OF MAKATI (AS OF 1990)	
Total Population	452,734
Area (sq. km.)	29.86 sq. km. or 4.8% of MMA
Density	15,162 persons/sq. km.
Number of Households	83,310
Average Household Size	5.0
Growth Rate	1.97%
Percentage of Population in Illegal Settlements	3%
Percentage of Population between 15-64 (Labor force)	66.2%
Average Family Income	P 127,037.00
Percentage of Population:	
Low Income	2.95%
Middle Income	40.75%
Upper Income	56.30%
Percentage of Population with Access to Water	
House Connection	60%
Public Faucets, Community Water System	31%
Percentage of Garbage Collected	80%
Literacy Rate	98.3%
Mortality: Leading Causes	heart diseases, cerebro vascular, accidents and malignant neoplasm
Morbidity: Leading Causes	diarrhea, dermatitis and anemia

- LEGEND:
- RESIDENTIAL 1
 - RESIDENTIAL 2
 - COMMERCIAL 1
 - COMMERCIAL 2
 - COMMERCIAL 3
 - INDUSTRIAL
 - INSTITUTION
 - CEMENTERY
 - UTILITIES
 - MILITARY
 - PARKS & RECREATION
 - OPEN SPACE

Coordination

Another conflict reflects the disjointed government structure as against a nearly unified decision making system within the private sector. As in other big cities. Makati has to contend with the presence of development actors pursuing programs independently of one another.

National government agencies implementing projects in Makati and, in other cities and municipalities for that matter, pursue their sectoral programs independently. The Department of Transportation and Communications, the Department of Public Works and Highways, the Metro Manila Waterworks and Sewerage System, and shelter related agencies implement large infrastructure projects in the different cities and municipalities of the Metro area. The private sector on the other hand have a long term plan which guides their projects. For its part, the local government of Makati adopts an annual investment program (and in some sectors, three year plans) on which to base investment decisions. The timing of the implementation of all these projects is not synchronized. Such a situation lessens the projects' overall effectiveness and creates dissatisfaction among citizenry.

Planning Standards

The Ayala-owned property has the benefit of an integrated plan and adheres to strict planning standards. For instance, in the New City, only sixty (60) percent of the lot area is utilized for building structures while leaving 40% to open space. In contrast, the Building Code implemented by virtue of P.D. 1096 requires developers to allocate only 30% of the area to open spaces.

On the military reservation, before the enactment of RA 1730, An act to Amend a Certain Item in Section Three of RA 1411, (An Act Appropriating Fund for

Public Works), the nine barangays of Fort Bonifacio previously zoned wholly as a military reserve, namely, Cembo, Comembo, East Rembo, Pembo, Pitogo, Post Proper Northside, Post Proper Southside, South Cembo, and West Rembo lacked enforceable regulations and had been seriously plagued with squatting problems. With the enactment of RA 1730 only two barangays are now retained as military reservation: the Post Proper Northside and Post Proper Southside.

Housing for the Poor

Housing the low income was largely supply driven and not demand driven. Perhaps this is a reaction to the high standards being projected by Makati. In an attempt to upgrade housing conditions among the lowest segment of the population, the approach taken was supply driven, that is, structure, infrastructure and other related amenities are constructed above the need or demand for them. For instance, the mass housing project during the Marcos regime, popularly known as BLISS housing, failed to cater to the urban poor. Indicative of this was the number of foreclosures due to arrearages incurred, or for non-payment of amortizations. Monthly amortization fetched as high as P2400 (1990). Clearly this was beyond the affordability of the intended market.

From the vantage point of the implementors the issues being asked are: Should the process be incremental adopting low standards?; or Should this be done outright with "visually pleasing" results?; What about the long term considerations of building self reliance?; Could it be sacrificed in favor of the "here and now?"

There are also ethical considerations to consider in looking at this issue. Basically, they constitute the opposing interests of the haves and have-nots. And

Makati being part of Metro Manila where approximately 60% of the population live below the poverty line (1990) is not spared of such dilemma. As Ricardo Puno had said "The conflicts are many: the fundamental human right to shelter versus the much touted right of property owners to use and abuse private property; the law abused to protect the asocial behavior of the haves versus the illegal behavior of the have-nots; the moral legitimacy of the have-nots to provide themselves shelter when the mainstream society does not versus the factual ability of the haves to freely ignore the shelter needs of the poor in land use and investments; the common good as interpreted from the viewpoint of the propertied versus the common good as interpreted from the propertyless."

Land Use

As has been indicated earlier, Makati's most desirable location for development has been preempted by the private sector. Urban growth in Metro Manila for that matter has historically been led by private sector investment. The new city occupies at least two thirds of the land in Makati.

Being part of the Guadalupe Plateau, a physiographic zone which has excellent potential for urban development, Makati possesses good foundation for all types of structures, is relatively safe during earthquakes, has good drainage, dependable wastewater systems and moderate slopes. Intensive development would have cost much less if it is located in areas now occupied by low density villages. For instance, Forbes Park rates excellent in terms of physiographic characteristics. But it continues to be a low-density residential area.

The survey in 1986 shows that the military reservation has the biggest land utilization with total of 11.5486 square

kilometers or 36.68% of the total land area. However, this area has become a medium density residential area with the occupation of illegal settlers within the area. With the turnover of a big portion of the area by the military to the civilian government, the municipality has become a predominantly residential area. Biggest residential lot areas are found in Dasmariñas, Forbes Park, Magallanes, San Lorenzo and Urdaneta all aggregating an area of 10.16633 square kilometers or 26.93% of the total area. The commercial area ranks third, with 8.81%. Institutions have a modest share at 1.37% and government and road lots' share are 3.52% and 5.66% respectively.

Land use incompatibility arises when areas zoned for a specific purpose are actually devoted to other uses. In general, however there are not many damaging incompatible land uses or land use conversions surveyed in Makati. Please see the land use map in Figure 2. Several conversions have been noted in few areas: the area along Estrella and Camia Streets (Rockwell Plant) which was zoned as high intensity industrial (highly pollutive and highly hazardous) incorporates such institutions as Colegio de Sta. Rosa and Metropolitan Sports Club within its zone area; in Bangkal, which was zoned high density residential, some sections now undergo conversion to medium intensity commercial; and along the strip fronting the Magallanes Village, an exclusive residential enclave along the Epifanio de los Santos Avenue, conversion to medium intensity commercial is now apparent. The latter two instances may suggest that landowners are making location choices in response to the operations of land and other markets. In the first case mentioned it was the decision by the institutions to locate in that area despite the existence of the industrial plant. These institutions and the plant were all there prior to the enactment of the zoning regulations in 1978.

Other mixed land uses have been observed in Guadalupe Viejo where two-storey residential units have commercial spaces at the ground floor and residential spaces at the second floor. While this residential cum commercial use is tolerated by the zoning ordinance, regulations are needed to protect the privacy, health and safety of the residents.

In the New City which was zoned as high intensity commercial use or C3 according to the Metro Manila Zoning Ordinance, several government offices (classified as institutional) are located here. These are mostly shelter-related agencies and government banking institutions.

Also, in the Ayala-owned property plans are being finalized to make way for the construction of three skyscrapers - a mammoth cultural center and a multi-level underground parking complex on the park in the Ayala triangle. This will take up 1.1 hectares of green space. While these uses do not conflict with the predominantly commercial use and character of the area, the potential vehicular traffic congestion and air pollution that they could generate necessitate serious consideration.

In the exclusive residential subdivisions, particularly Forbes Park and Dasmariñas Village, the presence of several institutions has been noted during the ocular survey. Most of them are offices of the consulates which do not create nuisance to their adjoining residential areas. The real exception of course, is during abnormal times when protest rallies or demonstrations are staged in front of these consulates.

PROSPECTS

The tensions described here would hopefully be eased with the enactment of the Local Government Code. Considered

as the cornerstone of more effective local governments, the Code embodies legislative measures aimed at decentralizing responsibilities from the central government to the local authorities. The intention is to give them a freer hand to manage their own affairs. With the transfer of responsibilities comes from the transfer of resources to the local governments to undertake governmental functions like road maintenance, school building, etc. As an offshoot of this arrangement, better management of resources is anticipated.

The Code has often been overrated as though it holds mega solutions to local governments' problem. Indeed, the Code came in one drastic stroke that a number of local institutions have been reluctant to accept bigger responsibilities and resources from the national government.

Makati, learning from the past, has gradually prepared itself by conducting a series of trainings and studies. A set of visions for the year 2020 is being outlined to guide the directions and growth of Makati. The document incorporates a more active private-public sector partnership in the delivery of basic services particularly in housing, environmental sanitation, employment, health care and education.

The resources of the non-government organizations will likewise be tapped and their participation in the development effort institutionalized through their membership in the local development council and other committees attached to the municipal council.

Another piece of legislation which is expected to change approaches to housing and urban development is the Urban Development and Housing Act (RA 7279). For instance, one of its provisions requires developers to allocate twenty percent (20%) of the total subdivision

area or total subdivision project cost within the same municipality, whenever feasible for low-cost housing. This is viewed as a fulfillment of their social obligation to the community and a departure from mainly profit motive orientation. The local governments are also required to inventory sites for socialized housing and resettlement areas for the immediate and future needs of the underprivileged and homeless, taking into consideration the degree of availability of basic services and facilities, their accessibility and proximity to job sites and other economic opportunities, and the actual number of registered beneficiaries.

Makati has done part of its share to this commitment. In 1986, Proclamation No. 2475 was enacted. To implement the provisions of this law, the Fort Bonifacio

Development Authority (FBDA) of Makati was created. Fort Bonifacio has a total area of 11.65 square kilometers with 8.46 square kilometers being used by the military. In effect, the area utilized solely for military reservation has been reduced as portions were removed from the military's jurisdiction for disposition by the municipal government through the FBDA. The opening of Fort Bonifacio has given Makati the chance to expand given that the western portion has already been built-up. Plans for integrated development of residential cum commercial and light industry uses are now in the blue print.

The buzzword nowadays is devolution. The challenge for local managers is how to build more effective local institutions - capable of coping with changes and handling conflicts and complexities.

REFERENCES

- Ayala Land, Inc., *21st Century Makati, Metro Manila*. [s.l.:s.n.], 1989.
- Doeppers, Daniel F., *Manila 1900-1941: Social Change in a Late Colonial Metropolis*. Quezon City: Ateneo de Manila University Press, 1984.
- Drakakis-Smith, David W. and Rimmer, Peter J., "Taming the Wild City: Managing Southeast Asia's Private Cities Since 1960's," *Asian Geographer*.
- Friedman, J. and Wulff, Robert, *The Urban Transition Comparative Studies of Newly Industrializing Societies*. London: Edward Arnold, 1976.
- Henward, Howard B. Jr., "Metro Manila, Philippines: Conflicts and Illusions in Planning Urban Development." *Cities in Conflict: Studies in Planning and Management of Asian Cities*. Washinton, D.C.: The World Bank, 1985.
- 1986 Development Study: Fort Bonifacio Development Authority*, Makati, Metro Manila: Makati Municipal Government, 1986.
- Makati Profile 1990*. Makati, Metro Manila: Municipal Government, 1990.
- "Makati," Makati Municipal Government, 1992.
- Metropolitan Manila: Regional Development Framework Plan, 1985-1994*, Quezon City: Metropolitan Manila Commission, 1984.
- Metropolitan Manila Capital Investment Foiljo, *Towards and Investment Strategy for Metropolitan Manila*. Quezon City: Metropolitan Manila Commission, Office of the Commissioner for Planning, 1984.
- Puno, Ricardo, "My Viewpoint" *Philippine Star*.
- Santos, Milton, 1975 *The Shared Space*, Methuen, London & New York.
- Serote, Ernesto M., 1988 *The Urban Land Nexus in the Context of a Third World City*. Dissertation. submitted to the Graduate School in Arts and Social Studies, University of Sussex.
- The Local Government Code of 1991
- Urban Development and Housing Act of 1992
- World Bank, 1983 *Learning by Doing*, Washington DC.

URBAN DEVELOPMENT AND ADMINISTRATION IN THE PHILIPPINES: AN INSTITUTIONAL RESPONSE*

Asteya M. Santiago

1. General

A. Introduction

The Philippines has, for quite sometime, been grappling with the problems arising from an acceleration in its urban growth in which the absolute number of urban population has been increasing, auguring in the future a sustained fast pace of urbanization.¹ A country with a majority of its population in rural areas, it has been showing definite trends towards more centralized forms of settlement, dictated to a large extent by the degree of the economic transformation of those areas.² Although forewarned by the experience of other developing countries, the Philippines still had to confront and hurdle many of the serious problems that were unavoidable in a situation of steadily growing urban and rural populations, with urban areas registering large increments to their base population.³

The response of the Philippines has been a prompt and simultaneous attack on its urban problems, sometimes overwhelming to those who, for the past decade or so have been watching with keen interest developments both

in urban policy formulation and implementation that have taken place in the country, especially after the advent of martial law.⁴

Both the most recent Philippine Development Plan prepared by the top economic planning body, the National Economic and Development Authority or NEDA, and the Multi-Year Human Settlements Plan formulated by the Ministry of Human Settlements or MHS have extensively catalogued the nature and extent of urban growth of the country. Its socio-economic implications such as the need for the re-allocation of human and financial resources; shifts in the nature and location of infrastructure facilities and services; changes in existing land tenure and housing concepts; new thrusts in regional development and the reorganization of local governments as the basic conduits for the delivery of basic services have likewise been carefully studied and recorded.

Sociologists and social scientists, have also produced a number of studies and surveys documenting the many areas of personal and social life drastically affected and influenced

*Paper delivered in the Symposium on "Urban Growth in Asia: Implications for Development Policy Implementation," held in the University of Sydney, Australia, November 18, 1983. Published in the Monographs and Occasional Papers, Planning Research Center, University of Sydney, 1985.

¹Corazon Mejia-Raymundo. "Population Growth and Urbanization," *Population of the Philippines: Current Perspectives and Future Prospects*, edited by Mercedes Concepcion. National Economic and Development Authority, Manila, 1983, p. 65.

²*Ibid.*, p. 66.

³*Ibid.*

⁴By virtue of Proclamation 1081 dated September 21, 1972, Pres. Ferdinand E. Marcos declared a state of martial law in the country aimed at saving the Republic from the war waged by lawless elements of the communists and other armed aggrupations and to reform Philippine society. One of the effects of Martial Law was to vest in the President broad lawmaking functions and, in certain cases, even law adjudicating functions through the military tribunals. The President proceeded upon the theory that martial law had the effect of concentrating in the Commander in Chief (namely the President) all the powers of the State and not merely one branch of the government. Victoriano A. Hipe. *The Legal Aspect of Martial Law in the Philippines: Negotiating between Precedents and Innovations.* College of Public Administration, University of the Philippines, Manila, 1976, p. 5.

by the urban growth phenomenon, calling attention to adjustments and behavioural modifications. New social and economic institutions, both formal and informal, have also emerged, aimed at reducing the economic and social dislocations that may arise or have already arisen from rapid urban growth.⁵

B. General Overview of the Philippine Approach

The response of the Philippines to the development problems of the country has been two-pronged: that of gearing and mobilizing the urban areas for the increase in their population and the influx of migrants with their concomitant problems; and that of rural sector to weaken or delay the push factor which has exacerbated the problems faced by the urban areas.⁶ Equal emphasis has been given to the industrialization efforts and countryside development under a balanced agro-industrial strategy aimed at democratizing social and economic opportunities which is believed to be the substantiation of the true meaning of social justice.⁷ Regional development, undertaken within the Human Settlements framework aims to rectify the imbalance among and within regions as manifested by the disparities in income and welfare and access to economic

and social opportunities.⁸ This is being undertaken simultaneously with the strengthening of local governments to make them self-reliant and autonomous units to support their own development. The spatial distribution of population in rural and urban areas is sought to be considered in relation to the expected absorptive capacities of the various regions in terms of prospective livelihood opportunities and ability to provide basic needs. As a corollary to this, it seeks to rectify unbalanced urbanization by developing intermediate-sized cities to ease the pressures on metropolitan areas and large cities.⁹

Institutional changes in urban administration in the Philippines which is the main theme of this paper can be characterized as equally prompt and dynamic. This response will be discussed shortly in great detail. At the risk of taking a very restrictive view of the subject of the institutional response to urban development, this paper adopts as focus one major response and this is the institutionalization of a central organization to encompass all areas of urban development and related activities.

C. The Philippines as a Case Study Area

The choice of the Philippines as the country to illustrate the institutional response to urban administration may be due to two main reasons: first, it is in the Philippines that in short span of a decade, a comprehensive and highly complex administrative machinery has been set up in response to the many problems of human settlements, one major component of which is the fast growth of urban areas. The reason for this feat is the fact that this organization received unprecedented political mandate and financial and other resource support hitherto not experienced by any other agency or government instrumentality in the country.

⁵ Among the more widely read of these studies are Landa Jocano, *Slum as a Way of Life* (Quezon City: Univ. of the Phil.) 1975; Aprodicio Laquian, *Slums are for People* (Manila: Local Government Center, C.P.A., U.P.) 1968; Sylvia Guerrero, "The Culture of Poverty in Metro Manila: Some Preliminary Notes," *Phil. Sociological Review*, Vol. 21, nos. 3 & 4, July-October 1972, pp. 215, 221; Richard Poethig, "The Squatter Community: A Dead End or a Way Up," *Phil. Sociological Review*, Vol. 17, Nos. 3 & 4, July-Oct. 1969, pp. 132-135.

⁶ *Ten Year Development Plan of the Philippines, 1978-1987*; included in the Central Luzon (Region III) Five Year Development Plan, 1978-1982, (San Fernando, Pampanga, September 1977) *Five Year Philippine Development Plan, 1983-1987*; (National Economic and Development Authority, Manila) May 1982.

⁷ Ferdinand E. Marcos. *The Philippine Development Plan: An Instrument for the Democratization of Development*, Five Year Development Plan for Region III, Philippines, 1977, p. XXIV.

⁸ Five Year Development Plan, 1983-1987, *op. cit.* p. 17.

⁹ *Ibid.*

The second reason which is related to the first one, and partly explains it, is that it is in the Philippines that a government agency has been set up purposely to ensure that the executive branch of the government remains responsive and relevant to the needs of the people that it services. This government agency is the Presidential Commission on Reorganization which, since 1969, has been in the forefront of the reorganization effort of the Executive branch of the government, assisting the President in ensuring the efficiency, effectiveness and economy of public administration.¹⁰

The Philippine case could very well be illustrative of the extent to which institutions in other countries could respond given the full and unqualified political-legal support. One of the major reorganization efforts that the decade of the 1970s to 1980 would be remembered for, would be the process in which an administrative structure and planning system for comprehensive human settlements planning has been fashioned and finally evolved. As some knowledgeable observers have remarked, the development that took place within this period, insofar as urban administration is concerned would, under different circumstances taken at least double the time and effort that it did. It will not be an exaggeration to say that it would be difficult to duplicate in the future the favorable circumstances and the extraordinary combination that contributed to such development, namely, the concentrated powers in a one-man lawmaking body and a very powerful official in governments planning. It is not to say that there were no trade offs in the process, which will be taken up later in the concluding remarks. Suffice it to say at this period, it enjoyed unprecedented politico-

legal support in meeting the overwhelming problems of urban administration.

This paper will be confined to the unique experience of the Philippines in responding to the changing needs of urban and rural settlements through the evolution not only of an administrative structure but of major policies affecting human settlements, in general. It is the uniqueness of this experience which makes it unusually interesting even as this also serves as its own limiting feature for possible replication.

II. Politico-Administrative Framework

The next paragraphs aim to place in proper politico-legal perspective the particular institutional response discussed in this paper.

A. Martial Law Regime

Eleven years ago, on September 21, 1972, martial law was declared in the country by the incumbent President, Mr. Ferdinand E. Marcos who was then on his second four-year term of office, the maximum limit allowed by the Philippine Constitution of 1935. Among the situations which necessitated such a drastic action was what the President perceived as an armed insurrection undertaken by lawless elements of the communists and other armed aggregation which had assumed the magnitude of an actual state of war against the Republic of the Philippines.

One of the features of this political regime which is relevant to this paper was the abolition of the bicameral legislative body, the Constitutionally authorized law-making body, and the vesting of exclusive legislative powers in the President. With this drastic change brought about by the abolition of a major branch of the government, namely its policy making body, the President emerged as the center and ultimate repository of policy making powers in the country. He thus proceeded to promulgate various types of legal issuances, some in his capacity as the new legislative body, namely the Presidential Decrees, and some in his capacity as Chief Executive such as Execu-

¹⁰The Presidential Commission on Reorganization was originally known as the Commission on Reorganization. It was created by law (Republic Act 5435) passed on July 8, 1968 to implement the policy of the legislature "to promote simplicity, economy and efficiency in the government to enable it to pursue programs consistent with national goals for accelerated social and economic development and to improve the service in the transaction of the public business. . . ."

tive Orders, Administrative Orders and Memorandum Circulars.¹¹

At the same time that these radical political changes were happening, physical planning in the country could be considered as relatively inactive, although not moribund. There existed a central planning body, the National Planning Commission (NPC) which was then 25 years old¹² but with very little to show for its existence except for some insignificant plans, many of which were either unimplementable or were unimplemented. This was not entirely the NPC's fault. It received only nominal support from the government and thus was unsuccessful in its operations. Because of this, the government found no strong reason to grant it bigger appropriations. Thus the NPC was caught in a vicious trap from which it could not extricate itself.

There were also then, very few professional planners that the Commission could tap or afford to recruit.¹³ Although vested with planning powers for the country at large, unlike its predecessor the National Urban Planning Commission whose concerns were limited to urban areas, the NPC suffered miserably in comparison with the attention and financial support

that the then economic planning body, the National Economic Council or NEC received.¹⁴

At this time too, the period immediately preceding the declaration of martial law, or the decade of the sixties, a dozen or so regional development authorities vested with development responsibilities for some regions and sub-regions were in existence. A majority of these were, however, only paper organizations with very little financial and technical resources. Their usefulness, in the final analysis, rested in their having completed some resources survey and feasibility studies for specific projects and having served as forum for the exchange of views and information on matters affecting the urban and rural areas constituting their region.

With very few exceptions such as the Laguna Lake Development Authority or LLDA in charge of the development of a lake area south of Manila and the Mindanao Development Authority which transformed itself into Southern Philippines Development Authority (SPDA) now under the umbrella of the Ministry of Human Settlements, the rest of the Regional Development Authorities, notwithstanding their very powerful charters made no significant contributions in planning and developing the largely rural areas constituting their regions. They were not able to contribute much to the efforts to hasten the dispersal of concentration of major industries in particular areas like Manila, the surrounding cities and also the chartered cities, which was one of the major objectives of the early regional development authorities.¹⁵

¹¹There is ostensibly a difference in the subject matter and legal effects of the various issuances of the President which showed when he was issuing them in his capacity as the legislative body and when he was signing them in his capacity as the Chief Executive of the country. However, this distinction later became blurred as the President became burdened with the legislative responsibilities of both offices.

¹²The immediate predecessor of the National Planning Commission (NPC) was the National Urban Planning Commission (NUPC) which was created in 1946 and which was only concerned with the planning of urban areas. Counting the short period within which the NUPC was in existence, the NPC would have been 25 years old when martial law was declared.

¹³In the early sixties, with a population of some 35 million, there were only a dozen or so professional planners, all of them products of foreign schools. The country had not yet opened its first planning school, in the University of the Philippines, the Institute of Environmental Planning, now known as the School of Urban and Regional Planning.

¹⁴There was one budgetary period in the 1960s when the NPC received a yearly appropriation of two hundred thousand pesos against the almost two million pesos of the National Economic Council (NEC). The NEC was primarily an advisory body to the President on economic planning while the NPC performed line functions such as the preparation of local plans. *Papers and Proceedings in the Preparation of the Physical Planning Legislation of 1968*, Institute of Planning, University of the Philippines, 1972, p. 18.

¹⁵*Papers and Proceedings, op. cit.* p. 15.

In the local scene, local governments¹⁶ had some planning, zoning and subdivision functions which, however, were not exercised in a manner worth more than passing mention. Local planning bodies or boards were created in local governments and were attached to the office of the city or municipal mayor. Their composition varied from one locality to another, depending on the provision of the ordinances creating them. Where there were no such ordinances, local planning was usually entrusted to the local engineer's office.¹⁷ The activities of these local planning bodies had been confined to assisting in the subdivision of local areas and the zonification of certain urban areas. As a consequence, the Engineer's Office of the local governments played a more active role in the planning process through the prosecution of public works projects than the designated planning bodies.¹⁸ Several legal enactments were made during this period to make local planning bodies more active participants in the performance of planning functions, with the National Planning Commission serving as consultant in their activities.¹⁹ However, for various reasons, local planning bodies did not make significant contribution

to the rational and directed growth and development of urban areas.²⁰

In short, planning as it existed before the declaration of martial law, was nearing a perilous state of deteriorating into a peripheral government function, even as the problems of local governments, especially urban areas, were nearing serious proportions. At this stage, it appeared obvious that solutions to the problems would continue to be approached from a predominantly economic perspective with very little consideration given to spatial dimensions nor to socio-cultural requirements.

B. *Involvement of the First Lady in Urban Development*

With the emergence of the President as the sole law making authority, concentrating in him both the executive and legislative powers, (in short, policy making and policy execution) it was easy to see that for the first time in Philippine history, whatever the President perceived as deserving priority attention and the full support of the government would definitely see fruition. He was now liberated from a legislative body which in many occasions, he had described as playing an obstructionist role.

The First Lady, Mrs. Imelda Romualdez Marcos, who already showed signs even before Martial law, as exceeding the performance of all the previous First Ladies that the country ever had, was, at this time, only involved with predominantly socio-cultural activities of the country. Her activities in this area were capped by her successful although controversial completion of a cultural center complex in the reclaimed area in Manila Bay in the heart of Manila. The First Lady now emerged as the second most powerful force in the political arena in the country. This was because it would have been impossible for the President, with

¹⁶ Although the National Census and Statistics Office (NCSO) has provided a distinction between urban and rural areas, the planning process did not reflect this difference since the criteria used in the differentiation were mostly socio-economic rather than politico-administrative. Thus, the organization and the powers and functions of planning bodies in urban and rural areas were the same throughout the country.

¹⁷ Papers and Proceedings, *op. cit.* p. 16.

¹⁸ *Loc. cit.*, p. 17.

¹⁹ Among these legal issuances were the Local Autonomy Law (Republic Act 2264) enacted in 1959 which authorized local municipal boards or city councils to adopt zoning and subdivision ordinances or regulations; Administrative Order 31 issued by President Diosdado Macapagal which called on all local governments to create their own plans and Executive Order 121 issued by President Ferdinand E. Marcos, creating Provincial Development Committees to plan and implement programs to enhance the economic, social and industrial development and the general welfare of the provinces, the largest local government unit in the country.

²⁰ See Asteya M. Santiago and James L. Magavern, "Planning Law and Administration in Philippine Local Government." *Philippine Planning Journal* Vol. III, No. 1, October 1971, pp. 15-25 which provided for an evaluation of Philippine Local Planning, and made proposals for reforms and new approaches to local planning.

the assistance only of his cabinet members numbering more or less twenty, to single-handedly take up the task of nation rebuilding. This was especially true in the face of the more grandiose plans and aspirations of the New Society, as the new Philippine National Community come to be known.

It also became obvious at this stage that whichever activity or undertaking the First Lady would support would inevitably take off and bring immediate results. Her reason for taking a keen interest in physical planning was something known only to those within her immediate circle of advisers, but which nevertheless was surmised later from many of her official press statements.²¹ It seemed logical for her to see the need to get involved directly in activities which brought her closer to the people, now that Congress which consisted of the representatives of the people had been abolished and the local governments have become fairly passive because government powers become more centralized. It was hinted that her interest would be in serving the people directly in ways other than in an unofficial capacity. According to her, "the job ensuring progress for the country's cities and municipalities does not belong to one person or government entity alone, but to all citizens".²² Therefore, she would "see to it that the gains of the New Society shall be directly experienced and felt by every Filipino, by all the 46 million Filipinos."²³

The definite role of the First Lady did not emerge immediately but took sometime to crystallize. It appeared most logical that Metro-

politan Manila would be a convenient take off point since it was this urban area in which were concentrated major forms of urban ills and problems. The City of Manila though levelled to the ground during the closing days of World War II attracted migrants from the provinces in increasing numbers and for which the city was not prepared. Uncontrolled growth, with its inevitable consequence of urban blight, was not confined to Manila but spread to the various cities and municipalities surrounding it.²⁴ From a 1939 population of 993,000, Greater Manila grew to 1,596,000 by 1948. By 1970, it was nearly four million; by 1975, the year a government authority was created to plan for its development, population had reached 6 million with an annual growth rate of 4.85%.²⁵ By this time, the quality of life for a majority of its residents was substandard and all indications were that the area was deteriorating daily.²⁶ The area accounted for more than half of the total squatter population of the country; its land use was archaic; its drainage system kept the streets flooded for days after a heavy rain and its transportation problems reached a magnitude where commuters spent half of their productive time in the streets. With this catalogue of urban ills, it was felt that the First Lady's involvement in urban administration should start in this metropolis.²⁷

It will be recalled that soon after Martial Law was declared, President Marcos commissioned a study aimed at rationalizing the management and administration of the Philippines, primate city, Manila, and the surrounding cities and municipalities, then known as the Greater Manila area. Of the many proposals submitted, the Manager-Commission type was deemed most acceptable. On November 7, 1975 the President declared the creation of Metropolitan Manila out of the integration of

²¹"In the Service of Man: The Ministry of Human Ecology" *Philippines Today*, No. 3, May-June 1978, p. 6. "Earth, the City of Humanity", by Mrs. Imelda R. Marcos, address delivered in the HABITAT Plenary Session in Vancouver, Canada on June 7, 1976; which appeared in *Accent*, Vol. IV, No. 2, pp. 14-16; Romeo R. Lachica, "Man as Focus of Development", *Focus*, Vol. VI, No. 15, February 25, 1978 pp. 13-17. Domini T. Suarez, "Human Settlements is Simply Housekeeping for 46 Million Filipinos." *Philippine Panorama*, Vol. VII, September 3, 1978, No. 36, pp. 17-21.

²²"In the Service of Man: The Ministry of Human Ecology" *op. cit.*, p.7.

²³*Ibid.*

²⁴"The Metro Manila Experience," no author, *Metro Journal*, Vol. 1, No. 3, July-August 1980, p. 4.

²⁵*Ibid.*

²⁶*Ibid.*

²⁷Metro Manila Experience *op. cit.*, p. 4.

13 municipalities and four cities and created the Metropolitan Manila Commission to administer it.²⁸ In response to public demand, he named the First Lady as Governor, her first official position in government. Immediately, she went about tackling the job of creating what she envisioned to be a City of Man. Her own approach to urban development was to consider everything as a priority, where "everything must be done at once, one step at a time but in many directions."²⁹ Her accomplishments for Metro Manila are well documented and need not be discussed in detail in this paper.

The First Lady's exposure to urban administration convinced her that it was not only Metro Manila which needed close government attention and resources, but the rest of the country. After all, the urban ills that used to plague only the major urban areas have spread into many other parts of the country which were experiencing fast urban growth. The benefit of the human settlements approach, the President decided, should not be confined to Metro Manila but should reach the other parts of the country. Thus, on June 2, 1978, the President signed into law Presidential Decree 1936, creating what is now known as the Ministry of Human Settlements. It is the evolution of this Ministry which is the main subject matter of this paper and will be presently discussed. It would suffice at this point to state that three years of exposure to the "human settlements approach" to Metropolitan Manila, characterized as an integrated and wholistic approach where progress is actualized at the community level, had convinced the First Lady of the bright prospects of applying it nationwide.³⁰

C. The New Republic

On January 17, 1981, President Marcos lifted martial law. A New Republic was an-

nounced as having been established with the election of a President held nationwide. The post was won by the incumbent President, Mr. Marcos. Again the description of the New Republic will be confined only to those aspects relevant to the theme of this Paper.

Earlier, a legislative body, known as the Interim Batasang Pambansa consisting of 200 legislators who were elected in 1978 for a six year term of office took the place of the Congress of the Philippines which was abolished when martial law was declared. This marked the re-institution of a collective law making body consisting of elected representatives of the people.³¹ However, the President retained his law-making or decree making power in situations provided for in one of the amendments to the Philippine Constitution in 1976, now known as the controversial Amendment No. 6. This law making power existed "Whenever in the judgment of the President, there exist grave emergency or a threat or imminence thereof or whenever the interim Batasang Pambansa or the regular National Assembly fails or is unable to act adequately on any matter for any reason that in his judgment, requires immediate action. He may, in order to meet the exigency, issue the necessary decree, orders or letters of instructions, which shall form part of the law of the land." Although considered as a stand-by rather than a concurrent power, the President had, in many instances, exercised it where he was convinced that the long-drawn out parliamentary procedure would jeopardize public interests such as in cases of wage legislation and investments incentives law.

An added feature of the New Republic was the explicit declaration of an ideology for the country which provides for a general framework for all government undertakings. Its major components include a commitment to a set of fundamental values, a concept of an alternative future and a program of action. As embodied in this Philippine ideology, a commitment to an egalitarian policy is made which

²⁸This was by virtue of Presidential Decree 824.

²⁹Metro Manila Experience, *loc. cit.*

³⁰*Primer on Human Settlements*, Ministry of Human Settlements Publication, September 1978, p. 5.

³¹The interim Batasang Pambansa later became the Batasang Pambansa whose next regular election was scheduled on May 1984.

rests on the broader spectrum of humanism, that which upholds man as the center of all things.

This political ideology is worth mentioning because it has become the basis of the overall humanist concept of the Ministry of Human Settlements (MHS). Thus, pervading all the activities of the MHS is the ideal that man should be in the center of things, that the individual should be the object and focus of development. In the Philippine dialect — this philosophy is expressed as "HIGIT SA LAHAT, TAO" and translated, it means, "Above all things, Man". Although criticized as underscoring the obvious, the MHS patiently explains its meaning by referring to what the President has envisioned, that "mankind is the purpose, the heart and center of development, and because mankind lives in communities, our vision necessarily defines development as the creation and the production of the good life in human settlements".³²

III. The Evolution of Institutions for Urban Administration

There are two major and distinct stages in the evolution of urban administration in the country and these are the stages of Planning Research and Policy Making and the Stage of Actual Plan Implementation.

A. Stage of Planning Research

The first central organization for planning that was set up by the government came right after World War II when various cities in the country suffered from very extensive damage, the worst hit of which was Manila, second only to the destruction that Warsaw in Poland suffered. More than 2/3 of its facilities and services were destroyed and many buildings were levelled to the ground. The government then created a National Urban Planning Commission manifesting its immediate concern for the rehabilitation of urban centers of the country. After two years, it changed the name and focus of the

Commission by removing the word Urban and simply calling it the National Planning Commission (NPC) indicating a more comprehensive thrust to what otherwise was considered a wholly urban-oriented approach. Now, the urban and rural areas became the twin concerns of the government.

The NPC was also vested with some regional planning functions. Created merely by an Executive Order³³ of the President, rather than by an act of the legislative body, it did not enjoy much political and financial support and until its abolition right after the declaration of martial law on September 1972, had not successfully performed its sworn objectives. It was able to prepare some local plans, notably for the City of Manila; issued model zoning and subdivision ordinances and rendered technical advice to national agencies and local governments but beyond this it was not able to accomplish much. When martial law was declared and the NPC was abolished, its powers and functions were distributed between two departments, its infrastructure development functions, to the Ministry of Public Works, Transportation and Communications and its supervision of local planning to the Department of Local Government and Community Development.³⁴

At this stage too, the only planning school in the country, the Institute of Planning, now the School of Urban and Regional Planning, with the very able support from an Australian planning expert³⁵ was already conducting major research projects on various aspects of physical planning which included the preparation of a National Framework Plan and the Metropolitan Manila Regional Plan in support of its academic program. At about this time too, a research program was started by the Development Academy of the Philippines or

³³Executive Order No. 367 dated November 11, 1950.

³⁴The Integrated Reorganization Plan was adopted in 1972 by Presidential Decree 1.

³⁵This was Mr. Walter Geoffrey Faithful who helped secure United Nations Development Programme (UNDP) funding and support for this new unit under the University of the Philippines.

³²Romeo R. Lachica. "Man as Focus of Development," *Focus*, Vol. VI, No. 15, Feb. 25, 1978, p. 14.

DAP³⁶ then a well-supported and prestigious research agency of the government. It started a program on human settlements which then spun off to become a Task Force on Human Settlements³⁷ created to conduct studies on the nature, policy issues and strategies related to comprehensive and integrated human settlements program in the Philippines. Thus, from the post war period of the middle 50s to the early seventies, spanning a period of more than a quarter of a century, planning could very well be considered as concerned primarily with research and policy making and very limited implementation.

The law making body of the country, the Philippine Congress also made its contribution through the passage of a Resolution adopting Environmental Planning as a means of promoting economic development.³⁸ This was the ultimate product of extensive efforts in 1968³⁹ made by leading architects and some planners who were mostly from the academe toward the formulation of a physical planning legislation which would establish a comprehensive planning structure. The resulting legislative proposal, unfortunately, did not receive enough support to pass into law. This proposed bill which underwent several revisions was primarily concerned with creating an administrative structure to manage and regulate urban-rural development. Many issues were raised at this stage —

like the relationship between physical and economic planning; the nature and extent of powers that the planning organization should be vested with; and the kinds of plans that would be produced including the legal sanctions to be attached to them. Many of these issues were not resolved with finality at this time. The bill did not prosper beyond initial consideration in the legislative body. In its place, a two page Resolution was passed by the joint houses of Congress adopting environmental planning as a strategy for economic development.

All these developments underline the basic characteristics of the planning function at this time — its major contribution being in the area of planning, research, nominal plan preparation and the drafting of model legal instruments for the guidance of local governments. Lacking, however, the basic local plans which these zoning or subdivision ordinances would implement, only a few local governments had any effective zoning legislations, relying still heavily on the nuisance concept for protecting communities from undesirable and incompatible uses.

If the degree of urban management functions would be measured by the infrastructure support and services rendered, thus determining to a large extent the pattern and direction of urban and rural settlements, then without doubt, it was the Department of Public Works, Transportation and Communications that would be considered extensively involved in urban development. Since at this time too, it was the Department of Local Government and Community Development⁴⁰ which was rendering planning assistance to local governments, and delivering community services to the people, then it too could be considered as engaged in urban-rural settlements planning.

³⁶The DAP was created by Presidential Decree 205 on June 6, 1973 whose main objective was "to foster and support the developmental forces at work in the nation's economy through selective human resource development programs, research, data collection and information services. . ."

³⁷The Task Force on Human Settlements was created on September 19, 1973 by Exec. Order 419.

³⁸This was Senate Joint Resolution No. 1 which endorsed the establishment of a comprehensive system of Environmental Planning as one of the means by which the social and economic policies enunciated in another Resolution of the Lower House could be achieved.

³⁹These legislative efforts are documented in the publication entitled "Papers and Proceedings in the Preparation of the Physical Planning Legislation, *ibid.*"

⁴⁰The Department of Public Works, Transportation and Communications and Department of Local Government and Community Development have since then been reorganized into a Ministry of Public Works and Highways and the Ministry of Local Governments, respectively. The latter's community development functions have been vested in the MHS.

However, considering this paper's concern, and its approach of focusing on a central agency for planning, the abovementioned concerns of these two departments would not detract from the theory that human settlements planning at this stage was primarily concerned with policy planning and research.

B. Stage of Planning Implementation

In 1974, the President issued another Decree (P.D. 933) creating a Human Settlements Commission, the government entity that took off from the then Task Force on Human Settlements which was created as a research and policy making body. The HSC as it then became known, was an inter-agency Commission with ex-officio members coming from the various ministries of the government concerned with infrastructure development, economic planning, budget, natural resources, among others. At this stage, the First Lady was already governor of Metro Manila and since the HSC spun off from a primarily research agency, this might partly explain why she was not tapped to head the Commission. Instead, chairmanship of the HSC was given to one of the noted academicians of the country, who was President of the Development Academy of the Philippines or DAP, the agency which mounted the first major research program on human settlements. This was Dr. Onofre D. Corpuz. At the time of his appointment to the Commission, he was also concurrently the President of the University of the Philippines, the state University of the country. It was only logical therefore, that he would tap a number of academicians of the University to support him in this major undertaking. This will explain why, even in the recent past, an examination of the roster of the top officials of the MHS, will reveal many of them as faculty members or graduates from the University, more particularly from the School of Urban and Regional Planning. Dr. Corpuz has since then left the University and the HSC, and is at present a member of the Cabinet, heading the Ministry of Education portfolio.

The HSC existed for about four years, exercising broadened planning functions which

included prototype planning and regulation of land uses all over the country. With limited personnel and financial resources, however, the HSC was not able to perform all the powers and functions it was vested with under its charter. Notable among the policies that it enforced were those regulating development along major highways which had become troublesome spots all over the country, and that which rationalizes the conversion of agricultural land to urban uses, notably for subdivision purposes, through the application of pre-established criteria.⁴¹ It also enforced the policy banning the establishment of industries within 50 kilometers from Metro Manila, an offshoot of a big conflagration in Manila which started from an oil depot.

In 1978, when the government moved into a semi-parliamentary system, all its departments were converted into Ministries, and again a major re-organization took place. It is in this reorganization phase that the President created through still another Presidential decree, a full blown department for planning of human settlements called the Ministry of Human Settlements, appointing to the position of Minister, the First Lady of the Land. It was at her swearing into office that she announced a policy of simultaneous attack on the ills that plagued both the urban and rural areas and which heightened the disparity between them. This appeared to be a major turning point in the evolution of the institution of urban administration. Organized as a regular department, the MHS would now engage in project development and implementation which included new towns development, housing complexes, etc. Unlike the Metropolitan Manila Commission which was concerned only with the Metropolitan area of Manila, the MHS's domain was the whole country.

The evolution of the Ministry best documents the various phases undergone as a response of the government to the country's urban

⁴¹These were governed by two Presidential edicts, namely P.D. 399 and P.D. 815.

problems, shifting from a basically research-oriented thrust to that of a "wholistic" or total approach which includes project implementation and direct grass roots delivery of basic services. This was made possible through the adoption of the concept of human settlements which was concerned with improving the quality of life in any human settlements, rural or urban.

If the importance given to urban administration can be measured by the size and complexity of the government body vested with this task, then this government function can be considered as enjoying top level priority. It is because the MHS has accomplished what many urban administrators and observers have considered in the past as an impossible if not a miraculous task, that of placing under one huge umbrella organization a number of corporations and agencies concerned, among others, with housing provision and housing finance, environmental protection and management and a comprehensive land use regulatory system. Many of the entities performing these functions used to function independently of each other and coordination was effected both through formal and informal channels. The MHS, however, took under its wings these agencies as part of the so-called wholistic or total approach to urban development.

For instance, the MHS now has under it a Development Corporation (HSDC) which serves as its implementing arm. Its functions are supplemented by a number of other corporations engaged in implementing and carrying out various human settlements projects. Urban renewal and removal of urban blight, sites and services functions are vested in a National Housing Authority likewise attached to the Ministry. This has placed the Ministry in the forefront of housing, engaging as it does in massive home building and renewal of depressed and blighted areas all over the country.

The MHS also has a regulatory and enforcement arm known as the Human Settlements Regulatory Commission or HSRC which is gradually but certainly moving in the direction of effecting a synchronized regulatory system (SRS) by consolidating in itself various forms

of land use regulatory powers. The HSRC exercises centralized powers in zoning and subdivision regulation with review and approving powers over local plans and zoning ordinances. Two government agencies which formerly existed as autonomous administrative bodies placed under the supervision of the Office of the President, namely the National Environmental Protection Council and the National Pollution Control Commission have likewise been attached to the Ministry. This has made it clear that the main concern of the Ministry which is the regulation and management of urban growth encompasses the area of environmental protection and management.

At no stage in the planning history of the country has there been such a total and comprehensive approach to urban problems. While the central physical planning bodies in the past were concerned merely with policy formulation, standard setting, and plan preparation with hardly any plan implementation functions, the MHS was now engaged in policy formulation, plan preparation, project implementation and land use regulation, with extensive review and approving powers over plans and zoning ordinances of local governments. This has distinguished the MHS from the top economic planning body in the country, the National Economic and Development Authority (NE-DA), which has remained an advisory and consultative body to the President and his cabinet with nominal and limited powers of implementation. This distinction has come into focus with the re-examination of the theory that the only "implementation" functions that a central planning body should possess should be limited to that of "coordinating implementation" since implementation is done by line agencies or the regular ministries of the government. The fact that "human settlements" has been given a liberal interpretation has further expanded the scope of responsibilities of the MHS to include various types of projects.

The MHS, like other ministries and agencies of the government, has been in a perpetual state of reorganization in response to expanding needs of the population and to keep abreast of new development, both nationally and internationally. Indeed, the organizational struc-

ture of the government has undergone several major changes reflective of changes in policies and approaches to urban development. This can be read as part of the comprehensive institutional response to urban growth dynamics.

Reinforcing the work of the MHS in project implementation are various government offices concerned with the implementation of specific planning projects, which are multi-sectoral in nature and which cut across the responsibilities of several government ministries and agencies. This is exemplified by projects known as integrated area development projects implemented under the auspices of the NACIAD or the National Coordinating Council for Integrated Area Development.⁴² The lead agency approach in administering multi-sectoral projects has been adopted whereby the agency primarily concerned with the main component of the project is made the head of the planning project. This particular response underscores the country's approach to urban-rural development which is resource-oriented, totally unhampered by geographical limitations.

Complementary to these institutional responses are the more serious efforts to strengthen local governments all over the country, numbering several thousand units. The enactment of the Constitutionally mandated Local Government Code⁴³ which is the codification of several existing laws on local governments, intended to transform local governments into autonomous, self-reliant and true partners of the national government if development is pro-

⁴²The NACIAD was created by Presidential Decree No. 1378 which has since then undergone a number of major amendments.

⁴³The *Batas Pambansa 337*, otherwise known as the Local Government Code was enacted by the *Batasang Pambansa* on January 24, 1983 and approved by the President on February 10, 1983. It took some 10 years to produce this Code, work having started as early as 1973. The enactment of a Local Government Code is in compliance with a Constitutional mandate for a Code on local government administration, defining "a more responsive and accountable local government. . . ." Antonio Orendain, B.J. *Philippine Local Government Code Annotated*, (Alpha Omega Publications: Philippines) 1983. p. 1.

claimed as a major step in this direction. The Code, for instance, authorizes local governments to raise their own sources of revenues to augment their funding sources for development purposes. Selective decentralization and devolution of functions to capable local governments is also made possible. The Code also mandate the creation of the position of planning and development coordinator in all local government units to take care of local planning and implementation.

As earlier observed, the institutional response to urban development has been two pronged — covering both the urban and rural areas in a simultaneous and comprehensive approach. This response regards urban problems as multi-faceted and invariably, linked with issues and conflicts that confront the rural areas and the rest of the country.

IV. Summary

It is not easy to put together in one paper an extensive discourse of the institutional responses that the Philippines has taken. A summary would appear to be the most practical approach from which it is hoped the specifics could be further pursued later. This may be an oversimplistic approach but, then, it is difficult to capsulize the developments in the last 10 years in a single discussion paper.

The following are what appear to be some of the more significant institutional reforms in urban administration.

1. More rational and operational linkage between physical and economic planning effected among others, through the following:
 - a. Inter-locking membership between the two bodies, the MHS and the NEDA.
 - b. Requirements that the Multi-Year, and Annual Human Settlements Plan shall be in accordance with the Philippine Economic Development Plan.
 - c. Clearer delineation and allocation of functions such that national and regional planning shall be vested in the NEDA and sub-regional planning in

the MHS.⁴⁴

2. A more serious effort at linking planning with budgeting, both at the national and regional levels.
3. Adoption of regional planning, both as an approach and as an end to national development.
4. More comprehensive regulation system which combines zoning and subdivision and building control measures.
5. Introduction of a housing concept which ties it up with its livelihood component.
6. Introduction of a movement which enables the ordinary citizen to engage in small scale activities through what is known as Kilusang Kabuhayan at Kaunlaran or the KKK. Tied up with this is a system of marketing, processing and infrastructure support.
7. Encouragement and incorporation of self help and community participation in many of the programs for housing — including the submission to public hearing of most of the local plans.⁴⁵
8. Joint public-private sector participation has also been encouraged and has actually materialized.

V. Conclusions

Judged by the number of new policies formulated or innovated on and the number of admin-

⁴⁴Very recently, on August 2, 1983, President Marcos issued Letter of Instructions No. 1350 entitled "Providing for the Institutional Framework for National Physical Planning." Among others, it created a National Land Use Committee (NLUC) to prepare and periodically revise an integrated National Physical Framework Plan to be consistent with the NEDA's Philippine Development Plans. LOI 1350 is credited with delineating more clearly the functions of MHS vis a vis the NEDA. It provides that the NEDA "shall be primarily responsible for physical planning at the national and regional levels," (Sec. 3) while the MHS shall, "within the context of and consistent with the national and appropriate regional physical framework plans, be responsible for undertaking... general human settlements planning at the subregional levels." (Sec. 4).

⁴⁵It is beyond the concern of this paper to look at how effective these community responses have been except to say that in many cases, there have been definite benefits arising from them.

istrative institutions created, modified, merged or expanded, all undertaken with the objective of providing the institutional mechanism to cope with the problems arising from urban growth, the track record of the country appears impressive. The problems arising from urban growth have been attacked from all fronts: housing and social services and facilities, economic support systems, environmental protection and zoning and regulation.

A very dynamic response, however, is double edged because the same feature of flexibility could and has, in fact, in some instances, created some of the difficulties that these institutions now face. For one, while new institutions may easily be created, the human components who operate these institutions do not easily adjust to such changes. This is understandable because individual and group outlook, attitudes and perceptions which have long been developed and sustained can be deeply entrenched and cannot undergo immediate changes to match institution building and innovations.

Institutional changes have, thus, been accompanied by corresponding upgrading and training programs and seminars which seek to reorient decision makers, implementors and their technical staff on the implications of these innovations. Corporate planning which used to be the exclusive domain of the private sector has become a regular exercise aimed at formulating specific programs of action of the agency and regularly reviewing how far gone these activities are. Consisting generally of lectures and group dynamics, with a duration of anywhere from several days to a few weeks, the impact of these training and re-orientation programs cannot and should not be overestimated. However, competing with a daily working environment which espouses and encourages practices different from those discoursed on in these short programs, it is too much to expect that these programs could effectively or immediately modify attitudes and values supportive of re-structured institutions.

Likewise, an approach which tackles simultaneously all problems even if they are inter-related, given the obvious financial and techni-

cal constraints is not as effective as a more selective identification and solution of the more serious problems, especially where the efforts are sustained and continuing.

A very dynamic response in institution building for urban administration has likewise created some amount of overlapping and duplication of functions which have triggered the creation of several inter-agency or inter-ministerial committees or ad hoc commissions. The desire to avoid conflicts of jurisdiction and ensure coordination and synchronization of efforts has been responsible for many of these multi-sectoral bodies with membership from practically all the agencies with planning or planning-related functions. This has made these bodies unwieldy and sometimes unproductive. The fact that with the limited corps of senior professional planners in the country, the top posts in these bodies are generally occupied by practically the same members has somehow counteracted the negative effect of large inter-agency bodies. Coordination has come about naturally in some cases, through the mechanism of inter-locking directorates. However, much can be said about over burdening these limited cadre of professional planners who, in many instances have to delegate substantive decision-making powers to their subordinates who may not be prepared or inclined to assume such responsibilities.

In the realm of policy making, at no stage in the planning history of the country has there been such a prolific production of new or modified policies ranging from the use and allocation of urban lands to the development of housing schemes and techniques, and even to one particular policy which attempted to limit migration to Metropolitan Manila,⁴⁶ which, however, was

never implemented. Most of these policies have found themselves in various laws, Presidential decrees and other forms of presidential and legislative issuances, although some have been verbally articulated by the President of the Republic and some members of his cabinet. The fact that these policies, both written and verbal, have been issued in such rapid succession has resulted in a phenomenon which predictably is not peculiar to negate the beneficial effects of those earlier issued. This has demanded the creation of a clearing house to ensure that policies complement and enhance rather than conflict and negate each other.

The frequency of the issuance of these policies has not also been matched by the promptness in their publication or dissemination, thus keeping a lot of people affected by these policies usually unaware of their existence. In a few cases, even the ministries which are supposed to implement these policies are not aware of the additional tasks with which they are mandated. Likewise, the officials concerned are not usually prepared or trained on the proper implementation of these policies are now forewarned of their possible implications thus resulting to some amount of otherwise avoidable confusion. In some instances, some of the resulting effects of these policies were, in fact, not foreseen and their disadvantages have thus outweighed the benefits resulting from them.

The martial law period (1972-1981) which was characterized by the concentration of legislative and executive powers in the President has led to a situation where policy making responsibility could not definitely be pinpointed since, although promulgated under the signature of the Chief Executive some of these policies emanated from various officials and unofficial sources. In some instances, self-interest or even self-preservation of certain government agencies or officials and staff have resulted in policies which served parochial or vested interests to the sacrifice of the greater public interest.

Policy modification or revisions under the politico-legal situation given above, were likewise not difficult. This has not helped the situation any because, sometimes policies were

⁴⁶This policy was embodied in Letter of Instructions (LOI) No. 712, which expressed the need for the government not only to stop the exodus into Greater Manila but to reverse it. The LOI directed the Metropolitan Manila Waterworks System, the National Housing Authority and the National Pollution Control Commission to undertake a study of the problem, and possible solutions, particularly how the reversal of migration to Manila may be effected. It suggested the prohibition of any movement for the purpose of residence into Metropolitan Manila unless there is proof of availability of facilities.

changed or modified, again with the concerned agencies remaining unaware or uninformed. Policies were also changed to meet particular exigencies or crisis situations, as perceived by the decision makers or implementors. This, in turn, has resulted in a community response usually characterized by a "wait and see" attitude. This has been borne out of their personal experience that these policies may still undergo changes anyway and that the best attitude is in action until all possible issues attendant to them could be threshed out and resolved. Compliance with or conformity to these policies has therefore been less than enthusiastic.

What lies ahead for urban administration in the Philippines in the light of the social and political upheaval that now confronts the country? There are as many answers as the Filipinos to whom this question will be posed. The following projections are based on the perception of an academician who makes it not from the relatively secure place in the university but as one who has actually participated in these reorganization efforts, I dare make the following projections.

First — Institutional mechanism for urban administration will move in the direction of simplification. Having reached almost the apex of its development, with practically all the major human settlements functions concentrated in the MHS, the way points to a reduction and consolidation of its functions, shedding off in the process, activities and undertakings which could otherwise be performed by other existing agencies or regular ministries of the government.

Second — With serious financial problems confronting the country now, project implementation of certain categories, affecting, for instance, infrastructure development, would be reduced; and development projects would be

more selective. The emerging role of MHS in these difficult times would be to effectively coordinate and orchestrate project implementation, rather than join the bandwagon of implementors. It should ensure that more than lip service is paid to the planning cliché that all activities shall be "in accordance with the Plan."

Third — With very strong clamor for stronger local governments and with growing planning expertise in the countryside, MHS and other line ministries will decentralize its powers in favor of local governments and local planning units. There will definitely be a move in the direction of de-regulation or at least, a simplification of the growing array of rules and prescriptions affecting both urban and rural areas, with which, in some instances, have been counter productive.

Fourth — With all these developments, private sector participation is expected to expand and grow and become more meaningful. The way has been paved in other areas of government concern and there seems to be no other way but to sustain these trends.

The underlying strand in these projections is an optimism based on the fact that having built up planning capabilities in the process of institution building, and having seen the various prospects and alternatives for urban administration, it is unlikely that the planners and administrators who have all been participants in this exciting adventure would choose to abandon the effort. These administrators may, in the meantime, agree to take a low profile and give way to what would be considered as more important priorities in the government, but this will be temporary and only for the purpose of re-harnessing and regenerating their energies for more directed planning activities in the future.

ABOUT THE CONTRIBUTORS:

JEJOMAR C. BINAY is a Graduate Student at the School of Urban and Regional Planning, University of the Philippines. He is pursuing a Diploma in Land Use Planning and he also holds a Bachelor of Laws degree as well as a Master's Degree in National Security Administration. He is currently the municipal mayor of Makati, Metro Manila.

HERCULANO A. FELIAS, JR. is a Graduate Student at the Science University of Tokyo, Japan. He is pursuing a Doctorate in Civil Engineering (Transportation Option) and now holds a Master's Degree also in Civil Engineering from the Kyushu Institute of Technology, Japan. He currently works with the University of the Philippines Transport Training Center.

ASTEYA M. SANTIAGO is Dean and Professor at the School of Urban and Regional Planning . She obtained a bachelor's degree in Law at the University of the Philippines and a master's degree *in Town and Country Planning* at Sydney University. She has written numerous articles in housing, public administration and urban planning, and has served as consultant to various government agencies as well as private organizations.

ERNESTO M. SEROTE is Assistant Professor at the School of Urban and Regional Planning. He holds two master's degrees: *Urban and Regional Planning* and *Urban Studies* at the University of the Philippines and the University of Sussex respectively. He has been involved in the drafting of the country's land use policies with the National Land Use Committee and as a Consultant to DENR's Natural Resources Management and Development Project.

HISAO UCHIYAMA is an Associate Professor at the Science University of Tokyo, Japan. He has been involved as a specialist in various transportation ventures in several countries. This includes his involvement as a Visiting Professor at the University of the Philippines Transport Training Center as an expert for the Japan International Cooperation Agency.

Notes to Contributors

1. The Philippine Planning Journal publishes articles which contribute to the body of knowledge in the fields of urban and regional planning. Papers for publication should be sent in duplicate to:
The Director
Research and Publications Division
School of Urban and Regional Planning
University of the Philippines
Second Floor, SURP Building
E. Jacinto St., UP Campus
Diliman, Quezon City
Tel. No. – 96-21-20
FAX – 98-3595
2. Submitted manuscripts should be original unpublished work. Only manuscripts which have not been submitted to other journals will be accepted.
3. The manuscript should be typed double-spaced on one side of the page only. It should not exceed forty pages including tables, figures and other annexes. The dimension of the paper should be 8 1/2" x 11". Along with the hard copy, the author should submit a copy of his floppy disk specifying the word processing program used.
4. The covering page of the manuscript should contain the title, author's name, highest educational attainment, current position, institutional affiliation with full address, and the month and year of submission to the journal.
5. Footnotes should be kept short and numbered consecutively using superscript arabic numerals. References should be cited using the author and year format, i.e. Carino (1986). The complete list of references cited should be provided at the end of the manuscript following the standard bibliographic format.
6. All diagrams, graphs, maps and photographs should be labelled as figures and numbered consecutively in the text of the report.
7. An original copy of the photographs used should be submitted. Photographs should be glossy and of good quality.
8. A copy of the edited version of submitted manuscripts will be given to authors for their verification and comments before it is published.
9. Authors will receive ten (10) copies of the issues which contain their articles.

MASTER OF ARTS PROGRAM

Urban and Regional Planning



University of the Philippines
School of Urban and Regional Planning

The Master of Arts Program of the U.P. School of Urban and Regional Planning focuses on urban and regional planning as a strategy for national development. It is designed to produce capable planners whose training and outlook will fit the needs of developing countries such as the Philippines. It takes three semesters to two years of full-time and about three years of part-time study to obtain the degree. The Program is designed for those who plan to work mainly with public or private planning and development agencies, those who wish to pursue Ph.D. degree training and expect to be engaged mainly in research and teaching in this field, and those who intend to pursue individual careers primarily as private planning practitioners. The Program includes two study options, thesis and non-thesis, and three alternative areas of specialization: urban planning, regional planning, and transportation planning.

Admission Requirements

The minimum requirement to enter the Program is an undergraduate degree from a recognized university or college. Preference is given to applicants who have work experience in planning and planning related activities and who had their first degree in planning, architecture, economics, business administration, engineering, geography, law and public administration.

The Study Program

Plan A (Thesis)

Core Courses	12 units
Field of Specialization Courses	15
Master's Thesis	6
Total	33 units

Plan B (Non-Thesis)

Core Courses	12 units
Field of Specialization Courses	15
Special Problems	6
Electives	6
Total	39 units

Applications

Application forms for admission are available on request from the Admissions Committee. For more information write: The Director of Graduate Studies, School of Urban and Regional Planning, University of the Philippines, Diliman, Quezon City, Philippines (Tel. 971637, 962120, Fax 983595)

The Faculty

Alex Q. Cabanilla, MURP
Candido A. Cabrido Jr, Ph.D.
Primitivo C. Cal, L.I.B. Ph.D.
Gerardo S. Calabia, MCRP
Benjamin V. Carino, Ph.D.
Arturo G. Corpuz, Ph.D.

Dolores A. Endriga, MRP
Rosario D. Jimenez, MURP
Roque A. Magno, MTCP
Zenaida A. Manalo, Ph.D.
Jaime U. Nierras, MUP
Asteya M. Santiago, L.I.B. MTCP

Ernesto M. Scroto, MURP
Federico B. Silao, MPA
Cynthia D. Turingan, Dip. CRDP
Lita S. Velmonte, Dip. UrS
Leandro A. Vilorio, DPA

DOCTOR OF PHILOSOPHY PROGRAM

Urban and Regional Planning



University of the Philippines
School of Urban and Regional Planning

The Ph.D. Program of the U.P. School of Urban and Regional Planning focuses on urban and regional planning as a strategy for national development. It is designed to equip students with qualifications and highly specialized professional skills necessary for assuming responsible planning and related positions in the public and private sectors. The Program is also designed for academics engaged in teaching and research and for practitioners involved in the formulation and implementation of urban and regional planning policies. The Program is open to candidates from a wide variety of disciplines, such as architecture, planning, economics, geography, sociology, law, engineering, agriculture, relevant to urban and regional planning and development.

Admission Requirements

Admission to the Ph.D. program in Urban and Regional Planning requires the applicant to have a bachelor's degree or master's degree from a recognized institution and scholastic records that meet the University's standards. Applicants with substantial work experience in planning or planning-related activities, or who hold or have held responsible positions or planning-related activities are given special consideration.

The Study Program

	<i>Plan 1</i>	<i>Plan 2</i>	
Planning core courses	18 units	6 units	Plan 1 is the course work for a holder of either a bachelor's degree or a master's degree in a non-planning field whereas Plan 2 is the course work for a holder of a master's degree in planning.
Specialized courses	21	9	
Cognate courses	9	9	
Doctoral dissertation	12	12	
Comprehensive exam			
<i>Total</i>	<i>60 units</i>	<i>36 units</i>	

Applications

Application forms for admission are available on request from the Admissions Committee. For more information write: The Director of Graduate Studies, School of Urban and Regional Planning, University of the Philippines, Diliman, Quezon City, Philippines (Tel. 971637, 962120, Fax 983595)

The Faculty

- | | | |
|--------------------------------|---------------------------------|--------------------------------|
| Alex Q. Cabanilla, MURP | Dolores A. Endriga, MRP | Ernesto M. Serote, MURP |
| Candido A. Cabrido Jr, Ph.D. | Rosario D. Jimenez, MURP | Federico B. Silao, MPA |
| Primitivo C. Cal, L.I.B. Ph.D. | Roque A. Magno, MTCP | Cynthia D. Turingan, Dip. CRDP |
| Gerardo S. Calabia, MCRP | Zenaida A. Manalo, Ph.D. | Lita S. Velmonte, Dip. UrS |
| Benjamin V. Carino, Ph.D. | Jaime U. Nierras, MUP | Leandro A. Vilorio, DPA |
| Arturo G. Corpuz, Ph.D. | Asteya M. Santiago, L.I.B. MTCP | |

DIPLOMA PROGRAM

Land Use Planning



*University of the Philippines
School of Urban and Regional Planning*

The Diploma in Land Use Planning Program of the U.P. School of Urban and Regional Planning is designed to enable professional planners, especially those employed by the government, to respond more effectively to the steadily increasing demands of their positions. It caters especially to the needs of local government planners, including those at the municipal, city, and provincial levels, who have been tasked with much broader and more detailed planning duties and responsibilities by the 1991 Local Government Code. Other government planners involved in the use, regulation, and rehabilitation of land are also expected to benefit significantly from participating in the Program. The Program can be completed in two semesters. Diploma Program students may apply for admission to the School's masters program after completing the four courses required for the first semester.

Admission Requirements

The minimum requirements to enter the Program are: an undergraduate degree and planning or planning-related experience of at least two years. Priority will be given to Municipal, City, and Provincial Planning and Development Coordinators and other technical personnel of government planning offices. An admissions committee will evaluate applications and may interview applicants and administer aptitude examinations.

The Study Program

First Semester

- P201 Fundamentals & Practice of Planning
- P210 Urban Land Use Planning
- P214 Planning Analysis
- P299 Research Methods in Planning

Second Semester

- P210.1 Urban Planning Workshop
- P213 Urban Plan Implementation
- P222 Resource Use and Development

Applications

Application forms for admission are available on request from the Admissions Committee. For more information write: The Director of Graduate Studies, School of Urban and Regional Planning, University of the Philippines, Diliman, Quezon City, Philippines (Tel. 971637, 962120, Fax 983595)

The Faculty

- | | | |
|--------------------------------|---------------------------------|--------------------------------|
| Alex Q. Cabanilla, MURP | Dolores A. Endriga, MRP | Ernesto M. Serote, MURP |
| Candido A. Cabrido Jr, Ph.D. | Rosario D. Jimenez, MURP | Federico B. Silao, MPA |
| Primitivo C. Cal, L.I.B. Ph.D. | Roque A. Magno, MTCP | Cynthia D. Turingan, Dip. CRDP |
| Gerardo S. Calabia, MCRP | Zenaida A. Manalo, Ph.D. | Lita S. Velmonte, Dip. UrS |
| Benjamin V. Carino, Ph.D. | Jaime U. Nierras, MUP | Leandro A. Vitoria, DPA |
| Arturo G. Corpuz, Ph.D. | Asteya M. Santiago, I.I.B. MTCP | |

Administration

ASTEYA M. SANTIAGO, LI.B. (cum laude), M.T.C.P., Certificate in Government Management, *Dean*
LITA S. VELMONTE, B.S. (Social Work), Diploma in Urban Studies, *Secretary*
ARTURO G. CORPUZ, B.S. (Architecture), M. (Regional Planning), Ph.D. (URP), *Director of Graduate Studies*
CANDIDO A. CABRIDO, JR., B.S. (Medical Technology/Biology), M.S. (Biology), Diploma & M.S. (Environmental Engineering), Ph.D. (Environmental Science), *Director of Research and Publications*
FEDERICO B. SILAO, A.B. (Political Science), M.P.A., *Director of Training*
NICOLAS R. CUEVO, B.S. (Commerce), LI.B. *Administrative Officer*

Faculty

ALEX RAMON Q. CABANILLA, A.B. (Political Science), Diploma in Integrated Surveys, M.U.R.P., *Assistant Professor*
CANDIDO A. CABRIDO, JR., B.S. (Medical Technology/Biology), M.S. (Biology), Diploma & M.S. (Environmental Engineering), Ph.D. (Environmental Science), *Assistant Professor*
PRIMITIVO C. CAL, B.S.C.E., M. Eng. (Transportation Engineering), Ph.D. (Transportation Planning), LI.B., *Professor*
GERARDO S. CALABIA, B.S. (Agriculture), M.A. (Community and Regional Planning), *Professor*
BENJAMIN V. CARIÑO, B.A. (P.A.) M.A. (Political Science), Ph.D. (Political Science), *Professor*
ARTURO G. CORPUZ, B.S. (Architecture), M. (Regional Planning), Ph.D. (URP), *Assistant Professor*
DOLORES A. ENDRIGA, A.B. (Psychology), M.A. (Sociology), M.R.P., *Associate Professor*
ROSARIO D. JIMENEZ, A.B. (History), Diploma in Comprehensive Regional Development Planning, M.A. (URP), *Associate Professor*
ROQUE A. MAGNO, B.S. (G.E.), M.T.C.P., *Associate Professor*
ZENaida A. MANALO, A.B. (Economics), M.A. (Economics), Certificate in Special Program in Urban and Regional Studies (SPURS), M.A. (URP), Ph.D. (URP), *Associate Professor*
JAIME U. NIERRAS, B.S. (Architecture), M.S. (Urban Planning), M.S. (Transportation Planning), *Associate Professor*
ASTEYA M. SANTIAGO, LI.B. (cum laude), M.T.C.P., Certificate in Government Management, *Professor*
ERNESTO M. SEROTE, A.B. (English), Diploma in Integrated Surveys, M.U.R.P., Master in Urban Studies, *Assistant Professor*
FEDERICO B. SILAO, A.B. (Political Science), M.P.A., *Professor*
CYNTHIA D. TURINGAN, B.A. (P.A.), Diploma in Comprehensive Regional Development Planning, *Associate Professor*
LITA S. VELMONTE, B.S. (Social Work), Diploma in Urban Studies, *Associate Professor*
LEANDRO A. VILORIA, A.B. (Political Science), M.P.A., M.A. (Community and Regional Planning), D.P.A., *Professor*

Research Staff

DELIA R. ALCALDE, A.B. (Sociology), *University Researcher II*
CARMELITA R.E.U. LIWAG, A.B. (Political Science), M.A. (URP), M.R.R.P., *University Researcher I*
EMILY M. MATEO, B.S. (Foreign Service), M.A. (URP), *University Researcher I*
HONORIO T. PALARCA, B.S. (Architecture), *University Research Associate I*

Training Staff

ATHENA F. AZARCON, B.S. (Business Administration), M.U.R.P., *University Extension Specialist*

