

THE UNIVERSITY OF MANITOBA

THE RESIDENTIAL LAND CONVERSION PROCESS
IN WINNIPEG

by

WILLIAM R. BLOXOM

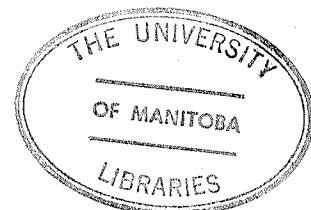
A THESIS

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***The
Residential
Land
Conversion
Process
in
Winnipeg***

ABSTRACT

Suburban residential development today remains a process little understood in spite of the many recommendations for improving its efficiency and altering its product. The central focus of this research is a detailed examination of the suburban land conversion process in Winnipeg, those involved in the process, their activities, their product, and the cumulated costs involved in providing that product. The purpose of the research is not to applaud nor condemn any particular participant or portion of the process but rather to illustrate the roles and effects of those participants in any one segment of the process. Only once a clear understanding of the present residential development process is attained can rational public policies be formulated to effectively deal with any shortcomings in that process.

The methodology employed is largely one of description, and analyses have been based on these descriptions rather than on detailed statistical testing. The various sub-processes of land conversion have been detailed in terms of their participant interactions, their time requirements, and their effect on final cost of serviced lots and single-detached houses. The emphasis has mainly been on the behavioural attitudes of the major actors, why they act in the way they do, and the consequences of such

activities.

While the original intent of the research was to clarify the nature of the residential development process, it became apparent that clarification was nowhere near synonymous with simplification. Suburban land development in the modern context is anything but simple; rather, the overriding conclusion is that the process cannot be satisfactorily explained in a superficial manner. The "scapegoat" of contemporary urban writings, be he the administrator, politician, planner, developer, or builder, simply does not exist. The real dilemma of residential land development today is one of increasing governmental involvement (usually through controls), excessively high servicing standards, high consumer expectations, rising environmental awareness (often embodied in anti-development and anti-growth attitudes), and a private entrepreneurial system with its requirements of profitability and continued economic viability and its advantages of operational efficiency. Few political bodies today seem prepared to deal with urban growth problems in the manner with which they should be dealt. Attempts to positively affect urban development often are little more than ill-conceived programs operating in the absence of a policy framework.

ACKNOWLEDGEMENTS

Much of the research for this thesis was carried out simultaneously with research being conducted for The Planning Secretariat of Cabinet, Province of Manitoba. Consequently many of those who contributed to the government research will have also made a contribution to the thesis research, and vice versa. While a great many persons were of assistance (and space does not permit a total listing) a few were especially helpful and generous with their time. From the private sector I would like to thank Bruce MacLeod of Castlewood Homes Ltd., Don Ellis of Ladco Company Ltd., and Elson Hanson of Underwood, McLellan and Associates Ltd. Diana Butler and Arrum Regenstreif of The Planning Secretariat provided many valuable suggestions concerning the direction of the research. A special thanks goes to Professor Dan Old for his assistance in organization and editing of the material and to my co-student and co-worker Bernie Thraves for his contribution to the research.

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INTRODUCTION

Chapter
one

A. INTRODUCTION

Today a greater percentage of all Canadians are living in urban areas than at any time in the past, a phenomenon which, barring certain cataclysmic happenings, is certain to intensify in the near future. While rapid urban growth is not necessarily a new occurrence in most regions, the form of modern growth with its myriad of controls, urbanite expectations, and financial implications is causing problems of a previously unknown nature for many urban municipalities. When dealing with urban growth one may be faced with any number of research choices: residential, commercial, or industrial growth phenomena, core area redevelopment, expansion of social services, transportation and municipal utilities extensions, etc. The list can be virtually endless. Needless to say, all factors are interdependent and studies focusing on only one aspect may face serious limitations in terms of attempting to "explain" the phenomenon of growth. Nonetheless, one of the most common faults with most explanations of urban growth is that they are often based on inadequate understandings of the various component parts. It is hoped that the results of this research will contribute to a better understanding of one of these parts: suburban residential land development by the private industry.

Two fundamental approaches to the study of suburban residential land development have characterized past studies. Some have adopted a land-oriented framework wherein the physical attributes of the land itself are the governing factors.¹ Alternatively, some have considered land to be only a passive decision factor, with the behavioural and interpretative attributes of certain key human decision agents to be of more import.² In this study both of the above mentioned approaches were originally examined in the Winnipeg context. However, it soon became apparent that the former approach was totally inadequate for a realistic understanding of suburban development in Winnipeg today.

Consequently this research has focused on the participants engaged in land and housing development, their activities, their constraints, their products, and the cumulative costs involved.

In the past land development has by and large remained the domain of the private sector. Until recently (with a few notable exceptions) governments have been involved only in a passive regulatory (and often negative) function. However, in the face of rapidly escalating costs of suburban building lots (and consequently high housing costs), governments in many urban areas have responded to public outcry by becoming actively involved in housing through the acquisition (and, in some cases, the development)

¹This type of approach is exemplified by much of the work emanating from the University of North Carolina at Chapel Hill. See for example Chapin (1965), Kaiser and Weiss (1969), Kaiser et al. (1968).

²See Chamberlain (1972), Goldberg (1973), Ratcliffe and Hamilton (1972).

of large suburban land banks. Much of this governmental involvement has been in the form of ad hoc programs noticeable for their lack of containment within an overall policy framework. Consequently, much of the governmental land bank activity so far has been centred around the land acquisition function and not the land development function. Thus in most cases the government sector has remained largely unproductive in terms of the development of suburban building lots and this activity has remained the territory of the private sector. That this will probably change in the future is apparent, although exactly how and with what degree of commitment governments will respond is not clear in many cases. One potential problem with governmental involvement in land development (which is largely a competitive function) may be that the commitment to a final goal by governments is often not as strong as the commitment by private enterprise. Nonetheless, for governmental agencies to formulate programs (if not policies) which are viable and valuable responses to the present situation, it is absolutely essential that there exists a clear understanding of the private sector and its activities. It is largely towards this end that this thesis is devoted. Consequently, the emphasis in this research is on the private industry in the production of suburban building lots.

B. SUBURBANIZATION AND TRENDS IN LAND DEVELOPMENT

1. POSTWAR SUBURBANIZATION

Following World War II, pressure for suburban development arose in North America due to a variety of factors (Clawson, 1971). The immediate post-war period was characterized by high marriage rates and consequent high

rates of household formation. Emerging from the depression and the war was an overwhelming accumulation of unfulfilled and potential demand for single detached dwellings. As most urban areas were at that time developed relatively intensely (i.e., sprawl in its contemporary definition was relatively unknown), barring destruction and renewal of already existing residential areas few cities could accommodate the demand for residential housing being placed upon them. As the era of the private automobile was permitting greater mobility and hence freedom of choice in residential location, it was only natural that the fringe areas of the already existing cities were the choice for new residential development. That these fringe areas were in many cases under the jurisdiction of rural municipalities with limited tax bases and expertise in residential development was little recognized (indeed, it may be argued that it was partially this lack of sophistication and efficiency in marshalling resources on the parts of the municipalities that permitted, or even caused, the evolution of the large integrated land development firms of today).

Coupled with this, of course, was the tendency towards decentralization of many industries and commercial enterprises. With the improvement of highway travel it became advantageous for certain firms to locate where ease of travel and lower property taxes provided ideal combinations for commercial success. This decentralization too acted as a magnet for suburban residential development.

Thus in the postwar period the combined factors of shifts in job location, evolution of improved transportation facilities, a rise in disposable income (permitting more "undoubling" of families), and general lack of avail-

able space close to the urban center contributed to the large scale suburbanization as we know it today. What most strongly characterized this past suburban trend was largely its lack of control and co-ordination so that many cities in North America exhibit chronic cases of sprawl, discontinuity and discordance. Sprawl in a classic sense has never been as evident in Winnipeg as it has been in other urban areas. This has probably been a function of size (less demand pressure) and (in the past) easier dealings with local municipalities. Thus it was in the past relatively easier to build next to already developed areas and it was not necessary to look far afield for developable land. Today this has changed; it is not easy to build near built-up areas due to the myriad of rules and regulations applied at the administrative level and yet it is virtually impossible to build in the country due to strong legislative control. In the name of preventing sprawl and promoting good planning, development has been strangled.

2. THE RURAL TO URBAN TREND IN POPULATION

Today, Canada's population is predominantly an urban one and judging from past trends it will likely be even more concentrated in urban areas in the future. While a large part of contemporary urban growth is self-generated by the urban areas themselves, a considerable part of this growth can be seen to be a result of rural to urban migration and immigration from overseas (Lithwick, 1970). In the past, this rural to urban migration was a much more important factor in urban growth as the embryo urban areas were much too small to be self-sufficient and self-generating. In the past few decades, while rural to urban migration has decreased in relative signifi-

cance for the urban areas, the flow of rural people to the cities has increased markedly in numbers. What has in effect occurred has been a massive population redistribution, especially noticeable in that portion of the population which is of a younger age. Consequently urban areas such as Winnipeg often evidence demographic structures remarkably different from those of rural areas.

The rapid growth of urban population has evolved into a momentum of its own. Large urban populations today create large local markets so that urban economies orient themselves less and less to rural economies. Today urban populations grow largely by endogenous natural increase. This growth creates rapidly increasing demands for labour and this in turn leads to a sustained migration to the city from rural areas.

This distinct rural to urban population readjustment evidences some interesting characteristics. Large cities, certainly those in Canada, seem more favoured than smaller ones when it comes to choice of location by the prospective migrant. As well, those persons migrating possess, as a rule, higher-than-average levels of education and occupational skills. What this means for a city such as Winnipeg is that, as it is one of the larger cities in western Canada, it will attract more rural migrants than will a smaller city. As well, those moving to the city will normally be upwardly mobile in socio-economic terms. As upwardly mobile people constitute the largest proportion of those involved in the movement to the suburbs, the pressure for suburban development should be relatively greater in a city of Winnipeg's size than in one of 15,000 to 20,000 people.

3. THE SUBURBAN TREND IN WINNIPEG

One of the major problems facing many urban areas today, Winnipeg included, is the impact that rapid urbanization is having on fringe urban land. As indicated in the following table, the central area of Winnipeg has remained relatively stable in terms of overall population and density while the fringe areas have experienced rapid growth. Not only does suburban growth place severe demand on scarce serviced urban land, it also requires additional heavy capital expenditures on other facets of urban infrastructure such as transportation, schools, and community services.

TABLE 1

Winnipeg: land area and population density

	Winnipeg Inner City	Winnipeg Fringe Area
Land area in mi. ²	30.20	239.54
1956: population	255,093	157,439
density/mi. ²	8,447	657
1961: population	265,429	211,114
density/mi. ²	8,789	881
1966: population	257,005	251,754
density/mi. ²	8,510	1,051
1971: population	246,245	294,020
density/mi. ²	8,154	1,232
1975: population	265,226	319,170
density/mi. ²	8,782.3	1,332.42

Source: N. H. Lithwick; "Urban Canada: Problems and Prospects", Statistics Canada, 1971 Census Bulletin, Manitoba Health Services Commission.

C. THE SINGLE DETACHED DWELLING

The focus of this research is the single detached dwelling in a modern suburban setting. While it is admitted that this particular type of housing constitutes only one segment of the total spectrum of housing (other major forms being semi-detached and duplex, row housing, and apartments), there are certain justifications for such a focus.

Firstly, the single detached dwelling continues to be the first choice of urbanites.³ This popularity, arising in part from traditional living styles and the North American concept of individual property ownership, renders the single detached dwelling to be "ideal" as a style of urban living.

In 1961 single detached dwellings comprised slightly over 60% of all dwelling starts in Canada with apartments constituting approximately 28% (see Table 2). In the mid and late 1960's there was a significant "boom" in apartment construction with the result that by 1969 fully 52.7% of all Canadian housing starts were apartment units while single detached dwellings comprised only 37.2% of all starts. Since that time, however, apartment construction has not maintained at its previous level with the result that the situation by the end of 1975 roughly mirrored that of the early 1960's.

³The Federal (Hellyer) Task Force on Housing repeatedly found that urbanites wished to live in single detached homes. The reasons for this desire are, of course, complex. What is important is that they exist.

TABLE 2

Percentage of housing starts by type: Canada and Winnipeg

	Single detached		Semi-detached duplex		Row housing		Apartments		Total starts	
	C	W	C	W	C	W	C	W	C	W
1961	60.9	56.0	9.3	5.8	1.5	1.0	28.4	37.2	125,577	4,187
1962	57.2	62.0	8.4	5.8	2.9	3.7	31.5	28.5	130,095	2,857
1963	51.9	45.5	5.3	3.8	2.6	3.9	40.7	46.8	148,624	4,519
1964	46.5	51.9	5.3	4.6	2.8	5.7	45.4	37.8	165,658	4,189
1965	45.3	47.4	4.7	5.6	3.2	1.8	46.8	45.2	166,565	3,898
1966	53.5	48.0	5.4	5.6	3.7	0.4	38.3	46.1	134,474	2,992
1967	44.2	40.4	6.1	5.9	4.5	9.5	45.2	44.2	164,123	3,216
1968	38.2	32.3	5.1	3.3	4.1	3.0	52.5	61.3	196,878	4,739
1969	37.2	23.6	4.9	3.9	5.1	4.0	52.7	68.4	210,415	9,030
1970	37.1	25.3	5.7	11.5	8.9	13.0	48.2	50.2	190,528	6,661
1971	41.9	27.6	5.9	8.6	6.7	9.0	45.5	54.8	233,653	7,726
1972	46.2	32.0	5.5	8.6	6.8	2.6	41.5	56.8	249,914	9,134
1973	48.9	39.8	4.9	3.5	6.4	1.2	39.6	55.5	268,529	7,698
1974	54.9	47.4	4.9	9.9	6.7	5.1	33.3	37.6	222,123	5,628
1975*	45.9	55.6	8.9	13.7	9.1	4.5	36.1	26.2	30,296	621

*Figures compiled up to the end of April only.

Source: C.M.H.C.; Canadian Housing Statistics.

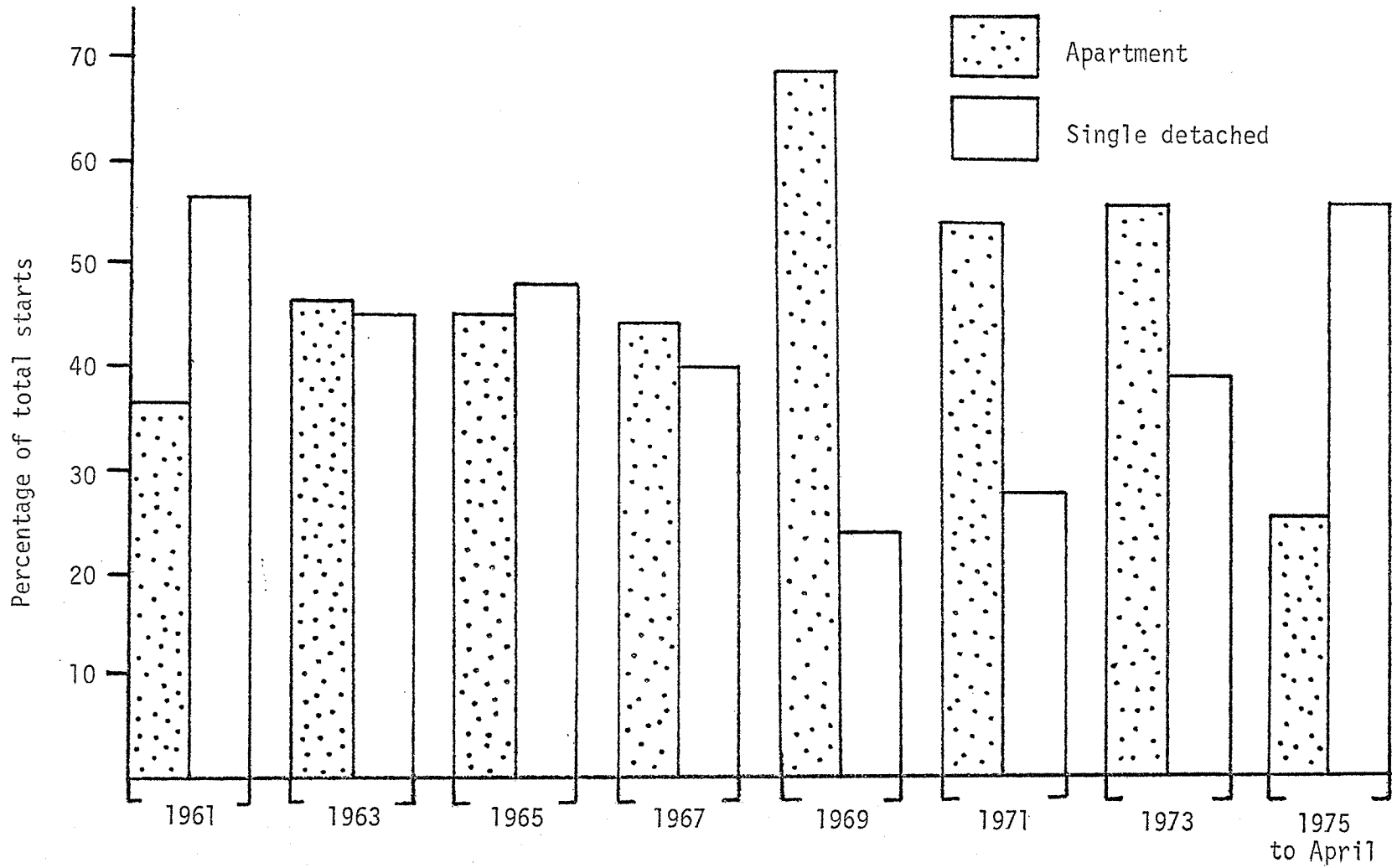
Roughly the same trend has existed in Winnipeg as in all of Canada although the variations have tended to be slightly more extreme. This is partially due to the fact that the number of starts is less in Winnipeg than in Canada and therefore much more affected by yearly extremes and partially because apartment living is synonymous with large urban areas. Consequently the extremes of total Canadian apartment starts will be somewhat dampened by less apartment construction in smaller towns and villages. The accompanying graph (Figure A) indicates apartment and single detached dwelling starts in Winnipeg between 1961 and early 1975. Of particular note is the considerable decline in the percentage of single detached dwelling starts in the late 1960's, a decline which only recently has evidenced strong recovery.

Secondly, the single detached dwelling dominates contemporary suburbia not only in terms of numbers, but also in terms of its space extensiveness. Critics of urban growth invariably point to the extensiveness (and from their point of view, the inefficiency) of such suburban development. Current subdivision design practices result in only 4 or 5 single detached dwelling units per acre. Assuming that all new housing was of the single detached variety, with 4.5 units per acre and 3.2 persons per unit,⁴ Winnipeg's present annual average population increase (1971 to 1975) of approximately 10,000 persons would require about 700 acres of land annually. Of course, not all population growth is housed in single detached dwellings. At the same time, however, the above calculations have ignored the acreages required for major arterial roads, large recreational areas (of the Kildo-

⁴The 1971 average figure for Winnipeg was 3.2 persons per household.

FIGURE A

Apartment and single detached housing starts by percentage: Winnipeg, 1961-1975



nan and St. Vital Park size), and commercial and industrial development. Goracz has estimated an areal growth of between 24.2 and 55 miles² for Winnipeg by the year 1991, although his predictions were based on rather optimistic population projections (Goracz, 1971). An extreme estimate by the World Health Organization states that for every 1,000 new people the average North American city requires 382 acres of land for residential development and 8.8 acres for schools and recreation, a total of approximately 390 acres per 1,000 new population (Axworthy, 1970). This would mean an astonishingly large 2,340 acre per year growth at Winnipeg's current rate of growth.

Regardless of which prediction is chosen, it is obvious that with present housing styles rapid areal growth will result from population increase.

Thirdly, housing in Canada is considered to be a right and not a privilege and that right is not considered in terms of apartments or shared accommodation but rather in terms of single detached dwellings. Consequently, barring any radical change in people's attitudes towards housing styles, pressures will continue to exist for the development of more land and construction of more single detached dwellings on that land. Thus, in the immediate future pressures for such development will continue to exist.

This type of development has been considered to be undesirable from several aspects; many find it aesthetically unpleasant, large size and elongated travel times make it qualitatively undesirable, valuable agricultural land is removed from production, and basic servicing utilities

become increasingly more expensive. Many feel that the single detached dwelling does not fully pay for the costs it incurs (Mace and Wicker, 1968; R.E.R.C., 1974) and various housing alternatives have been studied from cost perspectives (Buggey, 1970; Thiel, 1975). Regardless of the results of research, however, the single detached dwelling remains dominant in the urban landscape.

It is not the purpose of this research to either justify or criticize the single detached dwelling as a mode of living. The research does, however, rest on the assumption that with our present lack of administrative controls, consumer preferences (conscious or subconscious) and political reluctance to tackle urban growth problems, this type of residential development will continue. Thus, as it is an expensive form of development, it would be of value to better understand the process of land conversion in hopes that such understanding would contribute to a more efficient method of suburban development. The research, then, is strictly confined to the single detached dwelling, the persons involved in providing that dwelling, and the procedures followed by those persons in their activities.

D. ORGANIZATION OF THE THESIS

The thesis has been organized in a sequential manner, with the intention of simulating the basic operations of the land conversion process. The second chapter is meant to be an introduction to the land conversion process and presents an overview of that process. The analysis is not meant to be in-depth but rather simply descriptive and introductory.

Chapter III deals with the first sub-process in the conversion of land from rural to urban use: the speculative process. As speculation remains a much criticized but little understood phenomenon, the nature of the residential land market is discussed with a view to better understanding speculation and its supposed effects.

The fourth chapter deals with the land development process as it operates in Winnipeg at present with special attention devoted to the administrative steps involved in the plan approval process.

Chapter V on the housebuilding process is sequential to Chapter IV. In fact it often occurs that the two processes may overlap, especially when work is behind schedule or winter is approaching.

The sixth chapter attempts to isolate some of the costs and their relationships in land development. Housing construction costs are more or less standard and there are few opportunities to make significant cost reductions. The land development costs, however, are far more amenable to cost variations and consequently have been examined in detail.

Chapter VII, the final chapter, summarizes the salient points of the thesis and makes recommendations as to both modifications of the land conversion process and directions further research should take.

Data sources were many and varied. Due to the nature of the topic, much of the information desired for analysis did not exist in any tabulated or readily retrievable format. Consequently, much of the research took

the form of personal interviews. The shelter industry has often been singled out as being very reluctant to release information about its operations. A questionnaire mailed out in early 1975 indicating a strong academic orientation tended to confirm this attitude as it received distressingly poor response. However, summer research carried out under the auspices of The Planning Secretariat of Cabinet, Province of Manitoba was almost without exception well received and proved to be very fruitful which would seem to indicate a concern on the parts of many in the private industry and government for a streamlining of current development practices.

OVERVIEW OF
THE LAND CONVERSION PROCESS

Chapter
two

A. INTRODUCTION

The purpose of this chapter is to introduce to the reader the various actors involved in the land conversion process and to show the functional relationships between those actors. Two of the more important of these, the developer and the builder, are discussed in much more detail in Chapters IV and V and the role of the speculator is discussed in relation to the suburban land market in Chapter III.

This chapter is meant to be introductory rather than definitive. Consequently no one topic is dealt with in any great detail. Rather, the orientation has been towards attempting to link the various components together into an intelligible mechanism.

B. THE LAND CONVERSION PROCESS: A DESCRIPTION

Numerous terms have been employed to describe in part or in full the process whereby fully completed single detached dwellings are built upon what was formerly agricultural land. "Land development", "housing development", "land conversion", "suburban development", "residential land conversion", and various other phrases are commonly employed to identify this process. While in strict interpretation terms such as "land de-

velopment" may be taken as referring to only one particular component of the overall process, such inference is not made in this research.

Land conversion is the process whereby a piece of raw (agricultural) land is purchased by a developer who applies capital, material, and entrepreneurial inputs to transform that piece of land into suburban building lots which are then purchased by a housebuilder. Strictly interpreted, the land conversion process does not cease until houses are constructed on those lots. However, the essential part of the process is the land servicing component inasmuch as the serviced lot now comprises almost one third of the total cost of the shelter package. Consequently, the main focus of research in this thesis has been the land servicing function.

C. PARTICIPANTS IN THE LAND CONVERSION PROCESS

Popular notions of the land conversion process often portray the developer as being the central agent.¹ While not denying his importance, it should be stressed that he is only one of the many participants in that process. The developer's decisions and actions are very much influenced and modified by numerous other participants and by the administrative and institutional constraints which he faces.

Rather than being a single function, the land development process is in fact fragmented; rather than being conducted by one agent, it is the

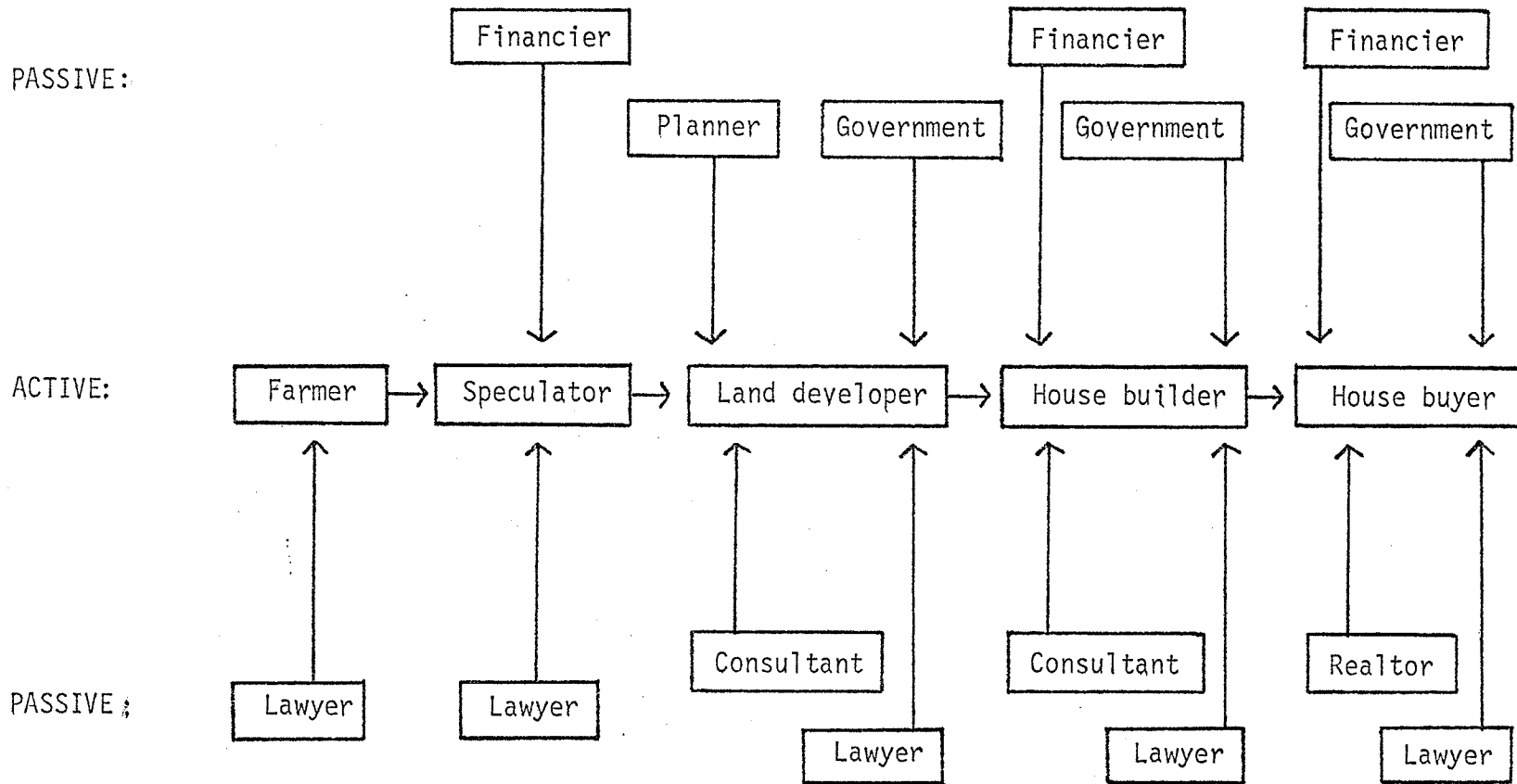
¹Chamberlain (1972), for instance, while not stating that the developer is the sole agent, considers him to be "the leading actor" in the development process.

cumulative result of many decisions by a multitude of participants. Those involved differ markedly, including such actors as private individuals, organizations, and a profusion of agencies and departments at the three levels of government. In the postwar period in Canada, the fragmentation has increased, not abated, though the size of the unit for which the decisions are being made has, for the most part, increased considerably. The critical factor about the development process is its complexity. The plethora of attendant participants alter the process from one of extreme simplicity to one characterized by a multitude of checks and balances. While the need for such control is not to be denied, its dominant feature is time consumption and, hence, cost escalation. Time costs money (in terms of interest charges and taxes), and it is a cost which the house buyer eventually must pay. As well, the increased complexity and proliferation of involvement has meant that land development has passed from the hands of the small local developer-builder to the large vertically integrated corporation which controls vast tracts of land on the urban fringe.

Those involved in land development may be divided into two identifiable participant groups: active and passive (see Figure B). The active participants are those directly involved in key decision making in respect to suburban development. In this sense their decisions are crucial to development which would not occur without their active involvement. In a theoretical framework, four participants can be considered to be of crucial importance in terms of decision making. These four active participants, the farmer, the developer, the builder, and the house buyer, make decisions which either commence, continue, or terminate development.

FIGURE B

Participants in the land development process



Without their decision to proceed, land development would remain an uninitiated or unfulfilled process. A fifth participant, the speculator, is almost always present and, although his role cannot be considered to be an essential one, his position in the process is considered by some to be critical. Thus, he may also be considered as being an active participant.²

Passive participants, on the other hand, do not directly influence the development process but rather bring influence to bear (positively or negatively) on the key decision agents. Of course, the passive participants may become active in some circumstances (i.e., if the government sector initiates a development) but as the focus of this research is the private industry in the provision of housing, this distinction will be retained. The use of the term "passive" is not to underestimate the importance of that participant. The influence he can bring to bear on the active participant is at times enormous. Thus the designation "passive" refers only to his position in the land conversion process, not necessarily his importance to that process.

²Depending upon one's definition of "speculation," all active participants may in one sense be speculators as they are gaining from general land value appreciation. However, for the purpose of description, a distinction is made here between the speculator and the other participants. See Chapter III for consideration of the speculative process and its effects.

1. ACTIVE PARTICIPANTS

a. THE FARMER

The relationship between agricultural land use and urban land use has received considerable attention and has been the focus of numerous articles (Gregory, 1957; Griffin and Chatham, 1958; Waldo, 1963; Geyer and Hanauer, 1964; Gaffney, 1958). The more common approach has been somewhat negative in tone with the relationship being portrayed as one of conflict with relentless urban encroachment consuming valuable productive agricultural land. This may be true in certain areas such as the Niagara Peninsula, southern California, and the Okanagan Valley where physical features have reduced the amount of productive agricultural land. As the best farm land (flat, stable, well-drained) is also the best land for housing development (development costs are cheapest where there are no physical obstructions), a certain competition for the land develops, with urbanization usually dominating agriculture. There is somewhat of a paradox in this situation. While urbanization may be destroying agriculture in certain areas, historical analysis of agricultural development in the United States has concluded that demand from urban areas has been the main causative factor in agricultural development (Clawson, 1960). The purpose at this point is not to examine the dynamics between urban growth and agricultural land use, but rather to indicate the farmer's position in the land conversion process.

Although the initial active participant in the conversion of land from rural to urban use is the farmer, the mechanisms which induce him to sell

his land will have been in operation for considerable time prior to the sale of the land. With approaching urbanization farmers often experience considerable pressure, both overt and covert, to sell their land. Overt pressures, such as very attractive offers to purchase from non-agricultural persons (i.e., speculators, developers) and conflicting land use (such as livestock raising near residential areas) are obvious. What is less obvious, but no less important are the covert economic pressures to which a farmer is subjected. When urban development nears, expectations grow, and the value of farm land increases. The high land values and concomitant high tax assessment rates mean that the farmer earns less return on his agricultural investment. In addition, the possibility of urban encroachment tends to deter the farmer from making substantial investments (i.e., fertilization, crop rotations, summer fallowing, etc.) in his land. Consequently, the land may become non-competitive with other agricultural land and may even cease to be employed for agricultural purposes. Thus, in the so-called urban shadow, not only does some land remain idle, but also much of the land is used sub-optimally as improvements to that land and its buildings are deferred or neglected entirely.

The farmer, not being entirely certain of the future land market, often tends to give favourable consideration to what seem to be generous offers for his land. Thus he may sell his land for non-farm purposes long before pressing urban expansion requires that he actually do so. The farmer, then, is the initial active participant in the land conversion process. It is his decision to sell that initiates the series of activities which culminate in a residential subdivision. That the processes which propel his decision have been in existence for some time is acknowledged, yet it

is his decision to sell which is the initial step.

b. THE SPECULATOR

It may be that when a farmer sells his land for non-agricultural purposes it is directly purchased by a developer who has plans to immediately convert the land to suburban use. However, it more often happens that the land passes through the hands of several intermediaries before actually being purchased for development purposes. While the motives for the purchase and subsequent resale of land without initiating any physical improvements to that land may vary from purchaser to purchaser, the transactions are normally labelled as being "speculative" in nature.

"Speculation," while an often referred-to process in reports, documents, and newspaper articles, remains pretty much a little understood process. The term "speculator" is somewhat nebulous, stemming from the fact that it is so readily applied to so many people under varying circumstances. Clawson states that "The ownership of any suburban land for a rise in value is a speculative undertaking." (Clawson, 1962). In this sense, then, virtually everyone who buys, sells, or even owns land is a speculator. Thus, little distinction is made between the farmer who is induced to sell his land for a price abnormally higher than the pure agricultural value of that property, the investor who purchases a parcel of land only to resell it a short time later at a greatly appreciated value in spite of having made no physical improvements to the land, and the land developer who invests considerable time, capital, and evaluative expertise into the land before selling it at a profit.

However, for analytical purposes the more valuable approach of restricting the definition of speculator has been adopted here. Thus the term will be taken as referring to that actor who merely buys and sells land, taking advantage of market price trends in the process. Almost without exception his material input into the land is nil. Speculation is discussed more fully in Chapter III.

c. THE DEVELOPER AND THE BUILDER

The developer and the builder, or more commonly the developer-builder, are discussed in considerable depth in Chapters IV and V. Consequently, at this juncture they will be examined only briefly and then only in terms of their roles as decision agents. The developer is the first actor to actually engage in the physical transformation of the raw agricultural land. The builder, on the other hand, completes the physical transformation by providing finished living units. While the developer's relationship with the speculator or farmer is as a rule only cursory and the builder's relationship with the home buyer little more than that, the relationships between developers and builders are often very strong and long term. While adherents to the "conspiracy theory" of urban development may condemn close business relationships of this type,³ connections of this nature are only to be expected in a market which is so "thin" of buyers and sellers at any one period.

³The attitude seems to be that "closeness" contradicts the hallowed ideal of perfect competition and the housing industry, therefore, is one of shady deals and market manipulations.

d. THE HOUSE BUYER

While it is tempting to believe that the house purchaser is the primary determinant of the form of a suburban development through his selection of units, it would seem more correct to argue from the point of view that the house purchaser is a decision agent only in terms of choosing from amongst the available alternatives. As these alternatives are in effect alternatives predetermined by the developer-builder, the developer-builder assumes more importance in terms of being a decision agent of the form of growth. Naturally, the developer-builder will have attempted to predetermine the market preferences of the consumer. Besides he is much restricted by local and national building codes in terms of what he can actually do. However, just what the preferences of the housing consumer really are and how he arrives at those decisions is not really clear. The developer-builder would argue that he (the developer-builder) is in fact correctly anticipating consumer preferences in that the lots and houses preferred by the housing industry are proving to be popular and are selling well. Others would argue that his supposed consumer preference is in reality the result of a subconscious indoctrination that the consumer has received through traditionally being offered only a limited range of choice in housing. Obviously this aspect of housing demand warrants further research. To quote Allan Schmid (1968):

"It is not uncommon to hear that they (the consumers) prefer the present suburban products because that is what they in fact purchase. It is true that consumers can make land developers take certain things into account by buying or not buying; however, certain things cannot be demanded this way because there exists a set of property or distributional rules which influences the kinds of costs and benefits the developer takes into account and thus the range of products offered. There is nothing in the results of land market bargaining which would indicate people's choice as to what items should be taken into account." (p. 58)

Regardless of what generates the consumer's values towards housing, he is the terminating active participant in the land conversion process. Admittedly there exists a fairly large and well developed market in used housing and housing conversion but such topics are beyond the scope of this paper.

One of the most commonly advocated approaches to development today is one of lowering land servicing standards which would lower lot costs and subsequently housing costs. These lower housing costs would then permit lower income people to enter the housing market.⁴ The assumption is that lower income people will be content with initially lower standards of development (by lower standards is meant gravel as opposed to concrete or asphalt roads, open ditch-type storm sewers as opposed to buried drainage systems, etc.). However, in the housing market one is faced with a fairly similar array of consumer expectations, regardless of the varied incomes of those consumers. People's expectations in housing today are quite high; an extra bedroom, wall-to-wall carpeting, and an attached garage are not considered by most to be luxury items. The same is true with the front streets, sidewalks, boulevards, etc. Due to the

⁴Lower standards of servicing may result in lower final housing costs as was the case with Castlewood Homes' Tyndall Park development. Castlewood estimates that the use of unpaved streets, no sidewalks and open storm drainage ditches resulted in savings of \$3,000 or more per house for the purchaser. The unfortunate consequence of this was that some of the initial home purchasers were immediately able to capitalize on this situation by selling their homes at prices comparable to those being received in fully serviced areas of the city. The profits reaped in such transactions would not have been possible had there been an adequate supply of houses on the market. The present homeowner now finds himself in the unenviable position of having paid full price for his home and yet having to finance local improvements in his area.

high level of servicing within Winnipeg today, those moving into newly developing areas expect a similar level of service.

What the industry is facing in reality is the acute problem of mellowing a prospective homeowner's expectations as far as his dwelling unit is concerned, a difficult problem in light of the fact that competition within the industry has made these luxury items commonplace.

2. PASSIVE PARTICIPANTS

Passive participants are great in number and varied in operation. It is not the purpose of this section to enumerate all of those who could become involved (the list could be almost endless) but rather to describe some of the more prominent participants. Each of these is not always present as many of their roles are non-essential but as a rule they normally become involved at some stage or another of the land conversion process.

a. LAND VALUE APPRAISER AND REAL ESTATE AGENT

Appraisers play a much less prominent role in straight suburban raw land transactions than they do in the used housing market or in situations where expropriation is involved. It may sometimes happen that a farmer will consult a professional real estate appraiser in order to obtain some idea of the value of his land but it seems more common for a potential buyer (i.e., often a speculator) to suggest a price from which bargaining proceeds.

Real estate agents similarly play a less important role in these transactions although it is by no means uncommon to find fringe area farm land listed for sale by a real estate firm. In this case the agent who listed the land probably will have suggested the price to be asked and in a sense will have acted as an appraiser. As the agent works on a commission basis (usually 6% of the selling price) he will invariably attempt to list the property at as high a price as possible. Thus his "passive participation" at this stage may have considerable effect on the costs of land assembly.⁵

b. THE LAND ASSEMBLER

Holding land in inventory involves certain risks and as the cost of capital is significant, the maintenance of a large land inventory (at least one as large as the developer would like) may not be feasible. This may be circumvented in two ways: by the use of option agreements (see Section M3 in Chapter VI on financing) or by the use of a land assembler when the land is required.

As it may not be economically possible for anyone to purchase and hold large tracts of land for long periods of time, ownership up until the time of purchase for development often tends to be in the form of small tracts. This requires the process of land assembly which may occur before, after, or concomitant with speculation. The land assembly function

⁵For a description of the real estate industry in Winnipeg and its effects on the market, see Lamb et al. (1975).

may possibly attain greater importance in the future with increasingly larger scale of operations by developers and more active land banking by governmental agencies. This will be even more the case in older areas scheduled for development or for areas subdivided into long thin river lots, lots which by themselves are virtually useless for any sort of urban development.

Once a land assembly project is begun by a developer or a governmental agency, knowledge of the assembly often encourages speculative activities in the area. Consequently, the developer may attempt to maintain secrecy by employing one or more outside agents such as realtors to complete the land assembly. In this way knowledge of the assembly may not become well known until it has been completed. The assembler's ability to conduct his undertaking efficiently can have an important effect on the final raw land cost.

c. THE FINANCIER

Probably no other passive participant has such an important influence in the supply of residential housing than the financial community. Financial institutions may favour one area over another and may impose restrictive conditions on the provision of loans. One major difficulty with innovative housing is the hesitance of the financial community to commit "risk" money. This, coupled with the interest rates they charge, means that the financiers may considerably influence the market.

d. THE CONSULTING ENGINEER AND ARCHITECT

Most land development and housebuilding firms today do not employ engineers and architects permanently, at least in any great numbers.

When it comes to the actual design of the infrastructure of a subdivision, a developer will usually contract the work out to a consulting engineering firm. The firm may be small, specializing in only one branch of engineering, but the major consulting firms today may be as large and diverse as the companies for which they do work. It is the consulting engineer's job to provide a layout (surface and subsurface) which will conform to what the developer wants and the city requires. Specific servicing requirements are stipulated in the Development Agreement Parameters and Development Specifications of the City of Winnipeg (see Appendix A). It is the consultant's responsibility to be knowledgeable of city requirements and to thus provide plans which will not be delayed in the approval process due to technicalities. The City of Winnipeg itself employs engineers who are responsible for formulating the Parameters and Specifications.

Similarly, the housebuilder may employ architectural consultants. Working in cooperation with the builder's marketing staff the architectural consultant attempts to design a house which possesses (a) high marketability (thus being attractive as well as reasonable in price), (b) flexibility of design so that slight alteration of the outer facade is possible to avoid suburban monotony while at the same time permitting all houses to use the same component parts, thus exercising economies of scale, and (c) conformity to the national and local building codes as well as the

requirements of the local permits department.

The roles of the consulting engineer and architect are somewhat restricted in that they have to conform to the national and local building requirements. Their importance may lie in their ability to design components for which economies of scale may be realized while still being acceptable and marketable.

e. THE SUBCONTRACTOR

Few of the major developer-builders maintain a complete crew of labourers (skilled or unskilled). Rather, much of the work is contracted out to firms specializing in certain aspects of land development and housing construction. A subcontractor is by definition a specialist as few of them engage in more than one aspect of construction. Subcontracting firms may be involved in such activities as electrical installation, heating installation, plumbing, painting, etc. Of course some of the larger subcontractors may, in turn, employ other subcontractors to complete certain parts of the project.

Their role is passive in the sense that they only provide what has been predetermined by other agents, namely the developer and builder. The subcontractor's role may be influential in terms of the time he requires and the cost (labour and materials) he incurs. In fact the switch to pre-fabrication and mass production of component parts by some builders is in part a response to escalating subcontracting costs. (See Bingeman et al. (1973) for details of the subcontracting industry.)

f. THE LAWYER

The legal profession, while seldom visible in the land development process is nonetheless one of its most important and ever-present participants. A skillful well-informed lawyer may have a considerable effect at any point throughout the process, be it in his advice to a farmer about optioning his land or in his counsel to a builder concerning particular aspects of the subcontracting trades.

While many of the activities of the legal profession are requisite and justifiable it would seem that some aspects are unduly complicated. Many laymen, when negotiating to purchase a house, are forced to turn to lawyers simply because they cannot comprehend the esoteric jargon in which simple transactions are described.

g. THE CITY ADMINISTRATOR/PLANNER/ENGINEER

A proposal for a subdivision must fit within the general context of the Metropolitan Development Plan. In order to be assured that it does, the plan must receive the approval of various planning and engineering bodies within the city administration. The advantages of good planning and orderly growth are obvious but in order to provide such planning and growth most urban administrative staffs have grown considerably in size. One of the unfortunate results of this growth is lengthy approval process, a process which costs money and this is a cost which the homeowner must pay (see Section F in Chapter V).

City engineers and planners tend to impose quite stringent limitations on the degree of latitude that can be exercised in urban and suburban development. Engineers in particular tend to be somewhat cautious in their practices, thus imposing barriers to innovative practices which might be introduced beneficially into suburban development. The reasons for such caution in design, of course, is that the city administration wishes to avoid possible costly maintenance and repair bills which might arise from unsure or untried design construction practices. Nevertheless, the strict regulatory framework of much public administration tends to add to the final cost of development.

h. THE PROVINCIAL AND FEDERAL GOVERNMENTS

As the Alberta Land Use Forum study points out, governments in North America have traditionally not been conspicuous initiators of land conversion but rather they have played passive regulatory roles through their mortgage lending and grants-for-municipal-services activities (Alberta Land Use Forum, 1974). The results, as the Forum indicates, have been three-fold: (a) the active decision makers have been diverse private firms and individuals, (b) the conversion process consequently has become fragmentary with resulting unco-ordinated land development, and (c) growing government interest has lead to increased regulations which in one sense may be viewed as having a negative effect.

The Federal government operates in housing largely through its mortgage lending (through C.M.H.C. and the N.H.A.) and through its grants to environmentally oriented projects such as sewage treatment plants. It

is also very important in terms of the lending rates of the Bank of Canada, sales taxes on building materials, and capital gains on land transactions.

The Province of Manitoba is actively involved in housing supply through its two crown corporations, the Manitoba Housing and Renewal Corporation and the Leaf Rapids Corporation. Thus far in Winnipeg, M.H.R.C. and L.R.C. have contributed little to the single detached housing market, the focus of this research study. However, M.H.R.C. has been actively purchasing raw land for the last few years and today is the largest land banker in the Winnipeg area. Obviously its potential future impact on the housing market (through its development arm, the L.R.C.) is great.

The Province also enters into cost-sharing agreements with the City for such development oriented projects as new transportation corridors. As no provisions exist at present within the Federal government for grants for water supply facilities, it is likely that considerable future input will be required from the Province into Winnipeg's future water supply needs (which may be a further stimulus to urban development).

Thus far both the Federal and Provincial governments have occupied relatively passive roles in housing development. Whether such roles will remain unchanged in the future or more intervention in the housing market will occur remains to be seen.

D. PARTICIPANT INTERACTIONS (refer to Figure 1)

The initial step in the land conversion process occurs with the sale of agricultural land for purposes other than farming. A typical subdivision today usually requires four years to design, have that design approved, install the services, and build the houses. The actual combined physical process of land servicing and housing construction, however, may require no more than sixteen months with the remaining time devoted to planning and design, administrative and citizen approval, and associated activities such as arranging financing and marketing the final product.

Figure 1 depicts the array of involvement, the time, the influences, and the changing land uses as a typical subdivision proceeds towards completion. As with any attempt at generalization, certain broad assumptions have had to be made and the inherent limitations arising from generalizing assumptions must be considered when attempting to define the process. Each subdivision is unique, perhaps not so much in its design but certainly in its relationships to contiguous developments. Thus each subdivision may require a different time span for the process of approval, land servicing, and housing construction. However, those involved in the shelter industry consider four years to be a representative time span for the provision of completed housing units. For the purposes of illustration, an additional year (of speculative activity) has been added in Figure 1.

No. 1 The farmer of course is the initial participant in the process. The hypothetical example presented in Figure 1 con-

THE CITY OF WINNIPEG: THE SUPPLY OF SUBURBAN RESIDENTIAL HOUSING

- Approaching Urban Development
- Increased Land Taxes
- Attractive Purchase Offers

- Nearness of Urban Trunk Utilities
- Potential Housing Demand
- Existing Housing Shortages
- Knowledge of Future Urban Plans

- Market Conditions
- Availability of Trunk Services
- Financing Costs
- Land Costs

- Compliance of Plan With Overall Planning Concepts
- Citizen and Elected Representative Attitudes
- City Administrative Staff Size and Organization
- Efficiency of Administration's Approval Mechanisms

DECISION TO SELL

DECISION TO DEVELOP

Farmer

Speculator

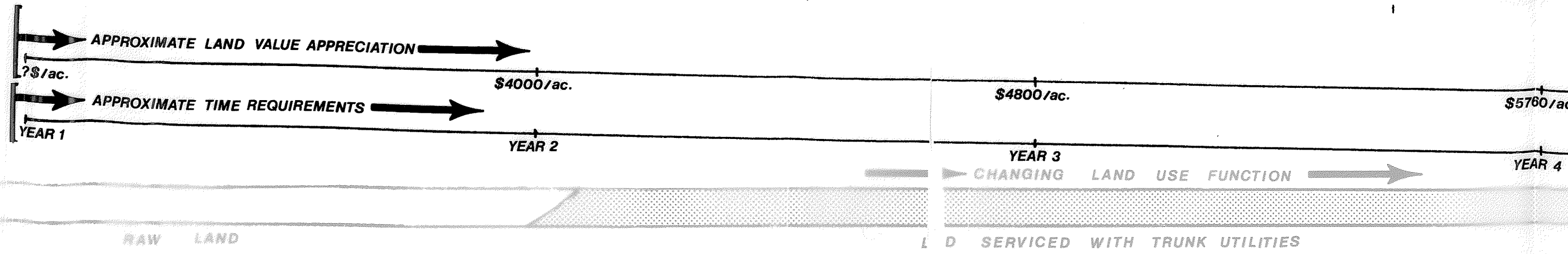
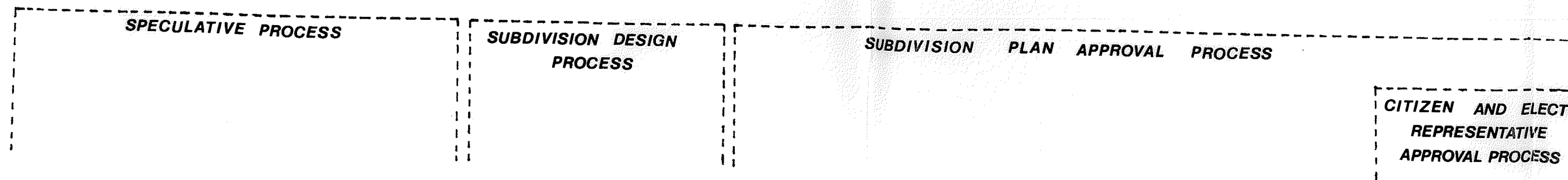
Consulting Engineer

Land Developer

City of Winnipeg
Environment
Planning
Department

6
Zoning By-law
Development Agreement
Subdivision By-law

7 & 8
Approval by Public
and
Elected Representatives



SUPPLY OF SUBURBAN RESIDENTIAL HOUSING

- Compliance of Plan With Overall Planning Concepts
- Citizen and Elected Representative Attitudes
- City Administrative Staff Size and Organization
- Efficiency of Administration's Approval Mechanisms

- City Development Parameters
- Labour & Material Costs
- Weather Conditions

- Market Conditions
- Financing Costs
- Competition

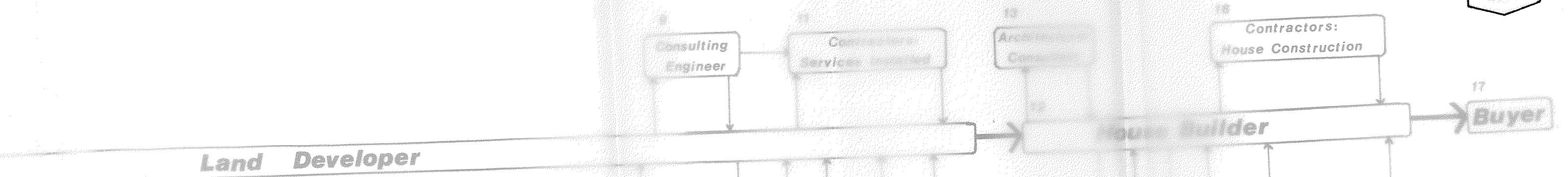
- Current Housing Styles
- C.M.H.C. Requirements
- Building Codes

- Labour and Material Costs
- Weather Conditions
- Sufficient Labour Pool

- Geographic Location
- Financing Costs
- Optional Living Accommodations
- Life Style
- Stage in Life Cycle

DECISION TO BUILD

DECISION TO BUY



6
Draft Zoning By-law
Draft Development Agreement
Draft Subdivision By-law

7 & 8
Approval by Public and Elected Representatives

10
Final Administration Approval

Approval and Certification of Construction

C.M.H.C. Project Approval

SUBDIVISION PLAN APPROVAL PROCESS

CITIZEN AND ELECTED REPRESENTATIVE APPROVAL PROCESS

SERVICES INSTALLATION PROCESS

HOUSE DESIGN PROCESS

HOUSE DESIGN APPROVAL PROCESS

HOUSE CONSTRUCTION AND MARKETING PROCESS

\$4800/ac.
YEAR 3

\$5760/ac.
YEAR 4

\$6912/ac.
YEAR 5

\$8294/ac.
YEAR 6

CHANGING LAND USE FUNCTION

FULLY SERVICED LOTS

FULLY DEVELOPED LAND

- No. 2 siders that prior to being purchased by the developer, the land was held for a period of one year by (a) speculator(s).
- No. 3 This of course is subject to many variations. The developer may directly purchase his land from the farmer and immediately initiate plans for its development. On the other hand, he himself may speculate if he holds it for a period of time prior to developing or reselling it. Alternatively, the land may be held for a number of years by one or more speculators whose sole aim is to capture the appreciation in value with approaching urbanization. For the purposes of illustration, the assumption in this example is that the land was held for a period of one year prior to being purchased by a development firm.

- No. 4 Once the land is purchased, it is assumed that the developer immediately begins planning for its development. Most developers do their own planning with the aid of a consulting engineering firm. In fact, it is usually the engineering firm, working from the developer's conceptualizations of the future residential tract (i.e., lot sizes, housing styles, street patterns, etc.), which does the draft designing of the subdivision. The actual initial planning and design may require five or six months, although it may often be the case, especially where the consulting engineer and the developer have maintained a long-term working relationship, that the subdivision idea has been considered in broad terms for a much longer time (providing, of course, that the developer has owned

the land for some time prior to the actual decision to develop.

- No. 5 Once the plan has been prepared in draft form, copies are submitted to the Department of Environmental Planning for the City of Winnipeg (for detailed description of the administration approval process, see Chapter IV and Figure 2). This is the beginning of the City's involvement in the subdivision approval process. The purpose of this function is to determine the appropriateness of the proposal in light of the overall planning concepts and engineering requirements of the City. There are actually three functions in the approval process:
- No. 6 the zoning function, the development agreement function, and the subdivision approval function. Depending on the current zoning of the land it may or may not be necessary for the developer to obtain rezoning. However, as most raw undeveloped land is zoned agricultural, this step is usually necessary. The development agreement is an agreement between the City and the developer wherein the engineering specifications of the development are stipulated. The subdivision approval process specifies the layout of the subdivision and the nature of commercial and recreation areas.

- No. 7 Officials within the City administration prepare draft zoning by-laws, development agreements, and subdivision by-laws for the proposed subdivision and they are then presented for public scrutiny at a Community Committee Hearing. Following this the proposals are examined by the Committee on Environment, the

- No. 8 Execultive Policy Committee, and the City Council. Providing no major difficulties have been encountered, the necessary by-laws will be passed and the required development agreements drawn up.
- No. 9 With this accomplished the developer and his consulting engineer subsequently complete the specific design of the subdivision embodying all the requirements outlined in the administration approval process. Once this is done the final plans once again must receive the certification of officials in certain departments (Water and Waste, Transportation, M.T.S., Hydro, and the District Engineer).
- No. 10 in certain departments (Water and Waste, Transportation, M.T.S., Hydro, and the District Engineer).

- No. 11 At this point the developer, through his consulting engineer, calls for tenders for his work. Depending on the nature of the development firm, the tenders may be open, restricted (i.e., by asking only certain contractors to submit bids), or closed (i.e., the work is done by a long-term working partner or by a subsidiary or associate firm). Of the four major suburban land developers in Winnipeg, two (Qualico and Metropolitan Properties) usually have open tenders while most of Ladco's work goes to Borger Industries (an owner) and B.A.C.M.'s work usually goes to its subsidiary land development branch. Some of the more prominent contracting firms in the Winnipeg area are Borger Industries, B.A. Construction Ltd. (B.A.C.M.), Taillieu Construction, Cambrian Excavators, McNicol Construction, and Nelson River Construction. Most of these firms specialize

in land servicing, road construction and paving, although certain parts of a particular contract (i.e., earthwork on a ponding system) may in turn be sublet to another firm.

- No. 12 Once the land is serviced, the house building activity commences. While the housebuilder theoretically does not become involved until he actually purchases the lots, most builders will have entered an agreement with the developer previously
- No. 13 so that the marketing staff and architectural consultant may begin work on the actual housing design. If the housebuilder must rely on outside financing (this is usually the case) he
- No. 14 may approach either C.M.H.C. or a private firm such as M.I.C.C. (the Mortgage Insurance Company of Canada). Once approval of the mortgagor has been obtained, the housebuilder obtains his
- No. 15 building permits and calls for tenders for the various subcontracting sections. It is the subcontractor's responsibility to obtain the necessary permits (i.e., electrical, plumbing, etc.) from the City administration. The typical housing construction stage may take seven to nine months for a fairly
- No. 16 large (200 lot) subdivision. Of course, the builder may prefer to build only a few at a time, gradually releasing them onto the market. However, for the purposes of this analysis a seven to nine month time span would appear reasonable.
- No. 17 Prior to the actual completion and sale of the house the builder's sales staff will have actively promoting the new homes (indeed, usually the first homes to be completed will be

the display homes which are then used for marketing purposes).

E. RESIDENTIAL DEVELOPMENT: INFLUENCES AND PROCESSES

It is obvious that the shelter industry, with its many complexities, is subject to a myriad of influences, local, national, and international. That many aspects of the industry are beyond local control is typified by the Federal government's use of people's basic shelter needs as a means of dampening and stimulating the national economy (mainly through the construction industry). It is not the intent of this paper to examine the ethics or appropriateness of such national policies. Rather, the effect of such influences in conjunction with local factors will be examined in terms of their effects on each participant's activity.

The overlay accompanying Figure 1 indicates the processes, influences, time, and land value appreciation associated with the conversion of raw land to a fully developed residential suburb. Eight processes may be identified: (1) the speculative process, (2) the subdivision design process, (3) the process of the subdivision plan approval by the City administration, (4) the citizen and elected representative approval process, (5) the services installation process, (6) the housing design process, (7) the house design approval process, and (8) the process of house construction and marketing of the final product.

The speculative process is somewhat nebulous in nature, largely due to the lack of clarity of the concept of speculation. Here it has been assumed, for illustrative purposes, that the speculative process lasts for

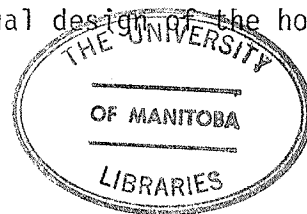
one year. However, the farmer himself may under certain circumstances be a speculator as may the developer if he holds the land for a considerable length of time before planning development. Some too would argue that the developer's activity is speculative even up to the time his plans are approved and he commences construction. While this may be true in the broadest sense of the term "speculation" it is a bit unfair in that the developer's initial planning, hiring of a consulting engineer and preparation of draft plans does represent considerable investments of time and capital.

The subdivision design process involves the developer and his consulting engineering firm who together draft an initial subdivision plan for the tract of raw land. This normally requires five or six months.

The land development plan approval process extends from the time of initial submission to the City of a draft plan by the developer until the time it receives final approval from the City and the developer can begin the construction phase. Embodied within this is a smaller citizen and elected representative approval process. It is within this process that the citizens of Winnipeg and their elected representatives have the opportunity to approve, reject, or propose amendments to the plan.

This is followed by the servicing installation process wherein the land is developed. This theoretically completes the developer's involvement in the overall conversion process.

Theoretically the next process is that of the actual design of the house



to be built on the serviced lot. However, this process as a rule proceeds concurrently with the services installation process.

The seventh process is that of the house plan approval. As the lots previously developed will have more or less predetermined the type of unit to be built (i.e., single detached, side-by-side, etc.) this process tends not to be as elongated as the land development plan approval process.

The final process is that of the house construction and marketing with the overall conversion process being finally completed by the house purchaser.

Four major decisions on the parts of the major participants compliment the processes outlined above. These are the decision to sell, the decision to develop, the decision to build, and finally the decision to buy. The reasons behind each participant's decision making process are somewhat beyond the scope of this research. Suffice to say they are key decisions without which the land conversion process could not begin, continue or terminate.

More important are the influences attending the process. The farmer's decision to sell may be dictated by increased assessment and the consequent high land taxes he may have to pay in areas adjacent to or near urban areas. Some agricultural land near Winnipeg is assessed at up to \$300 per acre. With a mill rate of approximately 100 this would mean an annual tax of around \$30 per acre. This is a sizeable economic burden

for a farmer, especially when compared to the \$4.50 to \$4.75 an acre tax found in areas such as near Morden in the R.M. of Stanley. Another strong influence on the farmer, of course, is the activity of the speculator and/or developer. Speculators and developers, with their knowledge of urban growth patterns and plans, may realize the future potential value of land which is now in an agricultural state. Consequently, they may approach the farmer with what seem to be attractive offers for his land (although these offers may be a pittance when compared to the future value of the land). A third major influence at this stage is the conflict between land uses which invariably arises as urbanization encroaches upon agricultural land. Incompatibility in this case inevitably weighs against the agricultural usage.

The forces influencing both the speculator and the developer in their land purchase decisions are often the same, although their reasons for purchasing land may be entirely different. The speculator is interested in nothing more than a simple land transaction wherein the value of the land increases thus earning for him a handsome profit. His material inputs and his improvement to the land are nil. The developer on the other hand may be purchasing land for more complex reasons. His purchase may be purely speculative but more often it is to preserve, replenish, or build up his raw land inventory so as not to be at the mercy of speculators when in need of land for development purposes. While some developers do trade or sell land instead of developing it (and hence are speculating), the usual intent is to develop it at some time in the future. As mentioned previously, the influences on the speculator and developer may, however, be similar. Obviously, real or potential housing

shortages in the face of high demand is a major influence on one's land purchase decision. Even more important are knowledge of future plans for the urban area and the nearness of urban trunk utilities. It is little wonder, then, that most developers and speculators maintain (or attempt to maintain) close relationships with City officials and politicians.

The key decision in terms of residential development is the developer's decision to proceed with development. This decision is subject to a number of influences such as the overall market situation (as a rule a nationally/internationally induced situation), the availability of trunk services which can be tapped, the cost of available financing (once again an external factor), and if the developer does not already own land, the cost of the land which he must purchase for development purposes.

Influences on the plan approval process are of two basic types: those emanating from citizen and elected representative (City Council) attitudes and those emanating from the attitudes of the City officials involved in urban development. Naturally such attitudes have been conditioned by other influences such as economic conditions, City finances, aesthetic desirabilities and traditional attitudes towards the concept of growth. Citizen and City Council attitudes are largely directed towards what they believe the development will mean to the neighbourhood and community. Administration officials, on the other hand, appear to be more concerned with the plan's compliance with overall metropolitan planning concepts and its technical appropriateness and feasibility (i.e., in terms of tapping into existing infrastructure).

In terms of the services installation process, influences tend to be of a more technical nature. Such factors would be the development parameters of the City (largely engineering standards), labour and material costs, and weather conditions (see Section G in Chapter IV on the staging of a development). While theoretically the degree of competition from other developers and contractors and the availability of alternate life styles for the consumer should bring considerable influence on the form of the final product, the high degree of similarity between development firms coupled with the strictness and lack of leeway inherent in the City's development parameters tend to produce a fairly narrow spectrum of alternatives. Thus, the form of developments tend to be more conditioned by technical factors.

The housebuilder's decision to build is largely influenced by factors similar in nature to those which the developer takes into consideration (indeed, as many of the larger firms are developer-builders, the initial decision to develop the land is also a decision to build the houses). For a housebuilding firm which does not develop the land but must purchase serviced lots from a developer, the influences of market conditions (demand and supply in relation to disposable income and national economic conditions), financing availability, and competitor strength are very important. Questions posed to housebuilders indicated that availability of financing and the interest rates are of essential importance.

The house plan approval process for the most part is conditioned by the same type of City administration attitudes which influenced the land development plan approval process. These attitudes basically result

from concepts of current housing styles which are largely governed by C.M.H.C. requirements and national and local building codes.

As with the services installation process, labour and material costs, labour availability, and weather conditions impose certain limitations on the house construction process. Certain aspects of housing construction are notoriously limited by weather, a factor which was very important in Winnipeg in the past but which has been somewhat circumvented by the use of newer materials and techniques.

When contemplating the purchase of a house the prospective buyer considers numerous aspects. His decision to buy may be largely determined by either geographic location (amenity factors and socio-economic rank), availability and cost of financing [as a trade-off between apartment living and home ownership, see Shelton (1968)], his life style and his stage in the life cycle, and the available options open to him. As a rule it is a combination of many or all of these influences as well as future predicted trends in the nation as a whole which guide him in his decision-making. The latter influence, available options, largely remains restricted in its scope. Traditional methodologies, municipal restrictions, and lack of innovativeness in housing have tended to produce housing styles characterized by a high degree of conformity so that one's choice is rather limited.

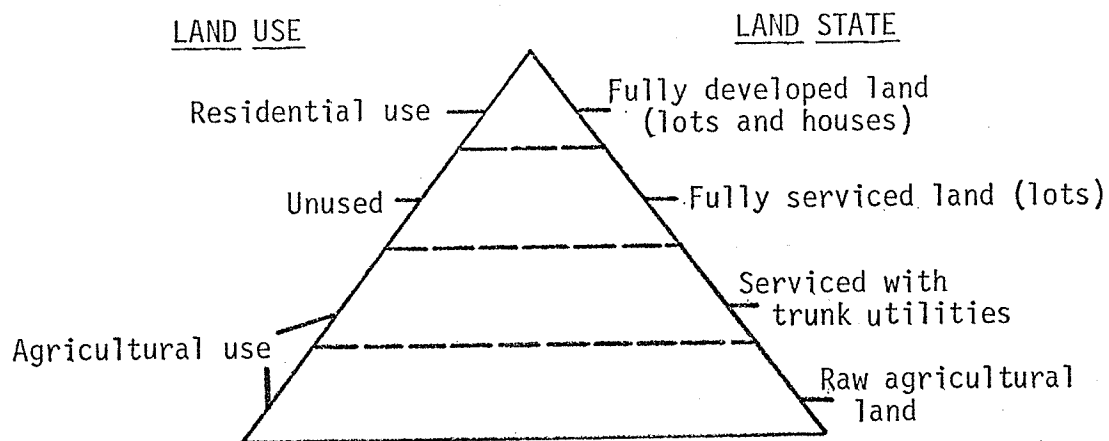
In an abbreviated form, then, these are some of the influences attending the land conversion process. While many are individualistic and others are the result of local administrations, the major influences tend to

be the results of nationally induced fluctuations in demand and supply. The obvious focus of major restructuring of the land conversion process then should be federally oriented. Local and personal modifications, while collectively by no means insignificant, can best be but marginal.

F. THE CHANGING LAND USE FUNCTION

What we are basically concerned with here is the conversion of land from one physical (and economic) state to another, namely from pure agricultural land (here termed "raw land") to fully developed residential land ("suburbia"). While these are the two states which most people recognize (and hence are aware of), land use undergoes certain subtle but nonetheless important transformations between these two states. Perhaps as important are the attitudes of the people (farmers, speculators, developers, and planners) towards the land as it is evolving from one state to another.

As indicated on the base sheet of Figure 1, land passes through what is basically a four-tiered hierarchy. If we imagine the hierarchy as being in the shape of a pyramid, then raw agricultural land would represent the base with fully developed land at the pinnacle, representing the highest and best use (a subjective opinion, admittedly). Intermediate would be the stages where the land still remains in agricultural usage but has been serviced with major trunk utilities (water mains and sewer interceptors) and the stage where the land has been fully serviced and has thus passed out of agricultural use but as yet has not had houses built on it.



G. SUMMARY

This chapter has presented an introduction to the basic processes of land development and housing production and the participants involved in the various processes.

Participants have been classified as being either active or passive, the purpose of such categorization becoming clearer in subsequent chapters. The situation is seen to be one wherein only a few participants engage in key decision making in terms of land development and housing construction. These active participants, the farmer, the speculator, the land developer, the housebuilder, and the house buyer, are controlled and influenced to a great extent by the many passive participants such as the planner, the engineer, the government(s), etc.

While the active-passive dichotomy may be useful for analytical purposes, the reader should not misconstrue such dichotomy as being indicative of the relative importance of each of the actors in terms of overall urban development.

THE RESIDENTIAL LAND MARKET
AND
THE SPECULATIVE PROCESS

***Chapter
three***

A. INTRODUCTION

The initial step in the conversion of a piece of raw land from rural (usually agricultural) use to urban (usually suburban) use is the sale of the land by the farmer. While the first purchaser may be (and quite often is) a developer, it is not uncommon for the land to be first purchased by a person (or company) whose sole intention is to hold that land until it has sufficiently appreciated in value and then resell it. While speculation has been roundly condemned by a great number of people, the nature of speculation has often remained little understood. In order to properly understand the speculative process, it is necessary to have some idea of the suburban land market, how it operates, and what are its influences. This chapter, then, will deal with three themes: characteristics of the suburban land market, factors affecting that market, and the nature of land speculation.

B. CHARACTERISTICS OF THE SUBURBAN LAND MARKET

The suburban land market in Canada has typically been influenced by all three levels of government: federal, provincial and municipal. The federal influence has largely been economic in nature. Through fiscal and monetary policies, the suburban land market and people's ability to

become active in the market have been directly affected by varying rates of interest and income taxation. As well, considerable demand pressure for scarce resources has been created through the sheer weight of the federal spending power. More recently, the federal government (through C.M.H.C.) has adopted a more direct role through providing money for land acquisition and development (sections 40 and 42 of the N.H.A.).

Provincial jurisdictions have traditionally related to factors of land regulation such as assessment and taxation, land use and zoning, and "official plans". Through enabling legislation, many of these provincial powers have been passed on in one form or another to the local municipalities. It is within or contiguous to these municipalities that the major problems of land development and urban growth have come to the fore. Many municipalities today face a myriad of inter-related problems dealing with growth and financing and no less numerous have been the proposed solutions to those problems.

Basically, provincial and municipal governments are faced with two alternatives when it comes to dealing with growth problems: either a negative alternative of no growth or a positive alternative of improving upon present development practices. While "no growth" policies have been proposed frequently, few well constructed attempts have been made at implementation, and probably rightly so.¹ Approaches to improving

¹As pointed out by L.S. Bourne in his excellent article, "Limits to Urban Growth: Who Benefits? Who Pays? Who Decides?", anti-growth arguments often suffer from the inherent difficulty of attempting to use physical controls to achieve non-physical objectives. See Bourne (1975).

urban fringe development have varied, largely depending upon whether or not one is approaching this from the point of view of an economist or a planner, or, for that matter, a private entrepreneur.

The present system of urban land development is roughly that of an adversary system with different participants attempting to champion their individual points of view. While the need for varied inputs and viewpoints is not to be denied, the result has typically been a situation of chaotic unprogrammed growth, conflicts, delays, and a worsening municipal finance situation.

Many suggestions for improved urban development have been based on pure economic theories, theories which in many instances have proven to be workable to some extent in other markets. However, in the suburban land market there exist numerous distortions which make the application of economic theory difficult. Following are some of the characteristics of the suburban land market which serve to distinguish it from other commodity markets:

(a) Suburban raw land is not homogenous but rather varies considerably in physical characteristics, developability and contiguity to neighbouring land uses. No two places are identical. As well, it is fixed in site and consequently cannot "flow" from areas of low demand to areas of high demand. Accessibility to various tracts may differ, not only in number of access points, but also in terms of quality.

(b) The tracts of land are variable in size and the owners different in personal character. Buyers seldom find exactly what

they want in terms of size and physical characteristics, but often must settle for something less than a perfect substitute. As well, motivations for withholding or selling similar tracts of land may vary greatly from one owner to another. Land ownership may largely be influenced by factors such as traditionality and sentimentality.

(c) Land conversion is normally a one-way process and unpleasant developments, uncontrolled sprawl, and inappropriate land utilization can be corrected only at great expense. In addition, insensitive and irrational decisions on the part of adjacent owners can impose severe external costs on tracts of land.

(d) Society as a whole has given to land special characteristics and value through collective activity. Provincial and municipal investments such as the extension of transportation and sewer and water services enhance the value of certain tracts of land without any concerted action on the part of the owner(s). As well, society affects land values through a number of regulatory mechanisms such as assessment, zoning, and building codes.

(e) The suburban land market is far from a perfectly competitive one. Suburban land ownerships are at times oligopolistic (only a few owners, as in Calgary, Edmonton and Winnipeg) or even monopolistic (as in Red Deer). Besides, the market is very "thin" in that at any one time there are only a few buyers and a few sellers. Annual turnover of land ownership in relation to land area is normally quite small.

(f) The market for raw and developed suburban land is essentially a derived one, that is, from the demand for existing dwelling units. While the factors of supply and demand will be

examined in more depth in a later section, it will suffice to note at this point that suburban land prices (especially raw land prices) seem to be notably insensitive to classic supply and demand forces. Land owners tend basically to be irrational when compared to owners of other marketable commodities. Land prices therefore tend to reflect what has been termed the owner's reservation price, rather than purely the level of housing demand. In effect, there is a "ratchet effect" whereby land prices rise in response to demand and the owner's expectations, but appear not to fall significantly with a slackening of demand. Land prices, therefore, tend to be universally and irreversibly upward in their movement.

C. FACTORS AFFECTING SUBURBAN LAND VALUES

Present-day high land values have been the focus of considerable attention with numerous concomitant suggestions as to improving the situation. Many of these suggestions, while portraying great "newsworthiness" often have little substantive basis and often are based on an appalling ignorance of what really affects suburban land values. While some may consider a further discussion of these factors to be superfluous, there nonetheless is a very sound reason for doing so. Solutions to a problem are normally proposed on the basis of identified causes; to wrongly identify a cause may lead to a wrong solution, but, more importantly, to not clearly understand the operation of a complexity such as suburban land development may lead one to proffer simplistic, misleading and often counterproductive panaceas to urban problems.

It is not the intent of this section to examine the various arguments and theories with a view to discussing and/or proving their "rightness" or "wrongness" in logical theoretical terms (for this, by and large, becomes an endless and fruitless task), but rather to examine them for their content so as to be better able to formulate rational policies to deal with development issues. Assuming that society has evolved a form of urban development which has some rational basis (with exceptions, as critics would rush to point out), then it would only seem reasonable to search amongst rationally formulated theories for ideas as to how to better improve that development.

Some of the factors affecting land values are relatively straightforward and readily identifiable. The cost of land servicing, both the on-site costs and the off-site costs such as trunk sewers and major arterials, is such a cost in that it is readily measurable. Servicing costs are composed of two main components, labour and materials, both of which have experienced rapid escalations in recent years. As all costs are recoverable in land development, increasingly higher costs of labour and material inputs are eventually reflected in higher housing costs. For example, between 1961 and 1974 the total cost of new dwellings in Winnipeg increased from a base index of 100 to around 185. In the same period, the materials and labour components in new housing increased from 100 to 195.7 and 100 to 284.6 respectively. Both of these far exceeded the basic Consumer Price Index which increased from 100 to 163.5 in that period. As these costs are readily measurable in dollar terms, it is relatively easy to justify a certain portion of a serviced lot cost.

Other sources are somewhat less easily identifiable, although their impact can be quite significant. One such source may be what has been categorized as being an "institutional" cost.²

Greater administrative control of urban development is a fairly recent phenomenon notable both for its rapid evolution and its geographic universality. Almost all major urban areas (with exceptions) have experienced a rapid growth in the size of their planning staffs. While size by no means need be inefficient and counterproductive, vast bureaucracies normally suffer serious problems of inter-departmental correspondence. Especially detrimental are situations wherein various departments become so monolithic as to be virtually impervious to the requirements and suggestions of other departments. Such situations as a rule have a very negative impact on urban development, negative in the sense of severe time consumptiveness and frequent excessively high servicing standards as departments tend to justify their existence by imposing somewhat esoteric development requirements.³ This is not meant to be a blanket condemnation of greater administrative control, for the need for better planning cannot be denied. However, the dangers of such jurisdictional fragmentation should not be ignored.

As Blumenfeld (1973) notes, much of this planning control syndrome has

²See Chapter VI for an analysis of the various costs of development.

³See, for example, "Building Sites; a Prime Component of Housing" by Underwood, McLelland and Associates, 1973 and "The Costs of Residential Development" by A. Derkowski, Toronto, 1976.

its roots in the virtually universal dilemma of financing urban growth. Most municipalities have avoided scatteration problems by severely limiting growth at any one time (limitations opposed via subdivision approval processes and restricted service extensions). Overwhelming dependence on the "real property tax" as the major source of urban finances has meant that most municipalities are facing severe fiscal limitations, limitations which often are manifest through planning controls.

A corollary of this, on perhaps a more microscopic level, is the attitude of many municipalities towards moderate and low-income housing. Municipalities with great numbers of moderate-income families with children, as Blumenfeld points out, normally face great costs in providing necessary school and social services. As far as the municipality's finances are concerned, it is better to have high density non-family households and large amounts of commercial and industrial land uses. As well, high standard subdivisions produce greater tax revenues in that total assessed value is much higher. While few municipalities blatantly admit that desire for higher assessment is the reason for increasingly higher service standards (and consequent exclusion of low and moderate income housing) this is nonetheless the outcome. The standard argument in favour of higher servicing standards is the maintenance argument: with a higher standard of services in the ground, there will be less need for costly maintenance and repair bills and this will consequently constitute a benefit for the city taxpayer. Whatever the reason for better servicing requirements, the result has been a lowering of the percentage of those who can afford to purchase a home through increasingly higher land costs.

Another influence which is similar in its effect to the administrative control influence is the increased environmental awareness and rise of citizen participation common today. It is unfortunate that much of this environmental concerns manifests itself in fashionable anti-development stances based on little more than emotionalism; it is especially unfortunate in that such environmental concern is for the most part a valid and welcomed response by citizens towards happenings in their communities. Unfortunate outcomes, however, are the reduction in the amount of land acceptable for development at any one time and the large amounts of developable land removed for recreational/environmental purposes. Notably the most vocal public anti-growth environmentalist actions occur in urban areas, the very areas where most people choose to live.

A much more subtle and perhaps far more significant factor may be found in the very attitudes which people have developed towards housing in general and land in particular.

The prevalent attitude in North America in the past has been that land supply is virtually limitless and that careful conservative use of that supply is unnecessary. This so-called "prairie psychology" has had several serious implications for the land market. Land has been largely treated as other market commodities have been when in fact it exhibits certain very definite and unique characteristics. As with other commodities, speculation in land has been (and still is) a widely accepted practice. As well, the attitude has largely existed that land should be treated as a free market manipulative item wherein the government has no right to be involved. These attitudes have made it common for people to

consider housing and land more as investment opportunities rather than basic shelter necessities. There exists today a very strong "investment psychology" in the housing market.

Consequently, landowners tend to evaluate their land in terms of what values are expected to be derived at some point in the future. Actually, vacant fringe land has two values: that derived from its existing use and that derived from its future development potential (which may be defined as the difference between the value of the land in its existing use and the potential value at its "highest and best" use, in an economic sense). The expected future value of a tract of land can be discounted back to the present value by use of a discount rate factor (normally consisting of two parts: a normal interest rate and an uncertainty factor). In a sense, as Clonts (1970) points out, undeveloped land is in fact "ripening" until it is put to this highest and best use. The value of land in this transitional phase reflects the income expected from new land uses as well as the capitalized value of the income which may accrue from the present land use. If capital gains are considered as a lump sum increment in income when the land use or ownership changes, the present value of the gain may be estimated by discounting to the present value. This is in effect an "income expectations approach" which assumes that the value of a property is equal to the present value of all its future income.

This attitude is reinforced by the basic factors of economic growth and population increase. With a steady rate of population growth, non-urbanized land at the edge of a city comes under increasing pressure for

development. Such pressure leads to bidding for the scarce available land and price consequently rises (this demand/supply relationship will be examined in detail in the following section). The "coming-of-age" of the baby boom population, coupled with a generally improved economic situation, has largely created an unprecedented demand for urban land. As Illing (1969) mentions, it is really a paradoxical situation that one of the reasons for high housing prices is a scarcity of land, paradoxical in that 3.9 million miles² of Canadian land is occupied by only 23 million people.

As Neutze (1973) points out, prices will tend to rise rapidly if owners expect them to rise rapidly (acknowledging, of course, the limits set by a buyer's ability to pay). Given past and projected rates of growth and realizing that there is in reality no ready substitute for land (contrary to the prairie psychology attitude) people's expectations will continue to soar and the demand for land, therefore, is likely to be quite inelastic.⁴ Consequently, after a period of rapid price escalation, prices appear to seldom return to their previous levels (this is the ratchet effect discussed in Section B of this chapter).

A very significant influence in this respect is the spectre of inflation. The very climate of inflation exerts a strong pressure on people's expectations as to what their land is worth. This "inflation syndrome" was particularly rampant in Winnipeg in 1973 and although it has dimin-

⁴The demand for housing appears to be far more elastic than the demand for land. See the following section on supply and demand.

ished somewhat, it is still of significance. Naturally, the effect is self-fueling; a period of rapid inflation not only raises people's expectations, but also encourages them to make good investments as a hedge against that very inflation. One of the soundest investments is in land. High demand for land causes prices to be bid up; housing prices increase adding to the inflation spiral and people, therefore, look for investments which are good protection against inflation. With one of the prime ones being land, the cycle is perpetuated.

1. SUPPLY AND DEMAND

Classic supply and demand theory argues that the selling price of a commodity is determined by the relationship between the supply of that commodity and the demand for it. If, in a free market situation of many buyers and many sellers, the quantity supplied just equates to quantity demanded, an "equilibrium" selling price is established. If demand remains constant but supply diminishes, the price will be bid up. At higher prices less will be demanded and a new equilibrium price will be established. This analysis applies to various combinations of supply-demand increase and/or decrease.

In the urban land market this classic supply-demand argument is so distorted by various factors that the argument becomes very much a hybrid form of the classic case. For example, serviced lot supply is not strictly a private entrepreneurial function. The supply of lots in some senses is primarily a local government responsibility in that major trunk utilities and services are normally supplied and maintained by the municipi-

pality. Thus the developer can not proceed with his land subdivision until the major utilities have been installed. In addition, there are numerous administrative regulations and controls that prevent smooth operation of the market.⁵ And finally, within the development industry itself, the existence of only a few major developers at any one time (in economic terms, an oligopoly) largely precludes the operation of the classic supply and demand theory.

As S.W. Hamilton (1974) argues in his paper on land banking, demand for and supply of housing in Canada are characterized by differing price elasticities. For example, changes in price can effect much greater changes in demand than in supply (this largely stemming from the housing industry's inability to respond quickly to changing economic conditions due to the relatively long front-end planning and development times required today⁶). What happens (as Hamilton indicates) is that at a given level of demand D_1D_1 and a given level of supply S_1S_1 the prevailing market price will be P_1 . New housing stock normally accounts for only 3% of the total existing stock in any one year. Consequently, the housing industry's in-house capability to supply much more than this 3% is probably quite limited (at least without major reorganization, etc.). Therefore, even if the housing industry produced at full capacity (S_2S_2) price would drop only marginally. What has been happening in past years

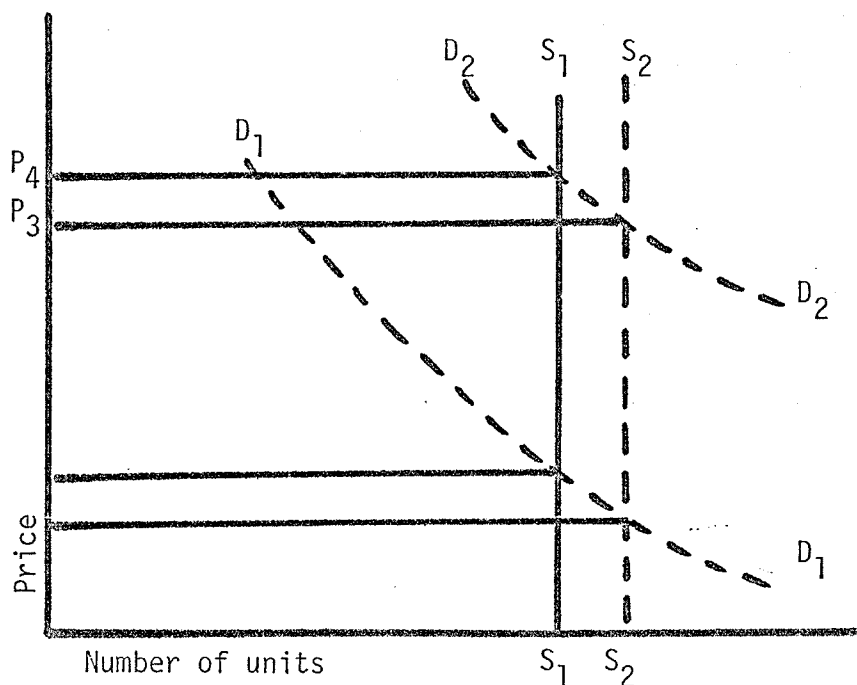
⁵Interestingly, supply in the market is probably greatest where sprawl is allowed to proceed unchecked and unadministered. This, however, is unpalatable to most people.

⁶A typical subdivision today may require four years for planning, developing, building and marketing. See Chapters IV and V.

is that the housing industry's production capacity has been increasing only marginally. However, the demand for housing has been increasing at a much faster rate (D_2D_2). Consequently, prices have risen considerably (to P_3). The federal government's inability to constrain consumer demand to around the D_1D_1 level through fiscal and monetary policies (and some would question whether the government should even be attempting to do this) and the effect of increasing regulation and control of development at the local municipal level has restricted supply so that a D_2D_2/S_1S_1 situation has developed with prices at the P_4 level. As Hamilton points out, this has been the situation which has been occurring in most Canadian cities.

FIGURE C

Supply and demand in housing



Source; Hamilton (1974).

Two somewhat opposing views as to the relationship between raw land, serviced land, new housing and the existing housing stock have been common.

The more traditional argument takes the position that new house prices "set" the market and determine the asking prices for used housing. This is an understandable position when one considers that land prices are increasing much more rapidly than house prices. People logically argue, therefore, that it is the highly priced serviced land and, therefore, the expensive new house (for one cannot build cheaply priced houses on expensive land) which pushes up the overall market price. However, as Hamilton points out, this position deserves further scrutiny for, if this is the case, what accounts for the high serviced land costs if not high raw land costs? And what, therefore, accounts for high raw land costs?⁷ If, for example, a developer pays \$8,000 for an acre of land (\$1,600 per lot at 5 lots per acre), applies \$8,000 per lot worth of services (making a total of \$9,600), how is it he can then charge up to \$15,000 for that lot? As the only identifiable material cost is the \$8,000 servicing cost, it follows then that the raw land actually has a residual value of \$5,400 per lot [$\$15,000 - (\$8,000 + \$1,600) = \$5,400$] or \$27,000 per acre. This would give the raw land an ultimate value of \$27,000 + \$8,000 or \$35,000 per acre. The land does not inherently have this value; it is only a value which is given to it by virtue of what the total market will bear. In times of high demand of housing, prices

⁷ Immediately developable raw land on the urban periphery may now sell for between \$8,000 and \$15,000 per acre. Agricultural value of the same quality land may be only \$300. This amounts to an appreciation in value of 2500% to 4900% over the agricultural value.

will be bid up. As the actual housing construction and land servicing costs are fixed (relatively) it is the raw land which experiences the major fluctuations.

Hamilton argues that the demand for this raw land is essentially a derived demand, that is, derived from the demand for serviced lots which is derived from the demand for new houses which is derived from the demand for the existing stock. Hence, it is the (average) price of the standing stock which determines the asking price of the new stock, the serviced land, and, ultimately, the raw land.

It follows from this, then, that construction (labour and material) and land costs can only marginally affect the current level of house prices. Similarly, efforts to control the price of raw land (such efforts are usually in the form of a land speculation tax), while they may succeed somewhat in holding down the price, do nothing to solve the imbalance between supply and demand. There seems to be no irrefutable evidence anywhere that housing prices are lowered simply by lowering land prices; normally in a high demand situation this will only create a subsidy to the builder or owner. Control of prices in this sense may even have a negative effect if developers and builders are dissuaded from making investments in land. Consequently, the more logical solution to easing high prices is to approach the problem from a supply perspective. An over-supply of serviced lots and housing units will ease the pressure on the existing stock. Prices, therefore, will show some moderation and the residual price of raw land will drop.

Essentially, both schools of thought are arguing towards the same point: an imbalance between supply and demand. However, depending on whether one considers the cause of high prices to be the price of the new units (and newly serviced land) or the limitation of the existing stock, one's proposed solution will differ. The former argument most commonly manifests itself in controls on developers and builders and in land speculation taxes, tools which, as pointed out previously, are ultimately counterproductive. The latter argument will manifest itself in programs to ease supply restrictions and create a situation of over-supply in the market.

It would seem then that only in the long run, after total stock has increased significantly so that supply available roughly equals demand, that average prices will show some moderation (unless, of course, houses and land are sold at subsidy price levels).⁸ What has been happening, argues Hamilton, is that changing consumption patterns and continuously escalating demands for improvements in the quality of housing have been negating any possible price declines which could have been realized through increased production. What he fails to add, however, is that the private industry can hardly, under its conditions of profitability and continued economic viability, have been expected to over-supply the market on a sustained basis so as to effect those necessary price declines. It would, after all, be virtual business suicide for a private firm to

⁸And, in this sense, it should be noted that "long run" in housing may in reality be a very long period. As total housing stock will change only very slowly over time (assuming a 3% per annum addition), even short run may be in the range of a decade or two.

effect an over-supply as it would eventually cut out its profitability and destroy its market. It follows from this, then, that under a purely private enterprise housing delivery system and with current levels of consumer demand, it can be expected that housing supply will never reach the position wherein supply and demand will be in some moderate balance. Drastic increases in supply are required at present to simply reach a position of over-supply sufficient enough to affect today's current high prices. As such an over-supply cannot (and, in all common sense, should not) be expected from the private sector, it is obvious that it must come from the public sector.

2. ACCESSIBILITY AND RENT

Blumenfeld argues that the value of any given site of land lies in the fact that it permits people to obtain greater net benefits from their activities than they would be able to obtain if they carried out the same activities on a different site. Persons wishing to make use of a certain piece of land, therefore, are willing to pay a "differential rent" for the use of that land. The "value" of a site, therefore, is the capitalized form of its differential rent.

The classic view of the land market assumes that land is used for that purpose which will bring the highest rent. Assuming that land is used in its ultimate capacity (the "highest and best used") its value at any given period is the present value of the expected flow of net returns in the future. This value is largely influenced by the relationship (positive or negative) between what Blumenfeld terms the effective demand

for a site with given characteristics and the supply of sites with comparable characteristics.

A tract of land may not be presently used in its ultimate capacity; that "under-use" may be a choice of the owner, or an externality forced upon it by adjacent land uses and/or municipal controls, or a lack of suitable accessibility. The externality problem has been referred to previously. The problem with externality factors, as Ratcliffe and Hamilton (1972) point out, lies not so much with the owner consciously attempting to reap the benefit of these external conditions so much as it is the inability to measure directly these externalities and charge them accordingly (positively or negatively) to the responsible parties. The very meager amount of information available on market externalities make decisions of this nature very uncertain.

The accessibility problem is an externality which by and large is provided by society at large. In terms of differential rent the price to be paid for a tract of land may be largely determined as a trade-off of travel time against available space. Differing tracts of land have differing amounts of accessibility value due to varying proximity of services (i.e., less travel time). As an urban area expands, the market implicitly discounts the capitalized value of travel-time savings for residential land closer to the city centre by placing a higher value on it. Thus high-rise buildings are commonly found in areas of high accessibility and the market, therefore, provides an allocative function. As population increases in an urban area, urban land values increase because of an increase in total demand. The difference between the values of

sites at different locations increases because differences in the amount of accessibility increase.

D. THE NATURE OF SPECULATION IN THE SUBURBAN LAND MARKET

The term "speculation" today has the associated sinister overtones of land market manipulation and price gouging with the result that there have been numerous public outcries to prevent or at least control speculative activity. While proposals aimed at preventing speculation are laudable in the sense that they are oriented towards admirable ends, it should not be thought that simple control of the resale value of suburban land (developed or otherwise) will necessarily bring about moderation of housing prices. Most of these control proposals have ignored the basic workings of the market and hence have not been concerned with its overall operation, but rather only one facet of it. This misunderstanding constitutes a serious error.

Many claim that land speculators can actually increase prices. However, this is not really true. Speculators could only raise prices by collectively restricting supply so that overall demand exceeded overall supply. However, speculators, by their very nature, are not collectively organized. Rather, the speculative segment of the population appears to be composed of a myriad of different operators (doctors, teachers, dentists, politicians, or their spouses, etc.) who by their very diverse backgrounds make it doubtful that they could operate in a collective manner. What speculators do in effect is simply take advantage of price increases which are possible under existing market conditions. Land speculation, therefore,

is an effect, not a cause of increasing land and housing prices. Of course supply restrictions through speculative activity may have a marginal effect on a micro-scale but speculation certainly cannot affect the market to the level commonly believed.

This misconception about the role and effect of speculation on the land market has been common. Consider, for example; "Inflated land values due to speculation have become a main cause, along with high mortgage and interest rates, contributing to the rising costs associated with urban development" (Ward, 1974), "Much of the cause for this high markup of urban land is directly a result of profiteering and land speculation" (Hellyer, 1969), or "Land values assume a sharp upward trend due to the widespread practice of anticipating in advance further increases in land values and capitalizing on those anticipated rises based on the initial price . . . to force land values out of line with productivity" (Renne, 1947). How speculation and profiteering can manipulate the market or "anticipating further increases in land values" actually force land values out of line is not really made clear, although it is a de facto assumption that they do so.

Clawson states that the real opportunity for a speculative profit in the suburban land market arises entirely out of errors of consensus or "out of individual judgments more astute than the consensüs" (Clawson, 1962).

"If there were complete knowledge as to the time of future conversion, as to value at that time, as to holding costs and as to the discount rate, then obviously everyone would be in complete accord as to present worth. There would be no opportunity for speculative gain because all the future value would have been fully and accurately discounted to the present." (Clawson, 1962)

In this sense Clawson is arguing that speculation is not only normal but also inevitable. Land speculation, sprawl, and intermingled idle land, he argues, are natural outgrowths of our present economic and institutional forces at work in the market place, not perversions of them.

Speculation, therefore, as Ratcliffe and Hamilton (1972) contend, is a continuing process that will occur in almost any market which is subject to a myriad of uncertainties and imperfections. If supply is restricted in the face of demand so that speculation can occur so flagrantly as it has in the past few years, the vital question is one of control (monopolistic, fiscal, administrative, or otherwise) of the supply of the market and not one of control of speculation within that market.

The really confusing (and hence interesting) aspect in this "speculation" controversy is the distinction between speculators and developers. Suburban development in most urban areas today exists in an oligopolistic form. A few private developers control vast amounts of land and as they are normally the sole providers of serviced land (largely through default by the public sector) charges of "speculation" and "manipulation" have often been levied against the development industry. It cannot be denied that developers, being land owners, have gained measurably through simply owning large amounts of land in a tight market situation (remembering of course that speculation per se is a residual, not a causative, factor). It is inevitable, as Blumenfeld (1973) notes, that anyone who assembles land well in advance of development cannot avoid being speculative.

Now, with the average speculator (meaning the private individual or small

corporation who simply "wheels and deals" in land hoping to make a profit on upward trends in market prices), we have a situation wherein the speculator simply pockets such "unearned increment" as society allows, but he certainly cannot create this increment. With the large developer, the situation is less straightforward.

Developers are suppliers in the market place. Prices are set by supply and demand. When supply is less than demand, prices rise. When prices rise the speculative element is able to pocket "unearned increment". But not only is the speculative element able to do this, but also all landowners, including the development sector. Thus the development sector also profits from a shortage in that very item with which they are most concerned: supply. In this sense there may exist a potential benefit in the supplier curbing his own activity.

This is pretty much a standard argument which continually crops up in anti-developer writings and discussion, the whole point being one of condemnation of the private development industry. However, this argument deserves a bit more thought. Why do developers under-supply the market? There would seem to be two major reasons: firstly (and at this point in time, more importantly), the development sector may not be able to supply much more than it is currently supplying due to the municipal and provincial restrictive controls which it faces. Only so much land at any one time can be provided with the required trunk services by the municipality (due to various factors such as lack of capacity in the existing system, lack of necessary finances, or a policy of limited expansion at any one time). In this sense such supply restrictions are external to the de-

veloper's operations and beyond his control. Secondly, it must be remembered that the developer is a private business firm and as such is concerned with such factors as profit making, market share, and continued economic viability and operation within the community. By being overly optimistic and developing too many lots or building too many houses in a year, the developer may face crippling tax and carrying cost bills, so serious in fact that unwise decisions like this can be disastrous for the viability of the firm. Consequently it is only prudent for the firm not to enter into a dangerous over-supply situation. Thus the market will always be less than fully supplied, speculators will be able to pocket unearned increment, and developers will be able to speculate. This is not meant to be a condemnation or approval of developer activities. It is rather simply a statement of what is happening now and what can be expected to happen in the future even if all the necessary trunk facilities were available. In view of the high degree of emotionalism surrounding most debates about the development industry, it is a statement which should deserve some thought.

As mentioned previously, a land speculation tax has frequently been suggested as a means of eradicating this unearned increment characteristic of speculation. While this is quite an inadequate method of attempting to solve this problem, there is an additional potential drawback. As Blumenfeld suggests, such land taxes may not only deter speculators from buying land in the first place (although that will not of course significantly lower prices) it may also encourage speculators to not sell their holdings. This may then lead to a further restriction of supply and consequent rise in prices. It may only be a short-run effect but

nonetheless is one which should be taken into consideration. What really is required, so Blumenfeld argues, is a revamping of the whole real property tax structure as it applies to land and housing. Land speculation taxes simply tax the capital gains when property changes hands; if the tax is sufficiently large the owner may decide to keep his land rather than pay a high tax. A yearly property tax which emphasizes land and de-emphasizes structures (contrary to today's policies) would discourage people from holding on to land for any length of time. If the speculative element were discouraged from investing in land then it might not be necessary for developers to maintain such large land banks. This would mean that developers would require less capital to remain in business. Smaller firms would then be able to compete and a greater degree of competition would characterize the market.

E. CONCLUSION

The whole question of the suburban land market and the speculative process is one which could fill endless volumes and still never be satisfactorily answered. This chapter has attempted to encapsulate some of the more common theories and attitudes towards land and speculation largely in an introductory sense, introductory, that is, to the following chapter on the land development process.

THE LAND DEVELOPMENT PROCESS

Chapter
four

A. THE RESIDENTIAL LAND DEVELOPER

The residential land developer's primary function is to take a tract of raw (normally agricultural) land, apply the necessary capital, expertise and material inputs to produce serviced lots which are then sold to a house builder. Chamberlain cites five factors of production characteristic of a developer: land, labour, capital, entrepreneurial skill, and "official approvals" (Chamberlain, 1972). The capital inputs are high and the process requires considerable knowledge of the local land market, trends in consumer preferences and the development approval process which must be followed in that area. The conversion process is lengthy and at times risky and, therefore, somewhat of a specialist entrepreneurial undertaking. Justifiably, therefore, this undertaking should result in some profit. While critics often charge that land development profits are excessively high, especially considering the way in which land inventories are treated, it would largely seem to depend on whether one is considering the process from the point of view of a businessman, politician or academic. Most developers have remained somewhat uncommunicative about their profit situations. However, conversations with some of those in the development business in the summer of 1975 indicated that a 20% to 25% markup over cost was necessary for the firm to remain viable. The cost aspects of land development are discussed more fully in Chapter

VI.

The process of land conversion involves changes of two kinds: physical and legal (Chamberlain, 1972). Physical changes of course are those involving actual alteration of the land itself while legal changes are those incorporated in zoning changes, official plan approvals, and by-laws. Public sector actions can and do have a major impact on the direction and rate of profit in land conversion.

The land development firm is a business firm, and as such its three major concerns are profit, continued economic viability, and the firm's status within the community. In this sense it may be noted that the interests of a developer and the interests of a public agency engaged in the same endeavour are not always identical in that public agencies may consider criteria other than economic profitability as the measure of their success in an undertaking.

B. DEVELOPERS IN WINNIPEG

Research elsewhere in Canada (Chamberlain, 1972 and Ratcliffe and Hamilton, 1972) has generally concluded that genuine land developers do not as a rule maintain large land banks, at least on a long-term basis. To quote Chamberlain (1972): "The essence of their (the developer's) operations is its entrepreneurial character; their objective is to avoid 'tying up' their capital any longer than is absolutely necessary".

Neither Chamberlain nor Hamilton and Ratcliffe indicate exactly what they

consider to be large land banks. Considering the Winnipeg situation, it would appear that local developers do maintain rather large inventories. Perhaps the size of the urban area has some bearing. Hamilton and Ratcliffe's research was in the Vancouver area, while Chamberlain dealt with Toronto. Developer populations are much larger in these two cities than in Winnipeg and competition to develop may be much stronger. In Winnipeg only four major private land development firms are in operation and at present each maintains a sizeable land bank. Essentially it may be a circular question; are there only four major private firms because they control so much of the market that competition is effectively barred, or has the lack of competition in the Winnipeg area permitted relatively easy assembly of large land banks?

During the course of this research representatives of the private industry in Winnipeg emphasized the importance of their land inventories. The maintenance of a sizeable inventory is considered to be every bit as essential to the developer's operations as the actual servicing of the land. A developer will attempt to maintain a reserve of raw land to avoid being at the mercy of speculators in the future when it comes time to purchase additional land for development. In this sense developers are claiming that they are not so much trying to control the land market as they are attempting to avoid being "caught short". However, in their very avoidance of being caught short they have attained a considerable degree of market control.

At present in Winnipeg the four major residential land development firms are B.A.C.M. Industries Ltd., Qualico Developments Ltd., Ladco Company

Ltd., and Metropolitan Properties Ltd. As well, both the Manitoba Housing and Renewal Corporation and the City of Winnipeg maintain sizeable land banks but as yet have not undertaken major developments. Certain other development firms operate in the City but their orientations may be more towards commercial and industrial office developments (such as Winfield Developments Ltd.) or downtown office/apartment/hotel complexes (such as Lakeview Properties Ltd., Bestlands Ltd., etc.).

Following is a brief historical description of the four major private developers. The B.A.C.M. complex is not dealt with in the same manner as the other three simply because it is so big and so complex. Rather B.A.C.M. is used more as an example of how private land development firms came into existence and how they grew to their present positions.

1. B.A.C.M. INDUSTRIES LTD.

B.A.C.M. Industries Ltd. is today the largest land developer in Winnipeg (and, for that matter, one of the largest in western Canada) and, interestingly, its beginnings were perhaps the most modest of the four major land developers operating in the City at present. In the 1930's the Simkin family left their farm and moved into Winnipeg beginning a small family-operated wood and coal supply business. Realizing the potential of construction that followed immediately after the Second World War the decision was made to enter the general contracting field. Surplus army construction equipment was acquired, agreements were entered into with equipment supply companies, and in 1948 Simkin's Construction Company Ltd. was incorporated as a general construction contractor.

In 1950 Simkin's Construction Company Ltd. entered the field of highway construction and earthmoving and in 1951 commenced gravel crushing operations for the Canadian Pacific Railway. Shortly after this the company began large-scale construction of municipal facilities in Greater Winnipeg and the development and improvement of raw land for homesites.

The financial predicaments that many of the urban municipalities found themselves in immediately following the War proved to be a boon to those private businessmen who were able to marshal the requisite capital and who were willing to take the necessary risks to engage in housing and land development. Many of the smaller urban municipalities had defaulted on their bonds and debentures during the Depression and consequently had received very poor credit ratings.¹ Immediately following the War there existed an unfulfilled backlog of demand for housing for which the municipalities were unable to provide the necessary servicing utilities. No credit was available from the various banking institutions nor would the provincial Utility Board approve the necessary money for development. The only course of action, therefore, was for the municipality to either stall development or to look for alternate financing for the necessary services. Most municipalities, being desperate for revenue, looked on large-scale residential development as being a very lucrative source of badly needed tax revenue funds. Thus these municipalities were only too willing to consider development proposals that would increase their tax

¹Interestingly, at the same time that these municipalities were facing bankruptcy, many landowners within the municipalities were defaulting on their taxes so that while the municipalities were going broke they were also amassing large land banks of tax-forfeited land.

revenue base. Various methods were worked out to solve this financial dilemma, most of them involving what were at that time large amounts of "front-end" money from the private sector, a supply of unserviced or semi-serviced land from the municipalities' tax-forfeiture land banks, and a great deal of faith on the part of both. Compared to today's situation of mutual distrust of all parties by all parties (wherein no one company or administration is willing to enter any endeavour without iron-clad guarantees), the immediate post-war period of high risk undertakings by the private sector and trust by the municipalities must surely be notable.

The evolution from a small-size firm to a larger one was in some sense natural given the conditions of the times. As development progressed so did the requirements for larger-sized water and sewer pipes and consequently the needs for larger and larger capital investments. The lack of direct investment by any level of government into land servicing for housing meant that the private sector was left with the task of arranging the necessary financing. In this sense it may be suggested that lack of government commitment destroyed the competitive base of many of the smaller firms and was one of the factors leading to the concentration of land development into the hands of a few big business concerns.

As the needs for capital for development surpassed the smaller house-builder's financial ability many of the housebuilding firms verged on bankruptcy. Simkin's by this time had engaged in land development on a fairly large scale (for those times) and in order to better rationalize

their development they purchased Model Homes in the early 1950's to act as the housebuilding arm for the firm. In this period it was not uncommon for short-lived syndicates to be formed for capital borrowing purposes and then be dissolved once the specific project had been completed. However, the increasingly expensive nature of land development required bigger and more permanent syndicates which would be able to establish more permanent lines of credit. Thus in December of 1960 Simkin's combined with another local independent construction firm, Tallman Construction Company Ltd., to form Continental Industries Ltd.² Prior to this the two had operated independently but often in a complementary manner on various construction ventures. The name Continental Industries Ltd. was changed to British American Construction Materials Ltd. in July of 1961. Its larger size permitted the company to obtain bigger financing commitments and in 1962 a several million dollar line of credit was obtained from New York (after the firm had been rejected by Toronto-based financiers). In 1967 the name was altered to B.A.C.M. Industries Ltd.. B.A.C.M.'s growth has been typical of many of the larger conglomerates. In 1961-62 it acquired Western Concrete Products Ltd. of Brandon; in 1966 it acquired Engineering Building Ltd.; in 1967 it established Truroc (Edmonton) Gypsum Ltd. (wallboard manufacturing); in 1968 it acquired Standard Holding Ltd., Standard-General Construction (International) Ltd.,

²Tallman's dates back even further than Simkin's and its history is much the same. The predecessor to Tallman Construction Company Ltd. was founded in 1920 by Mr. A. M. Tallman. Initially the company engaged primarily in earth-moving but in 1948 the firm entered the heavy construction business (sewer, water, etc.). In 1950 it entered the sand and gravel supply business and in 1951 began concrete and asphalt paving. In 1955 a ready-mix concrete business was established.

and Consolidated Concrete (Calgary) Ltd. In 1969 it bought Con-Force Ltd. and Redi-Mix Ltd. of Regina. In 1970 it acquired Rex Holdings Ltd. of Edmonton and in 1971 it bought Keith Construction Company Ltd., Kelwood Corporation, Borger Construction Company (Edmonton) Ltd., Edmonton Concrete Block Company Ltd., and Calgary Pipe Plant Ltd. As well in 1971 B.A.C.M. acquired Sun Gold Investments Ltd. (a Calgary land developer) and in 1972 it bought Pacific Prestress Ltd. of Vancouver, integrated it with Con-Force and assumed management responsibility for Ocean Construction Supplies Ltd. of British Columbia.

B.A.C.M. Industries itself became a subsidiary of a much larger international conglomerate (now known as Genstar Ltd.) in 1968 although it has continued to operate in a highly independent manner.

Genstar was first incorporated in Canada in 1951 as Sogemines Ltd., an investment company set up by Societe Generale de Belgique (S.G.B.) of Belgium. The name Genstar was adopted in 1969. The beginnings of S.G.B. date back to the early 1800's and the corporation has had a long history of investment in many parts of the world.³ The decision to invest in North America may be looked on as being a natural step for a company of this nature. Sogemines (Genstar) has had a wide portfolio of investments ranging from steel, coal and other mining ventures to marine transportation and towing. In acquiring other companies Genstar

³Among some of the more illustrious undertakings were the building of railways in pre-revolution czarist Russia and reportedly the financing of a private army during the abortive Katanga secession in the Congo in the early 1960's.

usually follows a policy of offering part of its own shares for shares of the company in question. Consequently, while the Belgium investment in North America has grown considerably, their direct ownership of Genstar has become considerably diluted so that today only 7% or 8% of Genstar is owned outright by S.G.B. Although charges are frequently aimed at Genstar as being a foreign-owned corporation the majority of shares are now owned by Canadians. In 1972 Genstar acquired Ocean Cement and Supplies Ltd. through this type of share exchange. Controlling interest in Ocean Cement at that time was held by Associated Port and Cement Manufacturers of Great Britain. Consequently, A.P.C.M. now has a considerable share of Genstar.

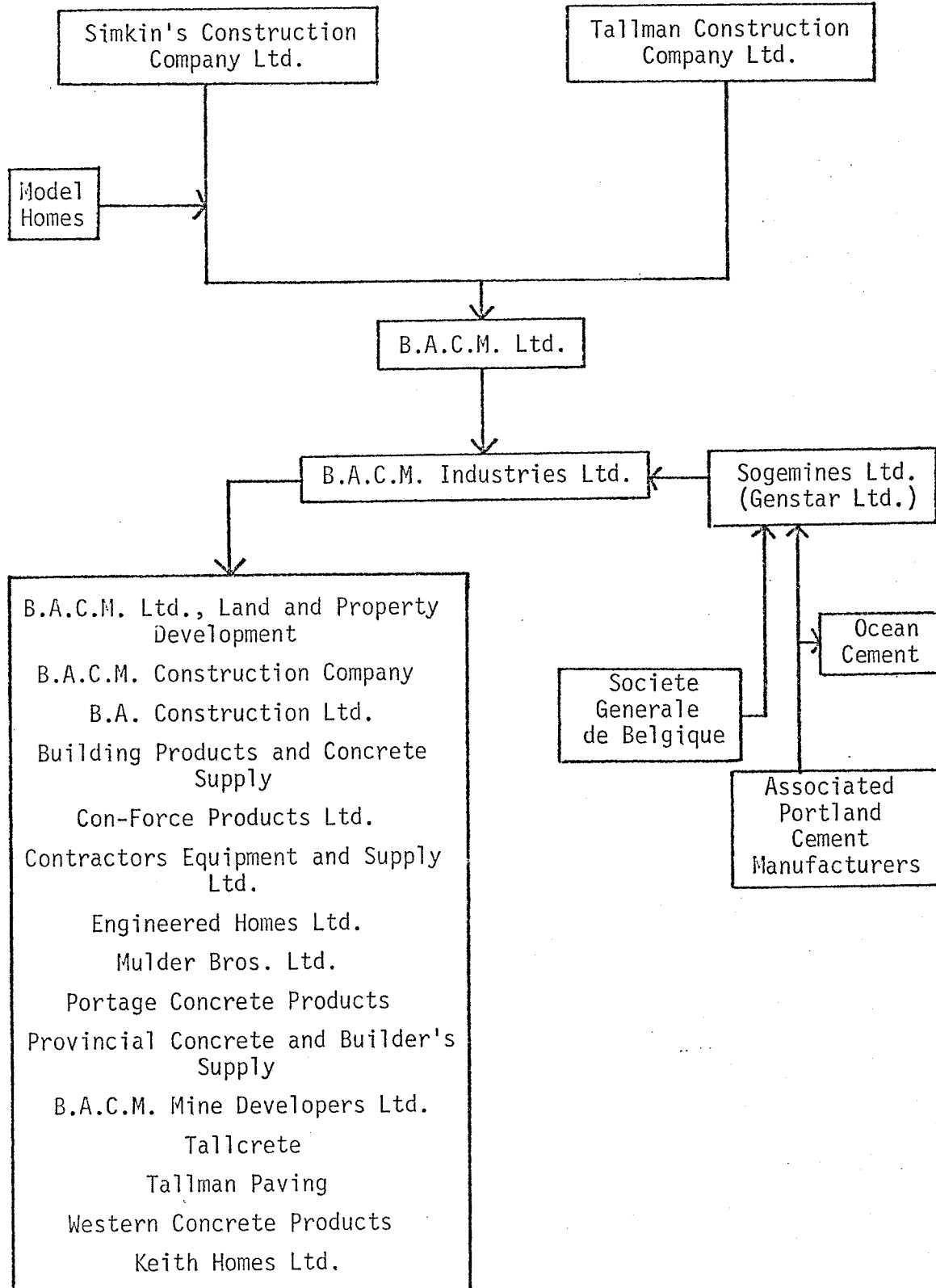
At present in Winnipeg B.A.C.M. develops 600 to 700 lots per year and builds around 300 houses.

2. QUALICO DEVELOPMENTS LTD.

Qualico Developments Ltd. was originally incorporated in Manitoba in 1951 as the Quality Construction Company Ltd. The company was formed by Dr. D. Friesen and has remained a wholly owned private enterprise in contrast to some of the other major developers. In 1953 Quality opened a Calgary office and in 1954 another branch was established in Edmonton. As well an office was opened in Regina in 1956 but ceased operations within a year or so. In the early 1970's operations were expanded into the Vancouver area. Star Building Materials Distributors Ltd. was formed in Winnipeg in 1958 as a wholly owned prefabrication plant and materials supplier. In 1967 the Rancho Realty Company was formed to deal with the

FIGURE D

B.A.C.M. Industries Ltd.



marketing of both new and used houses and a branch was formed to act in a property management function. As well an insurance branch now exists to provide various insurance coverages for the houses and buildings constructed.

Although originally only a builder it soon became obvious that in terms of projected housing growth and Quality's share of the market, the company could not be assured of a steady supply of serviced land from other developers or the municipalities. Consequently, starting in the late 1950's, Quality began acquiring smaller tracts of land and servicing them. The raw land acquisition function got into full swing in the late 1960's and Quality became one of the largest landbankers in western Canada.

In 1972 a major reorganization took place and Qualico Developments Ltd. was formed. Although it was incorporated in Calgary (which has evolved into the corporation's largest branch) the head office still remains in Winnipeg. Quality Construction has now been phased out and the entire developing-building function comes under the name of Qualico.

As mentioned previously Qualico (through its subsidiary Star Building Materials Distributors Ltd.) engages in prefabrication on a relatively large scale. Items such as wall sections, roof trusses and plumbing assemblies are constructed in the plant and then assembled on the site. This is in contrast with most builders who "stick" build. Qualico maintains a permanent staff of around 300 persons and consequently must be in a constant producing function to avoid employee lay-offs. Some

specialist work such as heating, electrical, and plumbing installation is done on a subcontract basis. In fact, some subcontractors work only for Qualico and in a sense are permanent subcontractors. This is common with many of the major builders.

In operation the Winnipeg branch appears to follow a somewhat flexible policy of making a number of lots in their subdivisions available to other builders. Besides providing good variety it is felt that this policy is better from what may be termed a public relations/political perspective. This is also advantageous for the small non-affiliated builder. A large developer such as Qualico is probably better able to establish and maintain liaison with City administration officials than a small builder. Thus Qualico stands a better chance of having its plans approved and small builders, therefore, are assured of having a steady stream of lots available. Qualico exercises a loose form of quality control over the builders who operate in their subdivisions. This is largely to prevent disharmonious houses being built side by side.

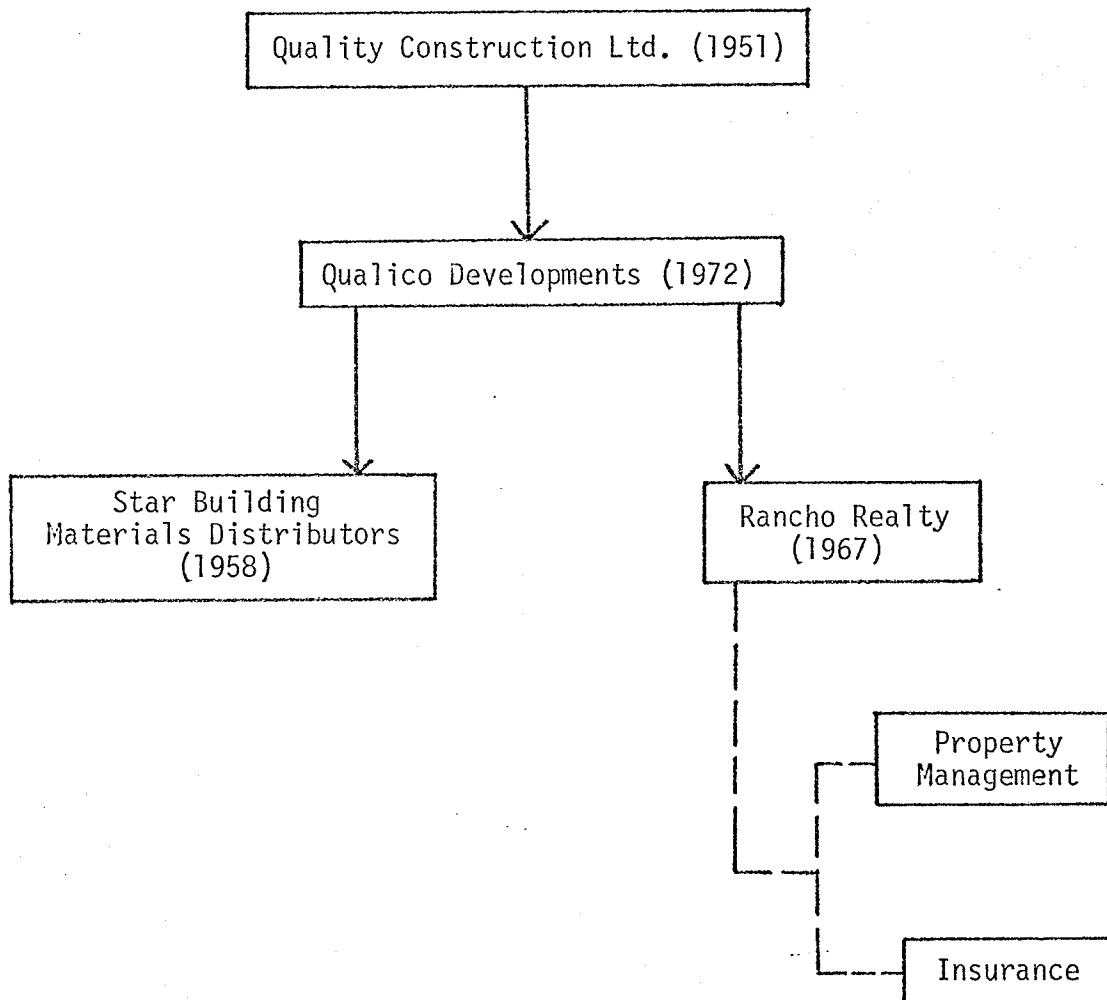
Qualico is currently servicing about 600 or 700 lots per year of which about 450 are built on by the company itself. Some commercial development is done in its own subdivisions and the company now has around 520 apartment units. The commercial/apartment business is managed by the Property Management branch.

3. LADCO COMPANY LTD.

Lado Company Ltd. (the Land Assembly and Development Company) was incor-

FIGURE E

Qualico Developments Ltd. (Winnipeg)



porated in 1955 as a local developer and since then has operated solely within Manitoba. Ladco itself did not originally exist as a house builder which was forced into land development through serviced land shortages as has been the case with most developers. Its creation, however, was due to that same land shortage problem. Many smaller builders faced with restricted lot supplies pooled together to form what may best be described as a "builder's co-op". The function of this co-op was to engage in pure land assembly and development and thus provide an adequate supply of serviced lots to the shareholders. Originally there were 60 shareholders of varying size but over time as some of the smaller "family" builders retired or left the housebuilding business their shares were acquired by other interests. Today the controlling interest in Ladco is held by Borger Industries Ltd.

The Borger group first originated around 1920 as Henry Borger and Sons Ltd. and engaged in small construction projects. The company has continually grown and in 1963 Borger Brothers Ltd. superseded the former company and in turn was soon replaced by Borger Industries Ltd. Besides acquiring controlling interest in Ladco, Borger also acquired a large share of Supercrete Ltd. This enabled Borger Industries (and hence Ladco and its housebuilders) to be assured of concrete supplies when needed and better rationalize their construction and development activities.

Originally Ladco operated purely as a land developer but encountered problems at times in disposing of all its serviced land (especially if builders had made prior commitments elsewhere). Thus, in order to avoid being caught with a large unsold inventory, a housebuilding arm was ac-

quired in 1960. The firm acquired, Home Developments Ltd., was actually one of the original shareholders of Ladco so in effect Ladco acquired some of its own shares. At the time of this writing, Home Developments has been phased out in name and the term Ladco Homes Ltd. is now employed.

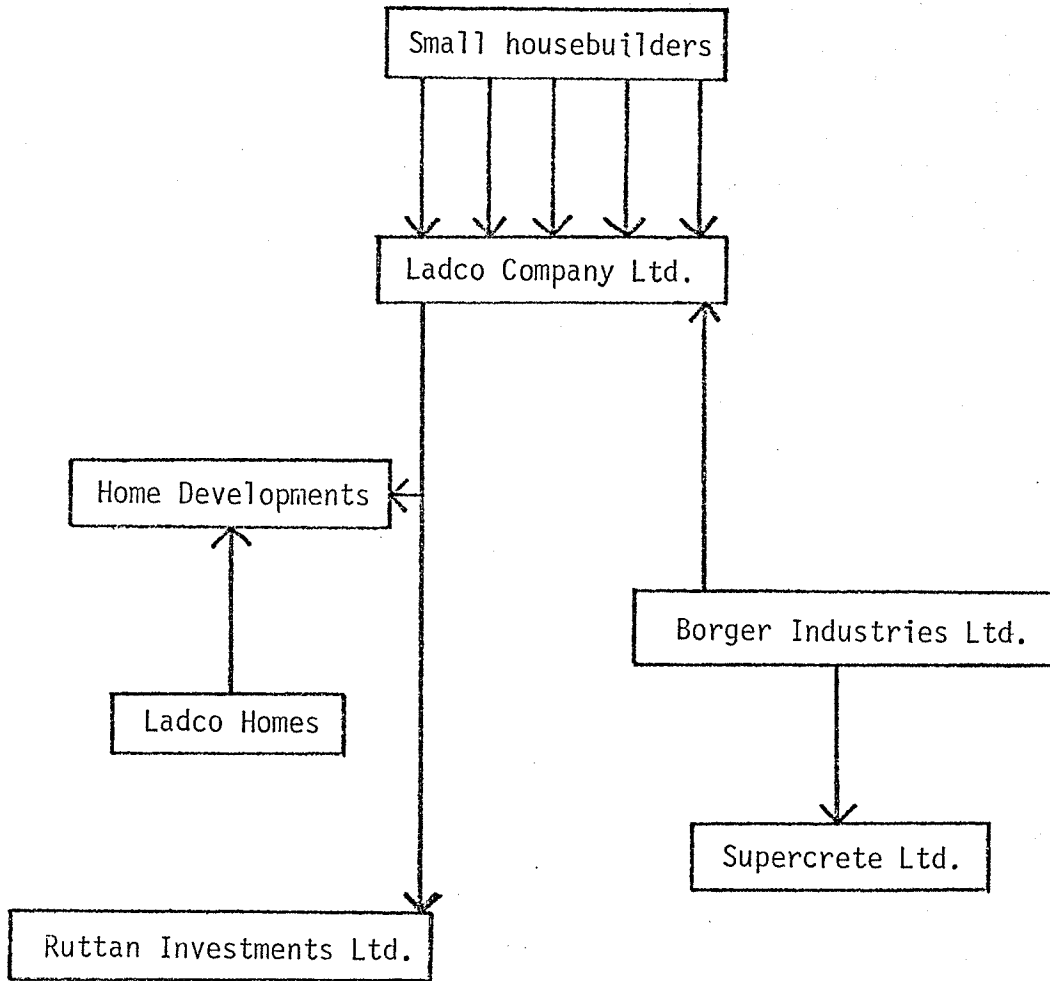
Ladco currently develops around 500 or 600 lots per year and builds upon approximately 250 of them. Quality control is exercised over other firms building on Ladco land so that a very high quality subdivision is produced. Ladco subdivisions generally may be classified as upper middle class/upper class and the houses are in the upper price range. Ladco does engage in some commercial and apartment construction and currently is in the process of developing a hotel complex. Its high-rise construction is largely carried out through the Ruttan Investment Corporation in which Ladco has a controlling interest.

4. METROPOLITAN PROPERTIES LTD.

Metropolitan Properties Ltd. has risen from modest beginnings to be one of the larger developers in Winnipeg and the largest volume housebuilder. In the mid 1950's Metropolitan Construction Ltd. and Metropolitan Homes Ltd. were incorporated with the former being a general construction firm engaging in many diverse contracting jobs and the latter being a house-builder and merchandizer. Besides being a contractor, Metropolitan Construction engaged in the prefabrication of components for housing and maintained a large inventory of building materials.

In the mid 1960's Metropolitan Construction left the construction field

FIGURE F
Ladco Company Ltd.



and Metropolitan Homes ceased its building and merchandising function. Four building divisions were formed and Metropolitan Homes became a central broker and land owner. These four firms operated with Metropolitan in a loose partnership with Metropolitan being the developer and land supplier for the housebuilders. In 1970 the International Development Corporation was formed to act as a land inventory company for Metropolitan. In 1972 the four housebuilding divisions, Kensington Homes, Castlewood Homes, Manor Homes, and Heritage Homes, were incorporated as independent firms and Metropolitan Properties Ltd. was formed as the central land developer. Since that time the four housebuilders have operated in a very independent and highly competitive manner within the Metropolitan organization. A realty company, Crown Realty Ltd., was also formed but has operated in an independent manner, quite unlike the function of Rancho Realty in the Qualico organization.

Heritage Homes traditionally concentrated in the west (Charleswood and St. James) area while Kensington has concentrated most of its activity in Transcona. Castlewood Homes operated more loosely in the areas between the other two, mainly in East and West Kildonan and Lord Selkirk. Manor Homes basically serves an infilling function picking up small parcels of land which others have passed over. The Headway Corporation, a Thunder Bay developer-builder, ceased operations in Winnipeg in the early 1970's and its assets were acquired by the Metropolitan group. While Castlewood Homes and Kensington Homes acquired considerable amounts of Headway's land, Manor Homes took over most of the partially finished and unmarketed housing units. In 1976 Heritage Homes announced it would cease operations. One of the major difficulties cited by Heritage was

its inability to be assured of a constant and reliable source of land. While this has been the problem with the other builders as well, both Castlewood and Kensington have engaged in their own land assembly and development at times in order to be assured of serviced lots.

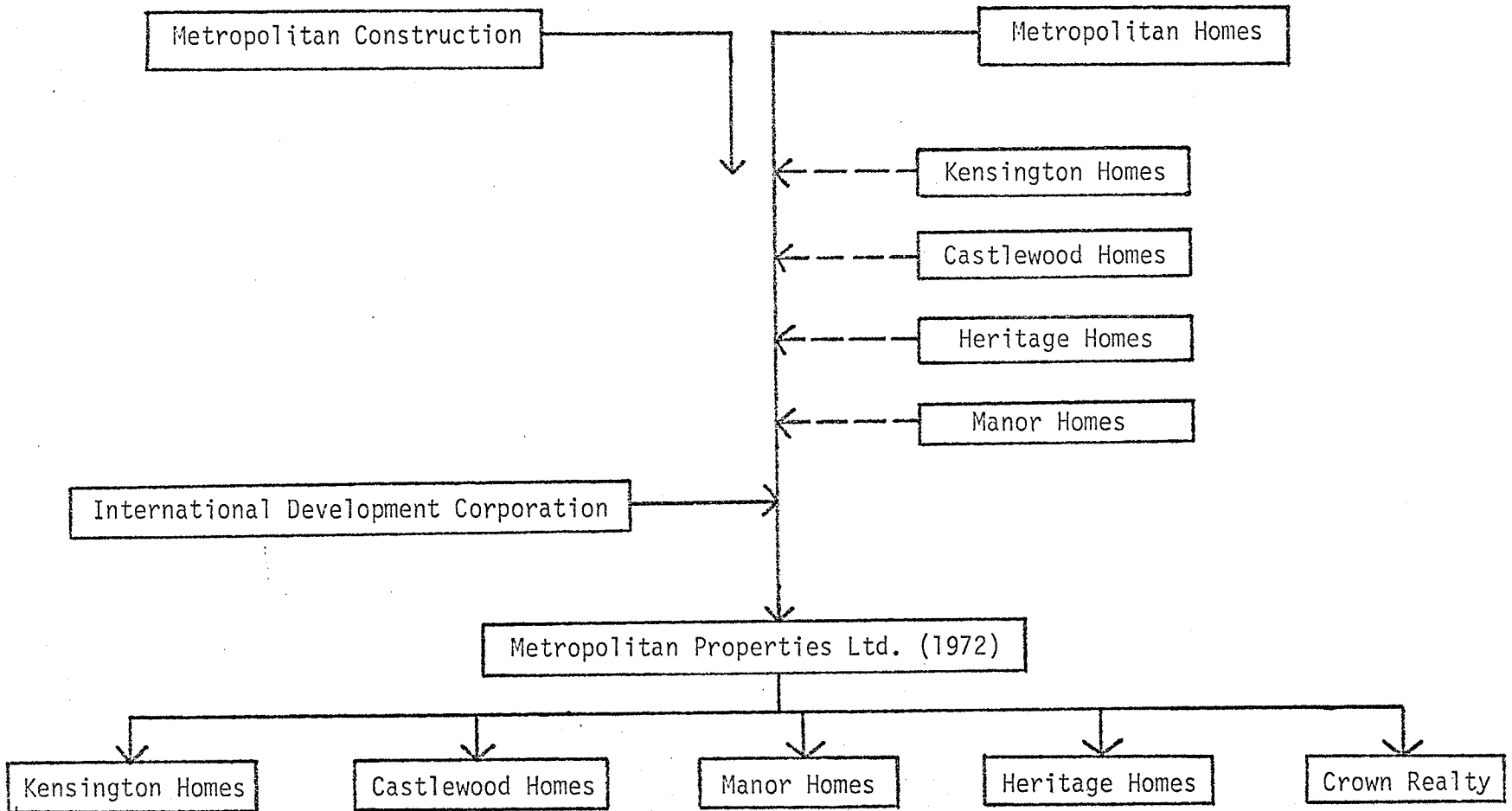
The Metropolitan organization, therefore, is one which covers a fairly broad area in terms of housing production but unlike B.A.C.M. is not a classic example of the vertically integrated corporation. Metropolitan is a private corporation and all the housebuilding subsidiaries are owned jointly by Metropolitan and by their general managers. Not having its own subsidiary supply and construction functions means that considerable reliance must be placed on outside firms. While this may entail some disadvantages there is the advantage of flexibility in times of business slump. The Metropolitan group has been one of the more progressive builders and developers and has been the recipient of several awards for design and innovativeness. Metropolitan was the first to attempt leasing of lots in Winnipeg for residential housing and at one time produced a "consumer designed" house (The Forum House) which was one of the first attempts to engage the public in design.

C. RAW LAND INVENTORIES IN WINNIPEG

Total land area within the 12 Community Committee areas comprising the City of Winnipeg is 106,624 acres of which approximately 33,000 are undeveloped and lying within the Perimeter Highway. Of this, approximately 23,000 acres may be considered to be "developable" within the next few

FIGURE G

Metropolitan Properties Ltd.



decades.⁴ At the time of this writing, the four private development firms (B.A.C.M., Ladco, Qualico and Metropolitan) own approximately 11,000 acres while M.H.R.C. has just recently built up its land bank to approximately 4,000 acres. An additional 2,364 acres are either owned or are undergoing expropriation proceedings (by the City) under the terms of a joint City-Province land banking scheme. Table 3 indicates total vacant land, developable land, and the portions held by the major public and private agencies. The figures in Table 3 may be somewhat misleading in that considerable amounts of land are often held under option agreements. Thus while giving an overall picture of various land ownerships, Table 3 does not necessarily indicate all of the land which is controlled by those listed. A great deal of this "beyond-the-built-up-area" land is still used for agricultural purposes, although for reasons cited earlier in Chapter II, some of it is lying dormant.

Private developers consider a large land inventory to be essential and this inventory must be constantly replenished as development progresses. As mentioned above, the inventory actually owned may be supplemented with land held under option agreement. Options may give some of the advantages of full ownership without the concomitant risks and expense that come with ownership. Options are discussed in some detail in the financing section of Chapter VI.

⁴Personal communication from George Chuchman, Planning Secretariat of Cabinet, Province of Manitoba. This was determined by drawing a line around the edges of the major holdings on the urban periphery thus enclosing land earmarked for future development. See Figure H.

TABLE 3
Land holdings on the Winnipeg fringe -- November 1975

	Total of developable acreage*	Percent of developable land	Total of Community Committee acreage**	Percent of total Community Committee acreage
B.A.C.M.	4,700***	20.4	4,700	14.2
Metropolitan Properties	1,500	6.5	1,500	4.5
Qualico	1,800****	7.8	1,800	5.4
Ladco	2,500	10.9	2,500	7.6
Total large developers	10,500	45.6	10,500	31.7
M.H.R.C.	3,720	16.2	3,720	11.3
Joint City/Province	2,365	10.3	2,365	7.2
Others	6,416	27.9	16,416	49.8

*Total "developable" land = 23,000 acres or 70% of the total vacant land.

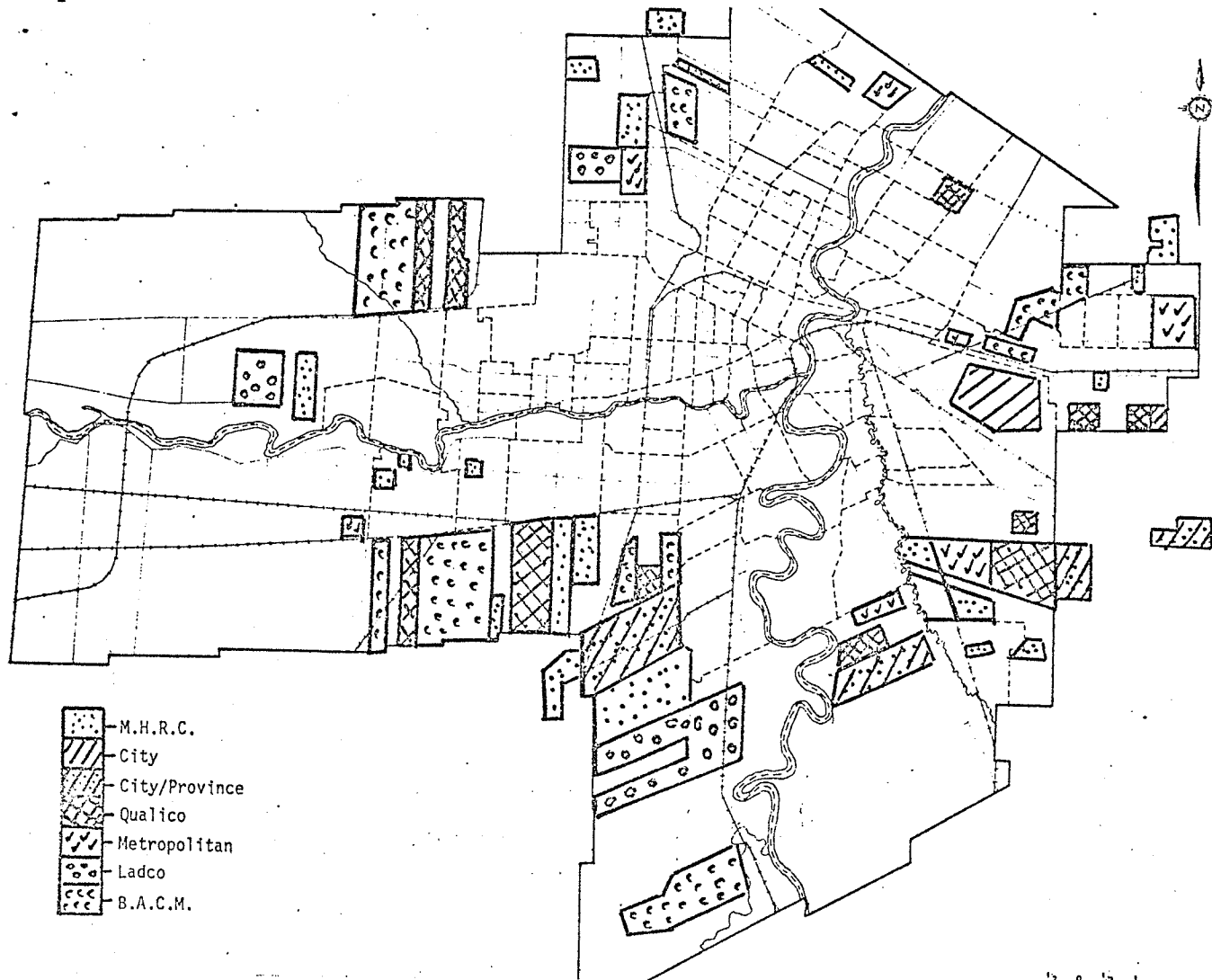
**Total vacant land with Community Committees = 33,000 acres.

***1,400 of these acres are south of the Perimeter Highway in the St. Norbert area.

****Qualico has control over additional 400 acres but this is being expropriated by the City as part of the joint City/Province land bank. The 400 acres have been included in the City/Province figure.

Source: M.H.R.C. and C. Chuchman, Planning Secretariat of Cabinet.

FIGURE H
Land holdings on the Winnipeg fringe



Chamberlain (1972) identifies four functions of the development process: site acquisition, preparation, production, and marketing. Site acquisition (or addition to inventory) is the initial step; often it is a test of the developer's entrepreneurial skills (for bad investments can spell financial disaster), and invariably it is expensive. Thus inventory acquisition and replacement is of prime importance.

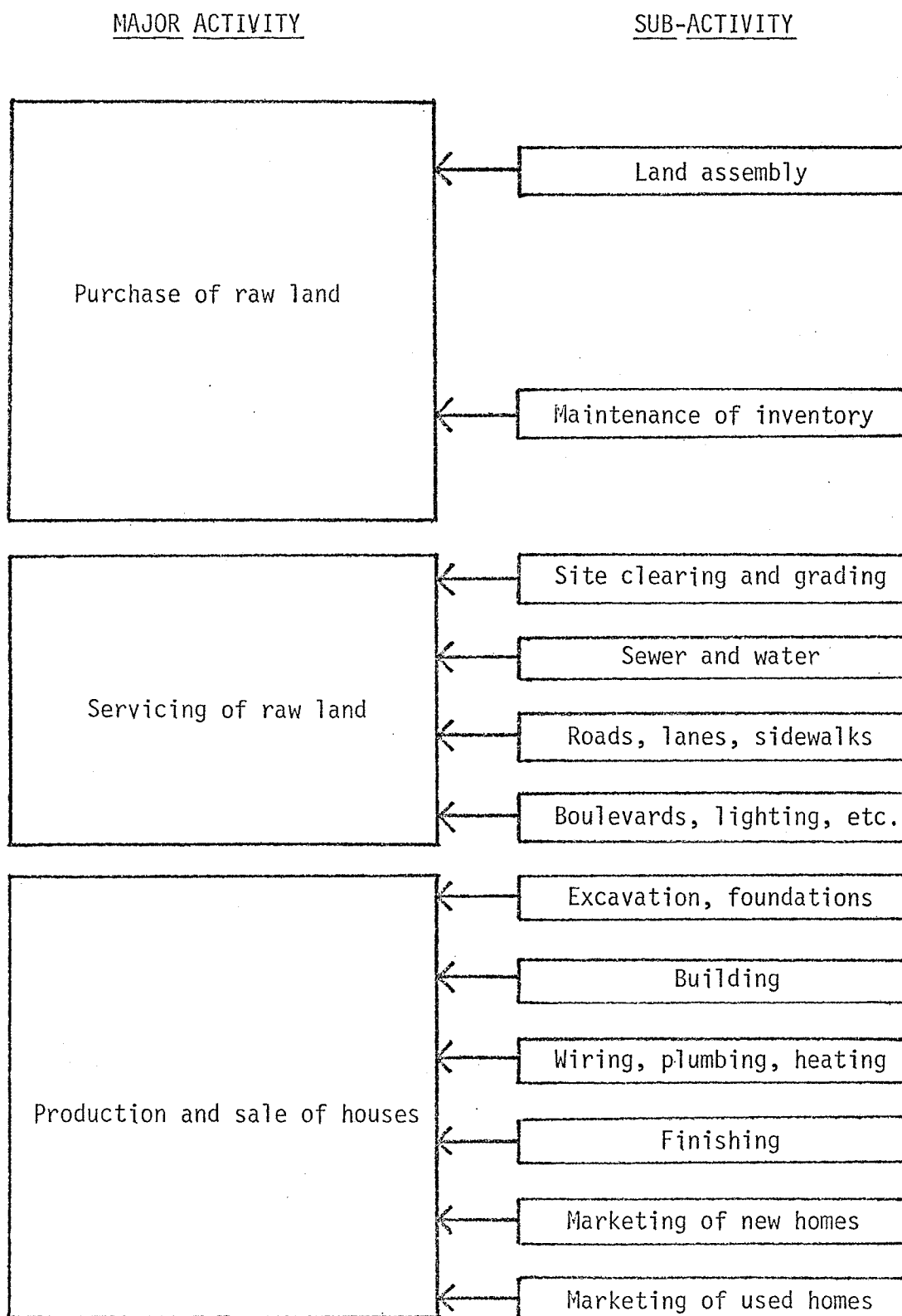
D. THE DEVELOPER-BUILDER

Whereas the developer's function is to service raw land and provide fully serviced building lots, the builder's function is to construct upon that serviced land houses which meet certain standards of construction and possess high marketability. As indicated previously in Section B, major development firms usually have subsidiary housebuilding firms (or more frequently both functions are wholly owned by a third holding or management company). Consequently, even though there may be two or more "independent" companies, we are in fact talking about a "developer-builder".

The activities of the developer-builder can be roughly grouped into three phases: the purchase of the raw land, the servicing of that land, and the production and sale of houses. Each of these major activities may be comprised of several sub-activities (often performed by autonomous subsidiary corporations) such that the overall activity resembles that indicated in Figure I. Each sub-activity may in turn have its own associated activity such as the production and supply of component materials. While it is not possible to speak of the developer-builder as being one single firm (in that it is composed of many sub but autonomous companies),

FIGURE I

Developer-builder activities



it is possible to think of it as a vertically and horizontally integrated entity. The actual organization may be quite complex and the firms are large in size and consequently few in number.

The reasons for such organizational complexity are many and varied: better taxation positions, less financial risk, limited liability, better market control and better rationalization of the overall marketing process. Besides, the relatively high cost of present-day land assembly and servicing functions are often beyond the realm of economic feasibility for smaller firms.

The advantages of larger firms are many. The economies of scale available through corporate integration not only permit the firm to partially overcome the high cost of development but also provide for flexibility of operations in times of market fluctuations. If the firm is financially stable, there will be less need for substantial outside financing of a development as much of the current development will be paid for by cash flow from past developments which are now being marketed. "Front-end" money for land development is as a rule very expensive tending to be 2-1/2 to 3-1/2 points above the prime lending rate. Furthermore, a large corporation will in all likelihood have better access to cheaper financing when required. The large size of operation permits the exercise of economies of scale and thus provides better bargaining positions. The large firm, with its vertical and horizontal organization, is better able to spread its financial risk and to limit liability, thus coping more effectively with changes in general economic conditions. Ultimately, therefore, the larger firm is in a better position to remain solvent

in times of economic adversity when a smaller firm might be forced out of business. Thus smaller firms have considerable difficulty when attempting to compete with larger developer-builders.

Perhaps most important of all is that the vertically integrated firm is largely independent of other firms and consequently is better able to rationalize its operations to obtain greatest efficiency and maximum profit. Assume, for example, a large vertically integrated corporation initiates a development of a sizeable tract of land. In a simplified form the scenario would operate as follows:

The land development company contracts its subsidiary sewer and water construction company to provide the necessary underground infrastructure. This company purchases its sewer and water pipes from a subsidiary pipe manufacturer. Similarly a subsidiary street construction and paving company receives the contract for the required streets, lanes and perhaps sidewalks. This includes the provision of the requisite fill, concrete and asphalt, all of which are purchased from subsidiary manufacturers and suppliers.

Once the land has been fully serviced the finished lots are sold to the developer's housebuilding company. Subsidiaries perform the necessary basement excavations and foundation paving (with the ready-mix concrete being purchased from another subsidiary). Some builders maintain their own work crews, others subcontract various segments to independent contractors (often with the provision that materials such as pre-cut lumber, gypsum wallboard, and concrete come from specified subsidiary companies --

see Bingeman et al., 1973). The finished products are marketed by the builder's marketing staff and often a subsidiary realty company handles the sale of older houses vacated when the new houses are purchased.

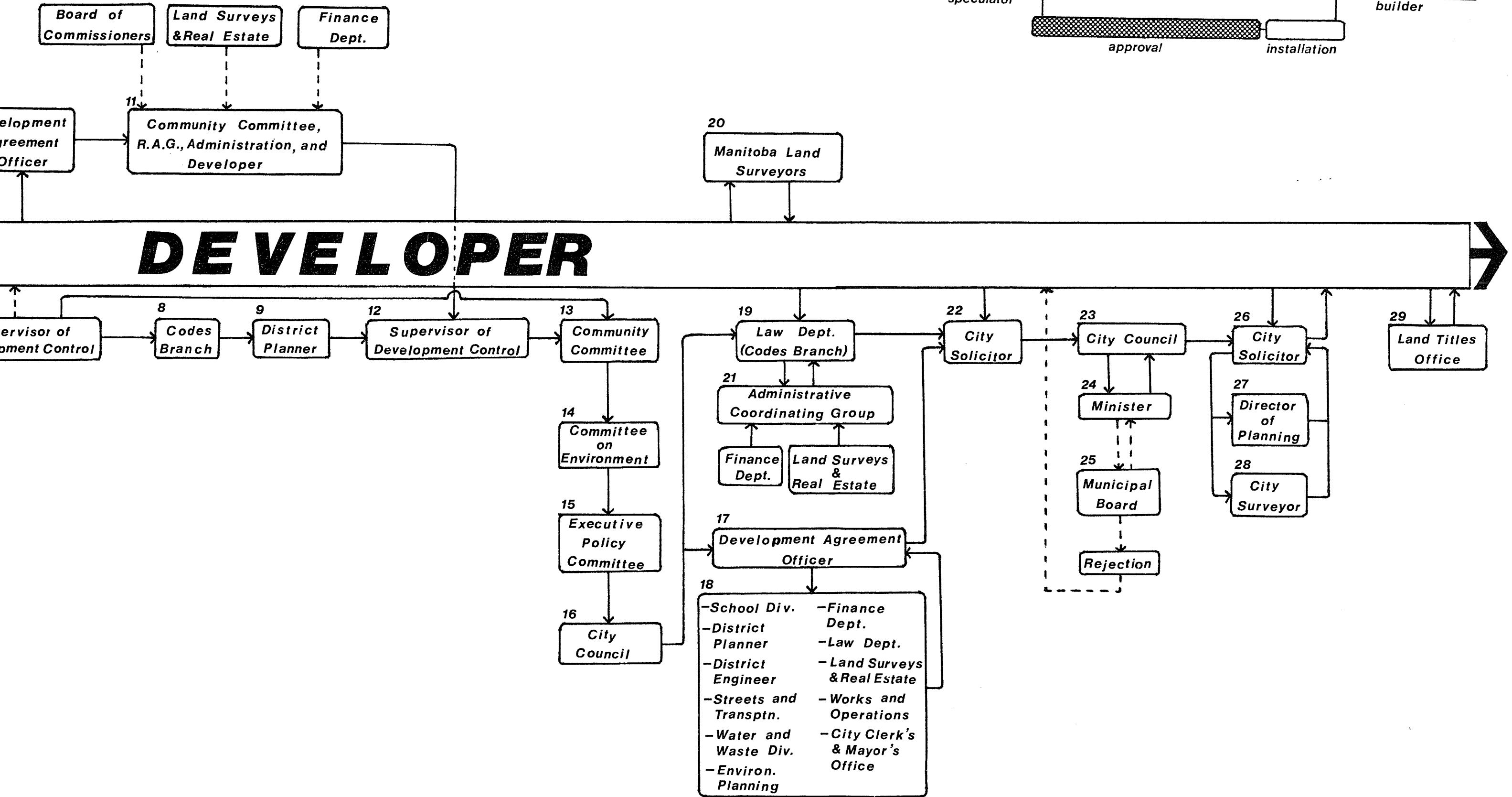
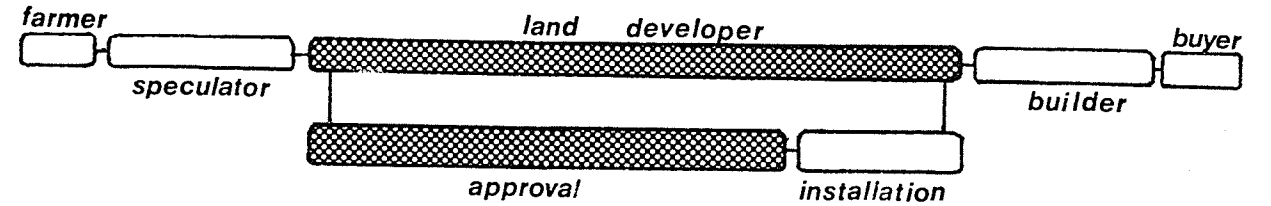
Each subsidiary, being an autonomous company, endeavours to make a profit on its ventures. Profits within the vertical organization grow progressively as the process continues and the overall complex retains a very high degree of independence within the industry. The ultimate cost to the consumer may not be significantly different than if the process had been completed by many varied and unrelated companies. For the developer-builder, however, the profit accumulation can be enormous.

Of course there are inherent disadvantages to large size. Large size usually infers sizeable overhead costs. The housing market has traditionally been one characterized by extremes in demand. Rapid changes in housing demand cannot be responded to quickly by a major developer-builder with high overhead and long-range commitments. This can be compensated for to some extent by shifting operations into other endeavours but considerable overhead will remain. Thus the large developer-builder must maintain a land inventory for a long-range program of development. In this sense, the pure land developer may be considered to be a captive market of speculative landholders.

E. THE PLAN APPROVAL PROCESS (refer to Figure 2)

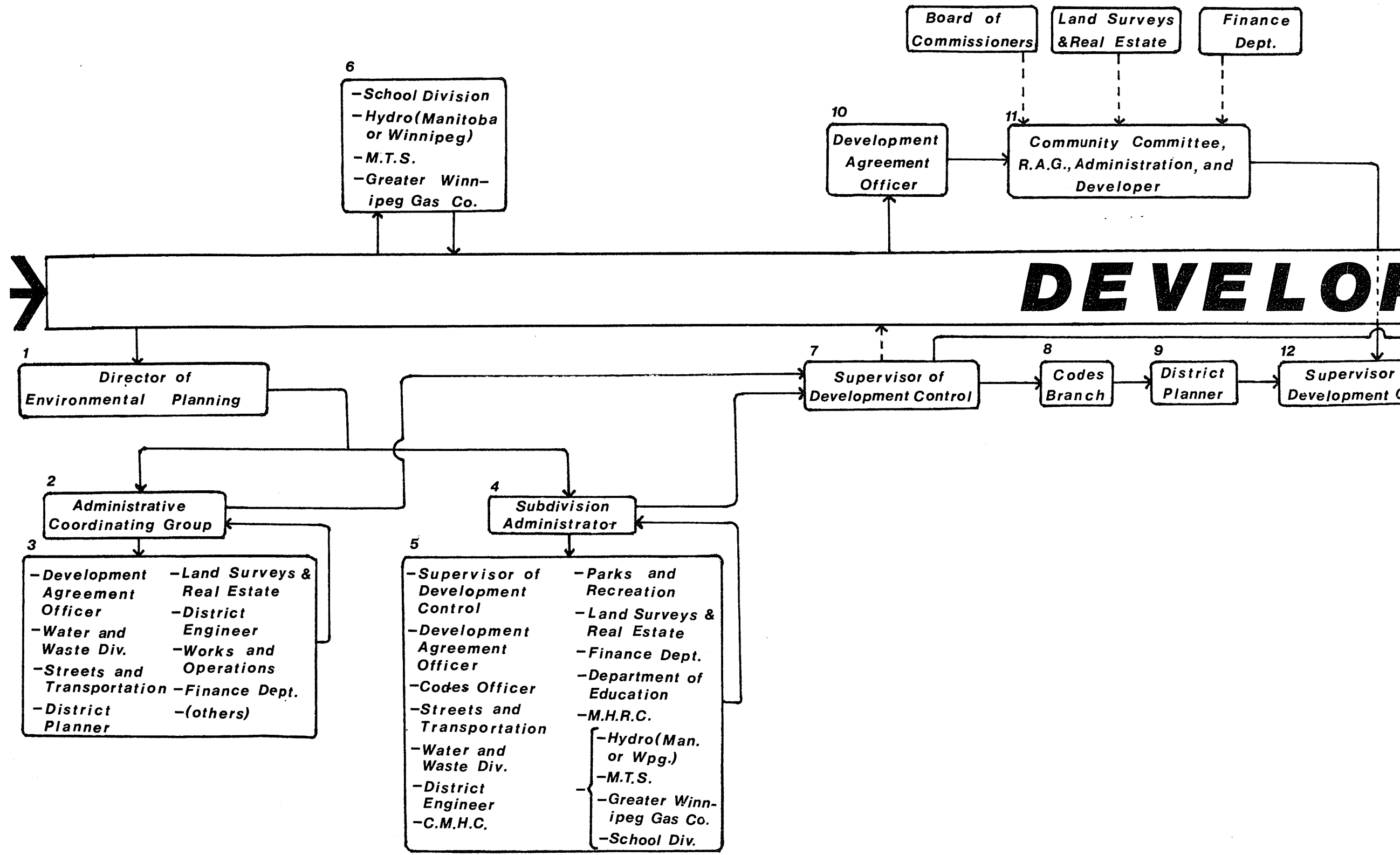
Once a development firm has made the decision to proceed with a subdivision, the actual planning and engineering process be-

KEY:



← AVERAGE TIME REQUIREMENTS: 18 TO 24 MONTHS →

FIGURE 2



← AVERAGE TIME REQUIREMENTS: 18 TO 24

gins. A consulting engineering firm is normally contacted to draw up a preliminary draft plan indicating the type and the extent of the development. This initial planning and engineering phase typically requires about five or six months.

No. 1 Once the plan has been completed in its draft form, the developer submits his proposal for subdivision to the Director of Environmental Planning (or more correctly, the Development Control Division). Section 639(9) of the City of Winnipeg Act requires that at least 16 copies at a scale not less than 1 inch equals 200 feet be submitted by the developer but the Planning Department now asks for 30 to 35 copies. This draft plan must show rights-of-way, lot dimensions, angles and dimensions of the overall perimeter, and the location of any buildings which are to remain. It also must indicate the intended uses of the land, the present uses of contiguous land, and such features as buildings, railways, highways, waterways and drainage ditches within or contiguous to the land in question.

No. 2 The application is then referred to the Administrative Co-ordinating Group for examination in terms of technical servicing needs. This group is chaired by the Development Agreement Officer and consists of representatives from Waterworks and Waste Disposal, Streets and Transportation, Finance, Land Surveys and Real Estate, Works and Operations, as well as the District Planner. Occasionally too a representative of the Law Department may be present. The purpose of this group is to review

applications and to set out the various development requirements with regard to engineering, finance, and legal criteria. By having such involvement at an early stage of the approval process, it is possible to attain a high degree of co-ordination among the various departments responsible for urban development.

- No. 4 Concurrent with the Administrative Co-ordinating Group's review of the plan, the Subdivision Administrator distributes copies to various other departments and agencies. These are:
- No. 5 Supervisor of Development Control, Codes Officer, Development Agreement Officer, Director of Streets and Transportation, Director of Waterworks and Waste Disposal, District Engineer, Director of Parks and Recreation, Director of Land Surveys and Real Estate, City Treasurer, Department of Education, School Division, Manitoba or Winnipeg Hydro, M.T.S., Greater Winnipeg Gas Company, C.M.H.C. and M.H.R.C. These agencies are to review the plan, comment on it, and in theory reply back to the Subdivision Administrator within 14 days. As some of the above departments are represented on the Administrative Co-ordinating Group and are well apprised of the intent of the plan, their action at this point is largely one of endorsement.

C.M.H.C.'s involvement at this point is dependent on whether or not N.H.A. financing will be involved in the project.

M.H.R.C. is theoretically entitled to review and comment on the plan but in fact seldom does so even though a copy is sent

to the Corporation.

No. 6 While in the past it had been the practice for the Subdivision Administrator to circulate copies to the School Division, Hydro, M.T.S., and the Greater Winnipeg Gas Company, it has lately become the responsibility of the developer himself to contact these external agencies. The developer is then responsible for obtaining from them written comments concerning the feasibility and serviceability of his plan. This avoids possible communication breakdowns between the City Administration and the external agencies. The developer, as he has a vested interest in seeing the plan approved as quickly as possible, probably achieves faster results from the external agencies through direct contact.

No. 7 The reports of the Administrative Co-ordinating Group and the Subdivision Administrator as well as the external comments acquired by the developer are then presented to the Supervisor of Development Control (the Development Control Division). If major difficulties are apparent with the plan at this time, it may be rejected and returned to the developer for modifications. If this is the case, the plan when re-submitted will have to pass through the same initial approval process.

No. 8 If no major difficulties arise, the draft plan subsequently is forwarded to the Codes Branch where a draft zoning by-law is prepared. The approval of the District Planner is necessary at

No. 9

this point to ensure that the proposed zoning meets with local requirements.

- No. 10 While this is progressing the developer and the Development Agreement Officer may negotiate a draft development agreement.
- No. 11 An informal meeting may then be called in the relevant community where the draft development agreement is considered and the community is advised of the content of the draft plan. This meeting is between officers of the Community Committee, certain subdivision officers of the City Administration, members of the local Resident's Advisory Group (R.A.G.) and the developer. Depending on the nature of the proposed subdivision (i.e., if City-owned land or cost-sharing is involved) representatives of the Board of Commissioners, Land Surveys and Real Estate, and the Finance Department may be invited. This meeting is considered important in that the local officials and residents are felt to be more aware of the specific needs and problems of that particular community. While facilities do exist for these informal meetings, it appears that they rarely take place.

- No. 12 Following this meeting and once the draft zoning by-laws and development agreement are prepared, the Supervisor of Development Control prepares an official report concerning the proposed subdivision and announces a public meeting in the local Community Committee area. The announcement is made via newspaper advertisements and by notices posted on the site at least

two weeks prior to the meeting. During the period prior to the meeting, any person may review all the related materials at specified times and places. This public meeting is to be held no more than 45 days after the Supervisor of Development Control received the initial reports of the Administrative Coordinating Group and the Subdivision Administrator.

- No. 13 At the Community Committee Hearing the report is considered and the drafts are presented. Any person may make a submission concerning the subdivision at this time and his or her objection, if so desired, will be recorded as being an official objection.

- No. 14 The Community Committee prepares a report with recommendations concerning the proposal and this is forwarded within 30 days to the Committee on Environment. This committee is composed of 11 members of Council, one of whom is chairman of the Committee. The Commissioner on Environment, a senior municipal civil servant, is responsible to the Committee on Environment. One of the functions of the Committee is to advise the Executive Policy Committee with respect to the responsibilities assigned to the Committee on Environment. The Environment Committee has power with respect to (a) planning, including transportation, open space, parks, and development of the environment, (b) housing, (c) urban renewal, (d) pollution regulation and control, and (e) health and social development.

No. 15 The Committee on Environment considers the findings and recommendations of the Community Committee as well as an independent report from the Planning Department. The applicant and the public do not have the privilege to appear before the Committee on Environment at this time. These reports as well as one from the Environment Committee are forwarded to the Executive Policy Committee. This Committee consists of 11 members of council, including the major (the chairman), the deputy mayor, the chairmen of three standing committees (Works and Operations, Finance, and Environment) and six members of council. The purpose of the Executive Policy Committee is to formulate policies for recommendation to Council, and on behalf of Council, to co-ordinate the implementation of city policies.

The Executive Policy Committee considers the reports of the Community Committee and the Committee on Environment, receives representations, makes its own report with recommendations and forwards it to City Council. However, if the Executive Policy Committee strongly objects to certain aspects of the Environment Committee's report, it may refer the report back to the Environment Committee for reconsideration. It would then have to be resubmitted to the Executive Policy Committee.

No. 16 While basically being a simple procedure, the logistics of setting up meetings, etc. may involve considerable time. Once the Executive Policy Committee has reviewed the reports, it forwards them along with its own recommendations to City Council.

Council reviews the recommendations of the previous reports and if no major difficulties are foreseen, authorizes the preparation of a development agreement, zoning agreement, and the necessary by-laws. At this particular stage of the approval process, Council more or less endorses the Executive Policy Committee's report and authorizes further preparation. The

No. 17 Development Agreement Officer supervises the preparation of the development agreement. Input is received from the following

No. 18 departments and agencies: School Division, District Planner, Streets and Traffic Branch, Water and Waste Disposal Division, Environmental Planning Department, District Engineer, Finance Department, Law Department, Land Surveys and Real Estate, Works and Operations, and City Clerk and Mayor's Office.

The development agreement specifies in detail the requirements for sewer and water lines, street widths, lighting, parks, schools and other associated infrastructures. Many of these requirements are specified in the Development Agreement Parameters of the City of Winnipeg, a document detailing infrastructure requirements and cost-sharing arrangements. Con-

No. 19 current with this, the Law Department, in conjunction with the Codes Branch, prepares the zoning agreement and the necessary subdivision by-laws.

No. 20 The developer, upon Council's approval of the Executive Policy Committee's report, obtains a Manitoba Land Surveyor's official plan of subdivision and supplies 22 copies to the City for at-

tachment to future documents.

- No. 21 The development agreement, zoning agreement, and subdivision by-laws are referred to the Administrative Co-ordinating Group, at which time members of the Finance Department and Land Surveys and Real Estate Department are in attendance, for perusal and certification as to details with respect to their respective disciplines. Steps 17 through 21 may require two
- No. 22 to three months or even longer. The City Solicitor obtains the developer's execution of the development agreement and zoning agreement and the City Solicitor advises the developer of any insurance, land transfers, and cash payments required.
- No. 23 The City Council then gives first and second reading to the development agreement, zoning agreement, and subdivision by-laws. If there has been no objection to these (i.e., at the Community Committee level) or if previous objections have been withdrawn, the Council may also give third reading. The
- No. 24 Minister of Urban Affairs subsequently approves the by-laws and they are considered enacted.
- No. 25 If, however, there has been a written objection which has not been withdrawn, third reading is not given at Council and the documents pass to the Minister. The Minister examines the proposals and on the strength of the material may approve or reject them or may refer them to the Municipal Board. The Municipal Board, consisting of a chairman and two members, sets

a date, time and place for a public hearing to be held within 14 days of receipt of notification from the Minister. The Board receives from any person desiring to appear before it any arguments or information pertaining to the proposals. The City Council may authorize any person to appear before the Board on its behalf. Having held the hearing, the Board gives a written decision which is final and binding on all persons and is not subject to appeal. If the decision is negative towards the plan, the application is considered to be rejected and the developer must resubmit his modified plan if he wishes to further pursue the matter.

If the Board approves the application, it is referred back to the Minister. Once written approval is received from the Minister, the Council may give third and final reading. The Board, however, rather than rejecting a plan, may simply require amendments to it. In this case, Council must conform to the Board's wishes, amend the proposal, and resubmit it to the Board. This process may, of course, require considerable time.

No. 26 Once third reading has been given the plan is delivered to the City Solicitor. The Solicitor obtains from the developer the necessary insurance policies, land transfer documents, easement or zoning caveats, and any cash payment in lieu of dedication.

No. 27 The plan is then signed by the Director of Planning

No. 28 and the City Surveyor and is released to the developer. The developer, at this point, may register the plan with the pro-

No. 29 vincial Land Titles Office.

In actual fact the Land Titles Office often becomes involved at an earlier stage of the process. When the developer hires a Manitoba Land Surveyor to prepare an official plan of subdivision (step 20) the surveyor usually submits several copies to the Land Titles Office for perusal. Two checks are normally carried out: a technical check which examines the mathematical accuracy and legal aspects of the plan and a title check which searches the land titles involved for possible encumbrances, outstanding mortgages, etc. This may take two or three days. If certain problems are encountered (i.e., mathematical errors), the surveyor may have to redo certain parts of the plan and resubmit it to the Land Titles Office. The Office then issues a "temporary approval" which is conditional on the developer obtaining final approval from City Council.

Once the developer obtains approval from the City, he registers his plan at the Land Titles Office (step 29). This may require four or five days.

The above description of the approval process appears quite simple and straightforward on paper. It seems, however, that in reality the process is anything but simple and straightforward and that 18 to 24 months may be (and often are) required to have the plan pass this stage. Further elaboration of the time requirements and the effect of those requirements may be found in Section H of this chapter and Sections E and F of the following

chapter.

1. PLAN APPROVAL PROCEDURES PRIOR TO THE CITY OF WINNIPEG ACT

Prior to implementation of Bill 105 (the City of Winnipeg Act) in 1972 the developer dealt with two separate bodies: the local municipality in which he planned to build his subdivision and the Metropolitan Corporation of Greater Winnipeg. The very "raison d'etre" of Metro was an attempt to solve the dilemma of haphazard and unco-ordinated land use which had developed under a fragmented political system (Wichern, 1972).

Under the Metro form of government, there was a noticeable division of responsibility in terms of land development. The developers, in effect, dealt with two packages.

The first was with the municipality itself. As working relationships with municipal administrative and engineering staff were for the most part very good, a developer could be fairly confident that his draft subdivision plan would be approved at the municipal level. Indeed it sometimes happened that after informal approval and the drawing up of a development agreement, the developer went ahead and began installation of services prior to receiving formal approval from Metro.

The second package was the formal approval from Metro for the subdivision and rezoning by-laws. In this sense Metro was in somewhat of a weakened position as the developer had already signed a development agreement with the municipality and in some cases was proceeding with servicing. Thus,

Metro could only alter or stall a project at the risk of considerable political conflict.

As substantial political discord existed between Metro and many of the local municipalities, Metro was forced to operate from a rather weakened position. One method that could be used by the local municipalities to further exacerbate Metro's position was through land development.

The Provincial government, recognizing the problems of fragmented authority, segmented financial capacity, and lack of citizen involvement proposed and passed a Council-Commissioner form of government. This was Bill 105. It is rather early at present to fully assess this new form of government in the City of Winnipeg. However, some immediate (and perhaps only short-run) effects can be seen in terms of land development.

2. LAND DEVELOPMENT AND THE CITY OF WINNIPEG ACT (BILL 105)

Regulations affecting the land development process are contained within Part XX, "The Environment", of the City of Winnipeg Act. While Part XX covers a wide spectrum of planning only two parts, Sections 598 and 622 dealing with zoning and Section 637 dealing with subdivision control, are relevant to this subject matter.

The intent of this section is (a) to identify the step-by-step plan approval requirements as set down in the Act and (b) to relate those requirements to what actually exists within the City administration at present.

a. REQUIREMENTS OF THE ACT

The owner of the land to be subdivided (or his designate) must submit to the City at least 16 copies of the draft plan (at a scale not less than 1 inch equals 200 feet) accompanied by the necessary application forms and fees [637(9)]. The next step as required by the Act [637(12)] is that the Commissioner of Environment refer the plan to the relevant Community Committee and give public notice regarding a public meeting. No specification is made concerning the length of time between submission of the plan and the holding of the public hearing.

Section 637(17) states that on the day and at the time and place stated in the notice referred to in Subsection 12, a meeting (public) shall be held to receive representations from any person in respect of the application or the plan of subdivision. The conditions of Sections 610(2-5), Sections 611-614, and Section 615(1-2) dealing with zoning apply mutatis mutandis.

The Community Committee may receive all representations on the same day or may adjourn from time to time [setting the time and place of subsequent meetings -- Section 610(3)]. After all representations and recommendations have been received, the Committee clerk prepares a report [Section 612(1)] and forwards it within 30 days to the Committee on Environment [Section 612(2)]. The Committee on Environment considers the Community Committee's report and forwards it with its own recommendations to the Executive Policy Committee [Section 614(1)]. [If the Committee on Environment does not accept the recommendations of the Com-

munity Committee or accepts them in part only, written reasons shall be prepared and sent by registered mail by the Committee on Environment to all persons who indicated a desire in writing to receive such notification as per Section 614(2).]

According to Section 637(19), the Council may accept, reject or modify any recommendation of the Executive Policy Committee and may give first and second readings to a by-law approving that plan of subdivision. If there have been no objections to the plan, Council may also give third reading and pass it without the approval of the Minister [637(20)]. If, however, there has been an objection, Council does not give third reading but instead passes the by-law to the Minister. In this case, Sections 616 and 617 (dealing with zoning) apply mutatis mutandis.

Each person who made representation at a Community Committee hearing is notified and he or she may then file an objection with the Minister at a date specified in the notice [616(1)]. This date must be at least 14 days after the date on which the notice is mailed [616(2)]. If no written objection is received by the Minister on or before the above specified notice, he may in writing approve the by-law [617(1)]. However, when an objection has been received, the Minister may approve or reject the by-law or refer the objection to the Municipal Board [617(2)].

The Municipal Board fixes a date, time and place for a hearing and gives not less than 14 days notice in writing to the person objecting [617(3)]. On the date specified the Board holds a hearing at which any person may make representation and then, after hearing all representations, gives a

written decision. This is final and binding on all persons and is not subject to appeal.

If the Municipal Board requires amendment to the by-law, the Council must amend it to conform with the Municipal Board's decision [617(6)] and it is then resubmitted to the Board for approval [617(7)]. Once again it may be amended or it may be approved [617(8)] and the Municipal Board issues an order to that effect. If it is approved by the Board, the Council forwards it with the Municipal Board order to the Minister for approval [617(10)]. After the Minister's approval, Council gives third reading and passes the by-law [617(11)].

Once passed, the owner then has up to 180 days to register his land at the Land Titles Office before it becomes void [637(37)].

b. COMPARISON BETWEEN ACT REQUIREMENTS AND THE PRESENT SITUATION

All the requirements of the Act, as elaborated above, being law, are followed in the City administrative process. These are legal necessities and cannot be avoided or circumvented. However, besides these above-mentioned steps, there exists within the City administration a plethora of additional steps in the plan approval process. These additional steps, as elaborated in Figure 2 and Section E, are not specific requirements of the Act but rather are the creations of the City administration itself.

Referring to Figure 2, most notable perhaps is the series of functions between the initial submission of the plan [step 1], as required in Sec-

tion 637(9) of the Act] and the Community Committee hearing [step 13, Section 637(17) of the Act]. One year or more may elapse before a plan is actually presented at a Community Committee hearing. According to the Act, once a plan has passed through the Community Committee, Committee on Environment, and Executive Policy Committee stages, it is presented to Council which may give first and second and possibly third reading. However, in actual fact, at this stage, Council does no more than authorize the preparation of the necessary zoning and subdivision by-laws and development agreement (steps 17 through 21 in Figure 2). It is not until step 23 that the Council actually gives first and second readings [Section 637(19)]. Following approvals by the Minister, the Municipal Board and final reading by Council, the developer must submit to the City the necessary insurance policies, land transfer documents, etc. before the plan receives final administration signatures. The developer is then free to register his plan [Section 637(37)].

The reasons for such variance between the statements of the Act and the reality of the situation are diverse. Undoubtedly a large part of the problem is the result of bureaucratic centralization with its concomitant confusion and fragmented decision-making. It is possible that with time the administration will evolve into a more cohesive and effective organization. On the other hand, there is no reason to believe that it will actually do so. The problem with having so many diverse departments and organizations involved is that they tend to approach a plan from only their point of view.

Another part of the problem may be lingering mistrust that was part of

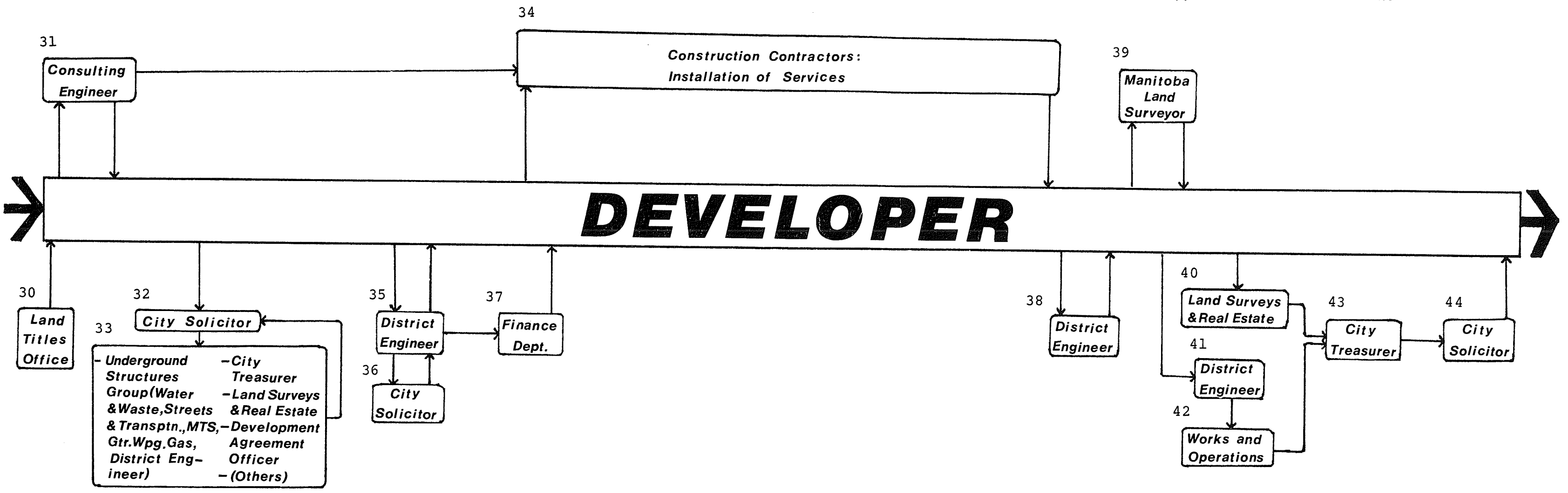
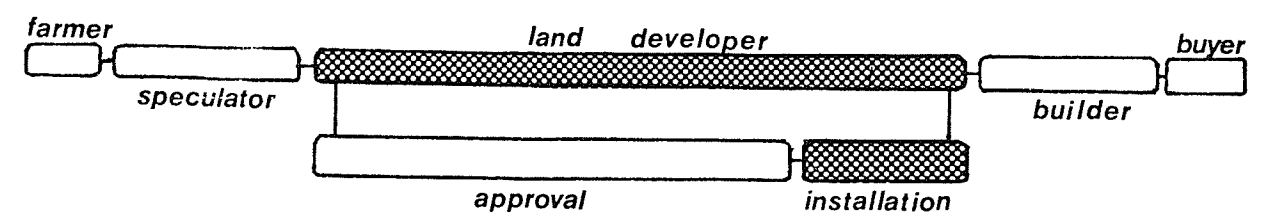
the old Metro-municipal system (see Kent, 1974 for descriptions of this Council and Commissioner conflict in terms of the Unicity Mall and Rail Relocation Projects). As a good many of the present administrative staff were former Metro employees, it is possible that some of the present councillors view them with some mistrust. If this is the case (and this is only a conjecture) it is probable that this problem will work itself out over time.

A third very important reason may be technical in nature. One of the philosophies behind the amalgamation of the municipalities was to permit better coordination of roads, storm drainage facilities and other infrastructure related items. Now, rather than looking at a new subdivision as being purely a local problem, it is now considered in a City-wide context. This requires far more evaluation and planning on the parts of many more people. Such involvement is bound to be bureaucratic and time consumptive. It is more difficult to overcome this problem because even though short-run restrictions in plan approval may cause some problems, the long-run effects of better planning and coordination should hopefully more than offset the disadvantages.

F. THE LAND SERVICING PROCESS (refer to Figure 3)

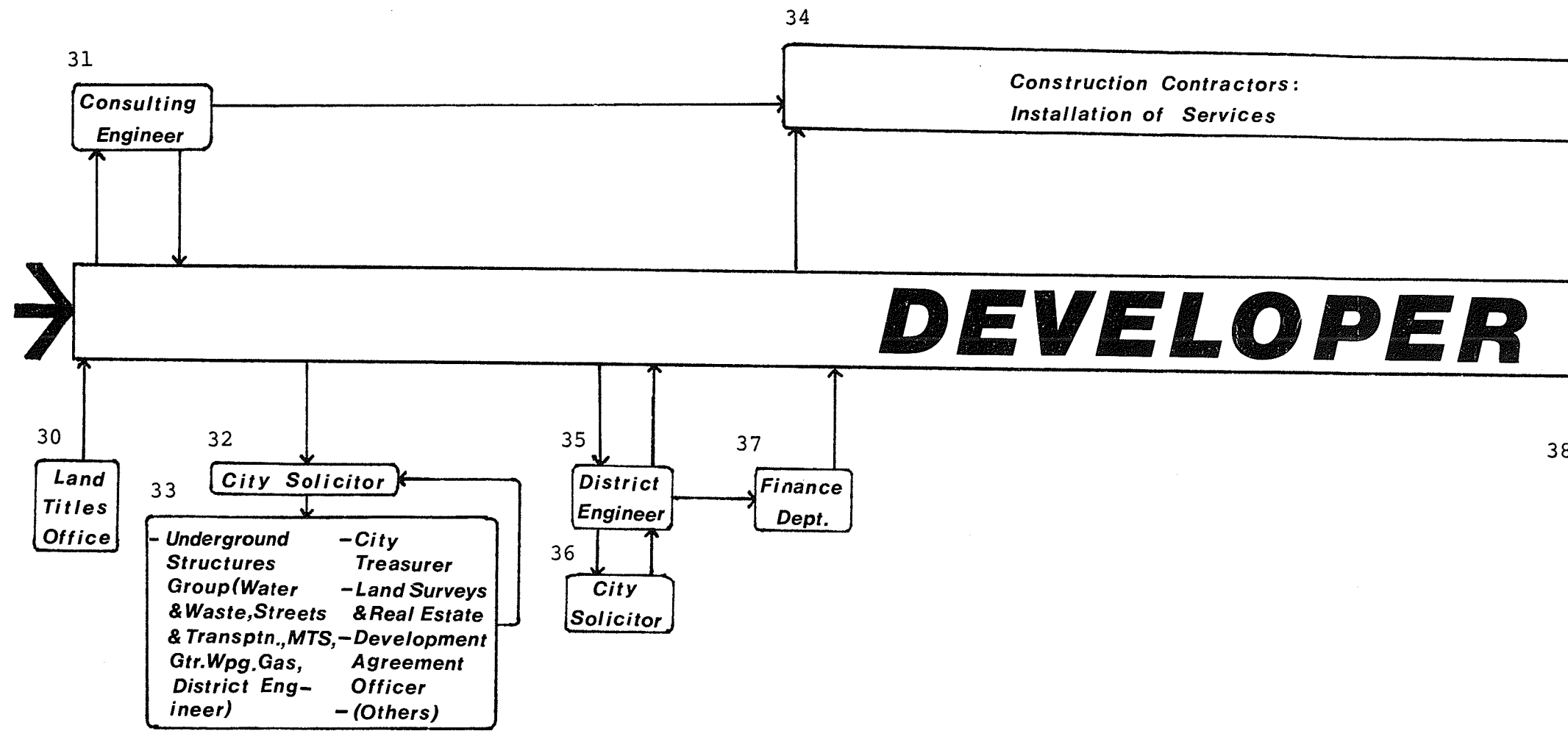
Once the developer's plan has received official approval from the City, the necessary zoning and subdivision by-laws have been passed and the development agreement prepared and certified, the developer registers his plan of subdivision with the
No. 30 Land Titles Office (this was step 29 of Figure 2 as discussed

KEY:



← AVERAGE TIME REQUIREMENTS: 9 TO 14 MONTHS (LARGELY DEPENDENT UPON SERVICING COMMENCEMENT DATE) →

FIGURE 3



in the preceding section).

- No. 31 The Consulting Engineering firm then drafts specific and detailed plans incorporating the requirements of the development agreement. Thirty-five copies of the plan are then submitted
- No. 32 to the City Solicitor for distribution, certification, and attachment to official documents. While the plan of subdivision
- No. 33 has theoretically received the approval of the City Administration, it is still circulated to various departments for certification as to compliancy with the specifications of the development agreement. The Underground Structures Group, composed of representatives of Water and Waste Disposal, Transportation, M.T.S., Manitoba or Winnipeg Hydro, Greater Winnipeg Gas, as well as the District Engineer, examine the detailed plan as do the City Treasurer, the Development Agreement Officer, and a member of the Land Surveys and Real Estate Department. Depending upon the nature of the subdivision, representatives of certain other involved departments may also examine and certify the plan. Two to four weeks is the normal time requirement for this particular step.

- No. 34 Once the plan has received official certification, the developer is able to call for tenders for the project. Usually the Consulting Engineering firm examines the tender and makes recommendations to the developer as to which firm(s) should be awarded the contract.

- No. 35 Once this has been accomplished the District Engineer obtains from the developer signed construction contract(s) and all the necessary performance bonds pertaining to the development. These bonds, together with a certification of the amount of money based on construction contracts or estimated amounts to fully service the development in accordance with the development agreement including consulting engineering fees, administration fees and payment to the City for the developer's
- No. 36 share of oversize services, are then forwarded to the City Solicitor. Providing the aforementioned bonds are satisfactory to the City Solicitor, the District Engineer then authorizes the developer to commence construction of the necessary services.
- No. 37 The Finance Department of the City maintains a log of all the financial and land commitments concerned with the development and maintains surveillance on the development, in effect enforcing all commitments made by the developer.
- No. 38 Once all the construction has been completed, the District Engineer certifies that the construction is in accordance with the specifications and plans and issues a Construction Completion Certificate.
- No. 39 The developer obtains from a Manitoba Land Surveyor a certificate indicating that all survey outline monuments within the subdivision have been maintained. This is then submitted to
- No. 40 the Director of Land Surveys and Real Estate. The District
- No. 41 Engineer certifies that all maintenance requirements have been

No. 42 met and that all works installed under the development agree-
ment are acceptable to the City. The General Manager of Works
No. 43 and Operations subsequently notifies the City Treasurer that
all conditions concerning Works and Operations have been met.
At the same time the Director of Land Surveys and Real Estate
certifies to the City Treasurer that the City has received
title to all properties entitled to it under the development
agreement.

No. 44 Once he has received official certification from Land Surveys
and Real Estate and from Works and Operations, the City Trea-
surer certifies to the City Solicitor that all financial com-
mitments have been made and the Final Acceptance Certificate
is then issued to the developer.

G. THE STAGING OF A DEVELOPMENT

In the Winnipeg area weather conditions can be of critical importance in the construction industry. While new construction techniques and the use of new materials have done much to ease the temporal constrictions within which the industry was forced to operate in the past, weather nevertheless continues to impose certain restrictions on the staging of various parts of the suburban development process.

With the rather elongated plan approval process, it is difficult for the developer to predict with any degree of certainty when he will actually be able to commence work. Ideally, from a staging point-of-view,

it would be preferable if the housebuilder could determine when he wanted to start building his houses and the developer when he wanted to commence services installation. Then if the time requirements of approval were known, both the builder and developer could more effectively plan for the provision of their market products. Unfortunately, with the present unpredictability of the approval process, the developer must hope that the plan will be approved at a time that will be most convenient for his work schedule.

A fairly large subdivision (i.e., 200 or more lots) will require at least six months (and usually more) to completely service the land so that the housebuilder may begin his construction. With a major development, it may be preferable to install sewer and water services in the fall or early winter if approval can be gained in time. This will permit the contractor to begin work on the streets and other associated services fairly early in the spring. If he cannot make an early spring start, the services in all likelihood will not be completely installed by fall. This will subsequently stall the housebuilder who prefers to have his basements in and framing up by winter so that interior work can progress throughout the winter. In order to provide this early spring start on roads and curbs, the contractor may install sewer and water lines in the winter. Slight construction problems may be encountered (i.e., the trench requires flushing and tamping in the spring) but winter installation is certainly feasible and preferable to delays in spring work.

Theoretically, the servicing function is completed before the house-

builder begins the construction of his houses. However, in actual practice the two activities may overlap, especially if a critical time factor (i.e., approaching winter) is involved. The servicing contractors and developer prefer that the servicing is completely finished before the housebuilder moves in because this avoids damage to the roads and underground utilities which may be incomplete or may have not yet had time to settle or set. Especially where the development may be staged over time, confusion on the building site may result in considerable headache for the engineer and damage to curbs, curbstops, sidewalks, etc.

H. TIME REQUIREMENTS

Each subdivision is unique in design, in proximity to other developments, and in time. As such, it is difficult to devise a time scale which can be universally applicable to all land conversions. However, as a result of interviews with developers, builders, engineers, and City administrative staff, what is hoped to be a fairly representative time scale has been developed.

As mentioned previously, a one-year speculative stage has been included in Figure 1 for illustrative purposes. As this is highly variable (being subject to many interpretations and external factors) it will be ignored here as being a time factor (although the observant reader will immediately recognize the immense effect the speculative sector can have on the overall process). What is more important in this analysis is the approximate four-year period required from the first activity by the developer to the purchase of the house by the consumer.

Time requirements for particular segments of land conversion are, of course, estimates and are highly subject to variations. However, a chart is presented here which presents a representative range of time requirements for each of the processes.

TABLE 4
Development time requirements

Process	Average time requirements (months)
Subdivision design process	5-6
Subdivision plan approval process (Citizen and elected representative approval process)*	18-24 (2-3)
Services installation process	9-14
Housing design process**	2-3
Design approval process	2-3
Housing construction and marketing process	7-9
Total	43-59

*This is contained within the subdivision plan approval process and hence is not included in the total.

**This is often concurrent with the services installation process and may be omitted from the time frame.

An intra-process distinction may be made. Some of the processes are not amenable to great time reductions and hence may be considered to be relatively static. These are the processes of design (especially the subdivision design process; as mentioned above the house design process is

often coincident with other activities and is thus often not a factor) and the processes of services installation and housing construction (see Section G on the staging of a development). However, the one process which seems to be especially open to time variation is the process which has become the most time consumptive, namely the subdivision plan approval process. As indicated here an 18 to 24 month time span may be required (seemingly regardless of the size of the plan). It is obvious that considerable time (and hence money) savings could possibly accrue from any telescoping of this particular process. It would seem that since research began into this process (late 1974 and early 1975) procedures of the City administration have become somewhat more efficient and the time requirements for plan approvals today are not quite as great as they were during the first few years after passage of the City of Winnipeg Act.

I. CONCLUSIONS

This chapter has presented a discussion of what is usually considered to be the most important aspect of the housing market, the land development process; the process is extremely involved and complex. Regardless of the justifiability of the various steps of the process and the activities of the participants, the land development process is today the most critical area in housing production. It is important to have a good understanding of this process as a basis for understanding the nature of the housing market.

Investigation was carried out into several recent developments in order

to arrive at a generalized time frame and as with any generalization there are certain inherent limitations. Nevertheless, several valuable conclusions have been arrived at:

Since the enactment of the City of Winnipeg Act the time requirements for plan approvals appears to have increased to the extent that it may now require two years or more to obtain approval for a subdivision plan. The reasons for this are varied.

The time effect of such an elongated plan approval process has a very real economic cost, a fact which apparently is inadequately appreciated by many of those outside the development industries.

There apparently exists a very real difference between the land development procedures as outlined in the City of Winnipeg Act and those administrative and operational procedures that exist in reality.

There is need for a comprehensive review of the procedures now being followed within the City of Winnipeg. This does not stem from the fact that the procedures are wrong (indeed, the necessity for proper planning and coordination must be emphasized) but rather from the fact that certain administrative procedures seem unduly prolonged.

THE HOUSEBUILDING PROCESS

Chapter
five

A. TYPES OF HOUSEBUILDERS

Although the housebuilder is commonly portrayed as being a large company employing economies of scale to construct large numbers of almost identical houses on a purely speculative basis, some intra-industry distinctions can be made. Housebuilders in reality consist of three basic types (Clawson, 1971).

First, there is what may be considered to be the "owner-builder". This is a person who builds for his own use and usually employs his own labour (meaning himself). As a rule this is a "once-in-a-lifetime" undertaking and as such the house is custom-designed and incorporates many features not found in mass produced homes. While still of significance in terms of overall housing stock produced each year and especially in terms of variability of design, this type of housing construction appears to be on the wane, no doubt partially due to the increasing complexity of building code requirements which pose problems of a specialist nature.

Secondly, there is what might be termed the "general contractor" or "custom builder". This is the builder who builds (a) house(s) on contract on someone else's land according to a specified design. As a rule it would appear that the custom builder builds for a person who intends

to live in the house and not sell or rent it. As with the owner-builder, the custom builder seems to be providing an increasingly smaller share of the total market. Compared to the larger scale speculative builder (to be discussed next), the custom builder enjoys certain advantages. He faces low overhead (many operate out of offices in their own homes), he is usually directly involved in the operation which provides greater personal communication with the client, and, as well as being more efficient, he is more flexible in operation in that he can readily adapt to new techniques about as fast as they come on the market (providing of course that such techniques do not require major capital outlays).

Conversely, his small size limits him so that he cannot be a major innovator, undertake extensive research, or readily expand the size of his operations. Furthermore, he cannot exercise major economies of scale in purchasing materials.

As a rule, custom builders usually are involved in building a more expensive line of houses in that the consumer who is financially able to hire a custom builder is also able to choose a more expensive housing package. As far as urban development is concerned, the custom builder, as with the owner builder, exhibits great potentials in terms of infilling smaller by-passed tracts of land upon which major builders have found it uneconomical to build.

Thirdly, there is the dominant supplier in the housebuilding industry, the operative builder or the speculative builder. This type of builder may be considered speculative in the sense that he is not building for

a particular client. Rather, after attempting to determine consumer wants and market conditions, the speculative builder then proceeds to construct on his own land a large number of houses, usually of quite similar design (so that some of the component parts may be mass produced) in the hopes that they can be sold. Here the decisions on the design, the size, the price, and the location are made by the builder and not the future owner.

Today many of the speculative builders are also land developers, or more commonly the speculative builder and the land developer will be combined into a single developer-builder function. Most of the large firms do their own market research or hire private market consultants and have a permanent sales organization. The builder's marketing department along with a design consultant draw up plans based upon what they think the public wants and what the market will bear. The growth of this type of builder has been significant and today the speculative builder virtually monopolizes the construction of lower and middle priced homes. Within the City of Winnipeg over 50% of the lower priced single detached homes are built by speculative builders.

In contrast to the activity between the builder and the housebuyer, realtors seem to play a very small (often non-existent) role between developers and builders. This is probably due partially to the close personal contacts within the industry and partially due to the fact that many builders are captive markets of the developers.

B. HOUSEBUILDERS IN WINNIPEG

As indicated in the previous chapter most of the major speculative builders in Winnipeg are subsidiaries or are at least associated in some manner with the four large developers. Engineered Homes is the major builder for the B.A.C.M. firm in Winnipeg although other builders (i.e., Keith Homes Ltd. of Calgary) are operative in other cities. Until recently the majority of Ladco's building was done through Home Developments Ltd. Home Developments has now been largely phased out and Ladco Homes Ltd. is the building arm. Qualico Developments Ltd. is perhaps the most classic example of a true developer-builder as no name distinction is made between the developing and building arms. The four housebuilding corporations in the Metropolitan group (Castlewood Homes, Manor Homes, Heritage Homes and Kensington Homes) operate in a fairly independent fashion and Castlewood Homes is at present undertaking land development as well as straight housebuilding.

Besides these major affiliated builders there are numerous independent builders who market around 50 or more units per year. These builders must rely on lots provided to them by the large developers and in this respect are at a considerable disadvantage in times of short lot supply. Some are purely speculative builders (i.e., Ensign Homes, Greentree Homes, Guaranteed Homes, Flair Homes, etc.) while others may build either "on spec" or on contract. Besides these above companies (and there are numerous others in this category) there are a considerable number of smaller independent builders who seem to enter and leave the market with regularity, depending largely on the economic climate and

the lots available to them for building purposes.

C. BUILDER ACTIVITIES

Two methods of building are commonly employed in large scale house-building: stick building and prefabrication, with the former being much more common in the Winnipeg area. Stick building refers to the process whereby the materials are gathered together on site and the house is built "from scratch" whereas prefabrication, as the name implies, refers to prefabricated components which are built elsewhere and brought to the site for assembly. Misawa Homes Ltd., and to a certain extent Qualico, are the only firms which engage in prefabricated building on a large scale although most major builders will employ some prefabricated component parts (i.e., roof trusses, kitchen cabinets, prehung doors, window units, etc.). Stick building is felt to give more flexibility on site and less heavy capital investment in maintaining a crew in a factory.

"Housebuilder" is in some sense a misnomer in that the building company by and large acts only as a project manager and not the actual builder. Most of the actual work (with exceptions) is done by subcontractors and it is the builder's function to arrange job financing and materials and to timetable the actual building so as to avoid unnecessary delays and confusion on the site. Many of the "bulk" materials such as lumber and concrete may be supplied by the builder whereas most of the "specialist" inputs such as heating units, carpets, etc. may be supplied and installed by a supplier/contractor firm.

Some of the major local builders, such as Qualico Developments and Guaranteed Homes, do maintain work crews of their own for rough and finish carpentry and a few other jobs but this is the exception, not the rule. Maintaining crews implies a fairly heavy overhead and consequently a constant stream of houses must be coming on to the market. While this may pose no difficulties in times of a housing boom, the firms face considerable problems during a housing slowdown.

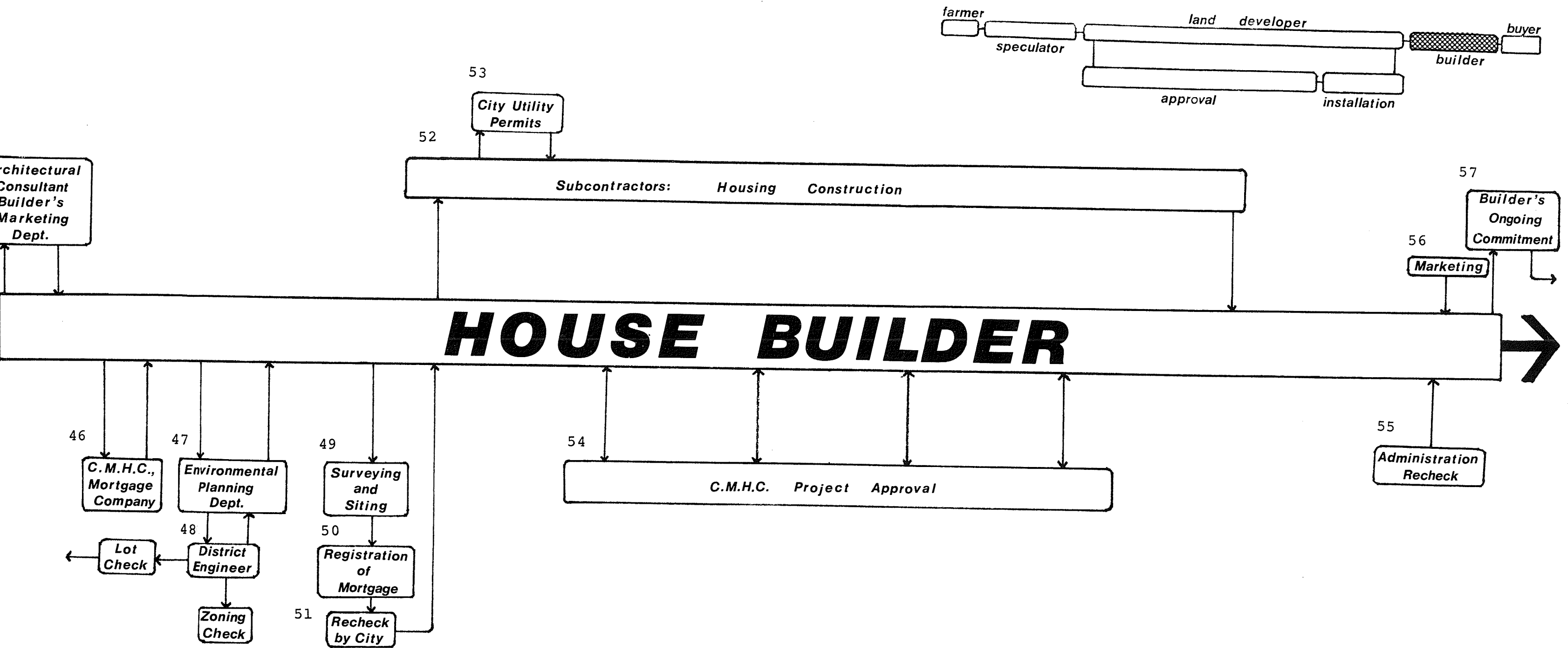
Most subcontracted work is done on a "piecework" basis with payment for a specific job and not for the number of hours spent on it. While unions voice the usual claims of worker exploitation it seems that most of the tradesmen prefer the piecework payment method. However, while piecework may be good for productivity, it may also have the effect of lowering the quality of work as workers rush to finish one job so that they may begin another.

D. THE HOUSEBUILDING PROCESS (refer to Figure 4)

Major housebuilders and developers maintain quite close working relationships so that developers rarely enter into a major development program without having received some prior indication from builders that they would be willing to purchase lots under the present market conditions. Thus, the abrupt division between builder and developer as indicated in the flow diagrams may be somewhat misleading.

No. 45 Most builders maintain close liason with architectural design consultants who, in conjunction with the builder's own mar-

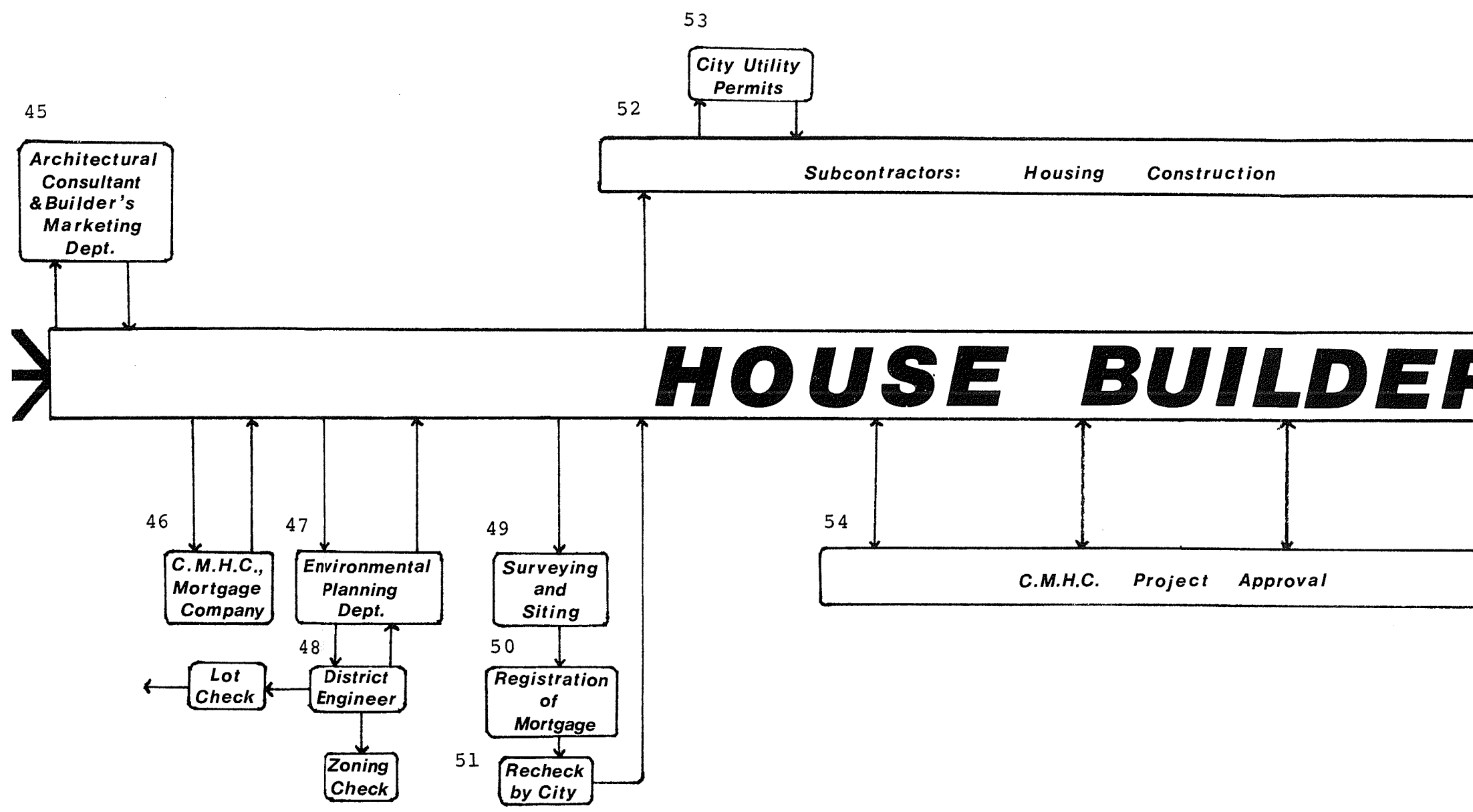
KEY:



← AVERAGE TIME REQUIREMENTS: 11 TO 15 MONTHS (APPROXIMATELY 6 TO 8 MONTHS FOR HOUSING CONSTRUCTION) →

FIGURE 4

farmer
specul



← **AVERAGE TIME REQUIREMENTS: 11 TO 15 MONTHS (APPROXIMATELY 6 TO 8 MONTHS FOR HOUSING)**

keting department (if, of course, the builder is large enough) constantly redesign and update the builder's basic housing package. Most builders market only a few house designs at a time. This tends to speed up building permit application approvals and lessens the need for constant on-site supervision of the subcontractors (Bingeman et al., 1973). As well, certain component parts may be usable for each house design, thus permitting a larger volume builder to exercise greater economies of scale.

No. 46 Once the housebuilder has negotiated with the developer for purchase of lots, he must arrange financing to carry him through the construction phase. Financing may be available either through C.M.H.C. or through a private lending company. This is usually in the form of a "block funding", parts of which can be "drawn" at specific stages of the process.¹ The funding which the builder obtains is necessary for the payment of the subcontractors as well as the purchase of materials.² The developer normally receives only 10% or 20% of the full

¹During the construction, before the builder can draw part of his mortgage, he must submit to the mortgage lender a Building Declaration. This document declares the amount of work already completed and it is accompanied by waivers from all the subcontractors who have had input up to that stage. This prevents the subcontractors from putting mechanic's liens on the house.

²As mentioned in Bingeman et al. (1973) payment for materials may be for 30, 60 or 90 day periods or may be made to correspond to the four draws made on the mortgage money from C.M.H.C. or the private lender.

lot price from the builder with the balance falling due with the builder's first mortgage draw or sale of the houses. Once mortgage financing has been arranged, the builder can apply to the City of Winnipeg Planning Department for his building permits. (As mentioned above, the fewer the variations in design, the more quickly the applications will pass the permit approval stage. Each house requires a separate permit; thus standardized and uniform designs will pass the permit stage much faster than a larger number of individual designs.)

No. 47

No. 48

No. 49

No. 50

No. 51

No. 52

Once application has been made for building permits the district engineer checks the developer's construction to ascertain proper positioning of the proposed house, adequate grades for drainage, properly designed driveway approaches, etc. Providing the lot check and a zoning check produce favourable reports from the district engineer, the Planning Department grants the required building permits. The builder then engages a surveyor to properly survey the lots and site the buildings. Once completed the mortgage is registered and the City once again re-checks the plans before issuing final clearance to commence work. Concurrent with the surveying and siting the builder calls for tenders for various parts of the housing construction. During times of rapid material and labour cost increases the tenders may be revised to allow for cost fluctuations.

No. 53

It is the subcontractor's responsibility to obtain the necessary utility permits such as electrical and plumbing permits from the City. Once the initial building permit has been ob-

tained by the builder, the utility permits normally are obtained without undue delay.

The time required for the complete construction of the house varies depending on the uniqueness of the design of the house and the number of units being built. For the hypothetic subdivision considered here, a seven to nine month construction and marketing period would appear minimal. Of course, this depends largely on weather conditions and the date of initial construction but it is assumed that conditions are favourable and the builder is able to commence at a convenient time.

No. 54 The construction of a house follows a fairly rigid (out of logistical necessity) set of sequential steps as indicated in Figure J with four C.M.H.C. inspection and approval stages throughout the whole process (these are requisite for additional draws on C.M.H.C. mortgages).

The basement, of course, is the first step in construction of a house. Once dug, the walls are poured, the house floor constructed (framed and sheathed), the basement walls tarred and waterproofed, and all the necessary backfilling and sewer, water, and gas connections made. This is the "foundation stage" C.M.H.C. inspection stage.

Then the house is framed and sheathed and the roof put on. Once this has been completed, rough plumbing and wiring can be

FIGURE J

Housebuilding and inspection stages

<u>Building stage</u>	<u>C.M.H.C. inspection stage</u>
Basement excavation Basement walls Flooring Basement tarring and waterproofing Utility connections Rough backfilling	Foundation stage
Framing and sheathing Roofing Rough plumbing and wiring Heating unit and insulation	Framing-insulation stage
Drywall Interior carpentry Finished wiring Painting	Drywall stage
Finished flooring Finished plumbing Finished basement flooring Finished interior and exterior Finished backfilling and grading	Completion stage

installed. Then comes the heating unit, insulation and interior carpentry. This "framing-insulation stage" is the second C.M.H.C. inspection stage.

Once the wiring has been finished, the interior can be largely finished (drywall and painting) and the flooring completed. By the time of this "drywall inspection stage", approximately 85% of the house's interior will have been finished.

Lastly, the plumbing is completed, the basement floor poured and finished, and the interior and exterior completely finished off. This includes finished backfilling and final lot leveling and grading. This is the "completion stage" and constitutes the fourth C.M.H.C. inspection stage. Usually it is the homeowner's responsibility to arrange for the sodding of his yard and final landscaping. When a subdivision is first started, the topsoil is scraped off the land (sometimes sold to a topsoil contractor or often retained for backfilling and grading purposes) so that the house purchaser is left with nothing but a soiless yard which requires sodding. Builders claim that increased grade and backfill requirements of the City utilize most of the topsoil that is initially removed so that it is seldom an economical venture to skim off topsoil. Notwithstanding, the average homebuyer is faced with a minimum \$300 or \$400 topsoil and sodding bill. Once the house is completely finished, the City administration gives a final check certifying that all conditions have been met. The

No. 56 houses are then ready for marketing. Usually the first houses completed are display homes so that during the major construction phase the builder's marketing staff can be actively promoting the new houses. In fact, it is by no means uncommon for a house to be sold prior to its completion or at times even prior to the commencement of building.

No. 57 Once sold, the builder's involvement is not at an end. Builders have an obligation through the recently implemented "Builders' New Home Certification Program" to guarantee the home for one year past completion date against any minor faults and deficiencies arising from substandard construction and up to five years against any major structural faults.

E. TIME REQUIREMENTS FOR BUILDING AND MARKETING

As discussed in Section H of the previous chapter approximately four years is required for completion of the entire land development and housebuilding process. Eleven to fifteen months may be devoted to the actual housebuilding process in a fairly major subdivision although some parts of this (that is, the planning and approvals stages) may proceed concurrently with the development phase. Once permits have been obtained, the process of tendering, marshalling materials, construction, finishing and marketing a reasonably large development may only take seven months or even less.

F. SUBURBAN DEVELOPMENT: THE EFFECT OF TIME

Time is a critical factor in the supply of lots and housing, critical not only in terms of real or potential housing shortages in the face of increased demand, but critical also from a dollar cost perspective. Thus, central to any programs geared towards provision of more housing units should be not only attempts to isolate the various time requirements, but also recommendations to streamline and hopefully reduce those time requirements.

Elongated time requirements for the provision of housing have a two-fold effect. Firstly, supply becomes restricted in the face of demand (the housing market is notorious for its rapid fluctuations in demand; the shelter industry, however, is at present incapable of responding immediately to those demand fluctuations). Short supply and high demand have an inevitable result: high rents and high house selling prices.

Secondly, during the time required for plan approval, land servicing, and housing construction, the developer-builder will have considerable amounts of capital invested in his project. Land development capital is expensive (as a rule 2-1/2 to 3-1/2 points above the prime lending rate) and the costs of the borrowed capital as well as the land taxes constitute a cost which is ultimately assumed by the house purchaser. As well, raw land prices on the urban periphery, while difficult to monitor due to their wild fluctuations, nonetheless exhibit a relentless upward trend. A developer, if he wishes to remain a viably operating firm, must consider the replacement costs for the land which he is currently

developing. If he does not recoup this replacement cost (a cost which once again the housebuyer assumes) he will not be able to maintain an adequate inventory and will be forced out of business. Thus, the longer the time span required to put housing units on the market, the greater the replacement cost will be.

As an example of the cumulative time-generated costs, consider again the example of Figures 2 and 3. Here there is a fairly large subdivision (200 lots) which requires approximately four years to develop from the time of the purchase and the commencement of the initial planning stage (within the industry this is felt to be fairly representative). As well, there is one year prior to the purchase by the developer during which the land lays in speculative hands.

1. RAW LAND COSTS

The price which the speculator pays for the farmer's land can vary tremendously, largely depending on how aware the farmer is of urban peripheral land values. It may be as low as a few hundred dollars per acre or as high as several thousand. The critical price, however, is the one which the developer must pay. If development pressure is great, the speculator may be able to hold out for a fairly high price from the developer. For the purposes of this example a figure of \$4,000 per acre has been chosen for the price the developer paid for his land (developers, builders and consultants contacted in the summer of 1975 tended to consider this figure a bit optimistic; \$6,000 to \$8,000 per acre for readily developable land is more realistic, with \$10,000 to

\$12,000 per acre by no means rare).

2. RAW LAND APPRECIATION

The average annual inflationary trend in land is even more difficult to ascertain than a representative selling price. Examples are available of parcels which have doubled and even tripled in value within a very short time span while other parcels have exhibited no appreciable rise whatsoever. C.M.H.C. statistics for newly constructed bungalows indicate that land (lot) costs have been increasing in value approximately 13% per year since 1962, with greater increases in the last few years. These figures deal with finished built-upon lots which are much less susceptible to rapid increases than raw land. A 20% per year inflationary trend may be considered reasonable and 25% and 30% increases are not extravagant. Twenty percent per year has been used in this example. The effect of varying inflationary rates on a \$4,000 per acre parcel of land can be seen in the following table.

TABLE 5
Land value inflation per year

Year	Annual rate of inflation				
	12%	15%	20%	25%	30%
Initial purchase price	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000
End of 1st year	4,480	4,600	4,800	5,000	5,200
End of 2nd year	5,017	5,290	5,760	6,250	6,760
End of 3rd year	5,619	6,083	6,912	7,812	8,788
End of 4th year	6,293	6,995	8,294	9,765	11,424

Thus, if it is assumed that the developer paid \$4,000 per acre for his land and land is generally increasing 20% in value per year, then at the end of four years he would have to receive at least \$8,294 per acre for the land if he wished to purchase some new inventory. It should be obvious to the reader that if all land were controlled by one non-speculative entity, or if the inflationary aspect could be eliminated, considerable savings could be had by the potential house purchaser.

3. CARRYING COSTS

As mentioned previously, capital for land development usually costs 2-1/2 to 3-1/2 points above prime. In early 1973 (April) the prime commercial lending rate was 6-1/2%; by August it was 8-1/4%; and by December it was 9-1/2%. In 1974 a cost of approximately 12% was normal and by the summer of 1975, 15% to 17% may be more reasonable. The carrying cost of \$4,000 per acre investment at 12% over five years is indicated in Table 6.

TABLE 6
Carrying costs

Year	Carrying cost	Total cost
Initial purchase price		\$4,000
End of 1st year	\$480	4,480
End of 2nd year	538	5,018
End of 3rd year	602	5,620
End of 4th year	675	6,295
End of 5th year	755	7,050

4. TAXES

Taxes on raw undeveloped land are quite low. In 1973 the per acre tax on Qualico's Waverley Heights development was \$19, while in 1974, prior to subdivision and servicing, it was \$22. If land is currently assessed at \$300 per acre (agricultural value), the property tax would, with a present tax rate of approximately 100 mills, be around \$30 per acre. Once, however, the developer initiates the planning of his subdivision, the assessment of the property may jump to anywhere between \$1,000 and \$3,000 per acre (providing the assessment department immediately reassesses the land). Once the land is fully serviced, however, the assessment may be as high as \$2,000 per lot. Naturally, land varies in assessed value around the city, depending on its location relative to physical features (i.e., rivers) and man-made features (i.e., highways, sewers, etc.). However, the following tax figures for our hypothetical subdivision appear to be representative:

Agricultural assessment:	
1/2 year (while in the planning stage) at \$30/acre (100 mills)	\$15.00
Subdivided assessment:	
2 years (in approval process) at \$2,000/acre (100 mills)	400.00
Fully serviced and subdivided assessment:	
1 year (while services completed, houses built, and final product marketed) at \$2,000/lot (100 mills) [4 lots/acre]	800.00
Total taxes	<u>\$1,215.0</u>

Thus, if all the estimated associated costs are combined and added, to the original per acre purchase price, the influence of time becomes ap-

parent:

Initial price	\$4,000/acre
Land inflation (20%/year)	4,294
Carrying costs (10%)	2,295
Taxes	1,215
	<hr/>
Total	\$11,804/acre

This does not include the cost of servicing or house construction. Land servicing in late 1974 and early 1975 was costing approximately \$7,400 per lot (or, at 4 lots per acre, \$29,600 per acre; see Chapter VI).

This, coupled with the above raw land and time generated costs would mean a total development cost of:

Servicing cost	\$29,600/acre
Raw land and time generated cost	11,804
	<hr/>
Total	\$41,404/acre

Assuming 4 lots to the acre, the cost per lot is around \$10,300. A developer theoretically would have to charge at least this price to be able to break even as well as maintain an adequate raw land inventory. C.M.H.C. landing values on serviced lots (in effect, the prices being charged by developers for their lots) were \$200 per front foot in July 1974. This would give a price of \$11,000 per 55-foot lot, which roughly approximates the above calculation.

The following chapter continues this type of analysis with allowance made for the time the lots remain in a builder's inventory as well as in the

developer's inventory.

G. CONCLUSION

The chapter on housebuilding, sequential to the chapter on land development, has attempted to highlight the time requirements associated with the various steps in the housebuilding process. It can be seen that housebuilding appears to be a less complicated and consequently a less time consuming operation than land development. Thus, while it may be possible to achieve certain time economies in the housebuilding process, it is really towards the land development process that efforts should be directed if significant time savings are to be gained.

FINANCING
AND
THE COSTS OF LAND DEVELOPMENT

Chapter
six

A. INTRODUCTION

The purpose of the cost analysis of residential land development in this chapter is to isolate the various component costs of such development. As indicated in the preceding chapters, the land development and house-building processes are complicated and many faceted not only in operation but also in product. The key is the provision of serviced building lots and in this chapter the costs of supplying such lots will be examined from several aspects.

First, the raw land itself, its appreciation in value and the factors leading to raw land valuation will be discussed. This will be followed by what have been termed the "institutional costs" of land development. Next to be discussed will be the installation costs, that is, the materials used and the costs of installing those materials. This will involve the process of tendering bids as well as the importance of labour costs.

An attempt will be made to outline the development costs of a hypothetical subdivision, breaking down the final cost of a standard serviced lot into its various component parts. Examination of some of the sources of high land development costs and possible modifications in servicing and

land development as alternatives to the present practice will conclude this cost analysis.

B. THE NATURE OF LAND DEVELOPMENT COSTS

The purchaser of a new suburban lot typically sees only one cost, that of the total housing package. The final cost, however, can be broken down into two basic components, that of the serviced lot and that of the house itself. While each of these two basic costs may, in turn, be examined in terms of their many components, it is the serviced lot which exhibits the greatest tendency towards variability and price escalation and consequently it will be examined in some detail. For the purposes of this analysis, costs are considered to be of three types: (a) raw land costs, (b) institutional costs, and (3) installation costs.

Raw land, of course, is the fundamental input of development and is of paramount importance in terms of the basic economics of development. While the final costs of a serviced lot can be shown to be the result of a myriad of inputs, each with its price, it will become apparent that the single most costly item is often that of the raw land itself. The nature of raw land costs is often little understood (for a discussion of how raw land values are determined, see Chapter III, Sections C and D concerning land valuation and speculative influences). However, high raw land costs are usually considered (rightly or wrongly) to be the result of pure market manipulation and speculation and hence in most people's minds are unjustified.

Institutional costs may be considered to be those costs incurred as a result of development parameters, legal and administrative steps, and pure bureaucratic inefficiency. Aside from those directly chargeable costs such as engineering (usually 10% of the estimated cost of development), city administration (2% of the same), and planning, surveying, and registration (approximately \$200 per acre), most of these are not explicitly measurable as cost inputs. This is not, however, to deny their importance. As indicated in Chapters IV and V, time is an essential factor, essential in terms of the staging of development, essential in terms of the costs of financing, and essential in terms of meeting peak market demand periods. Institutional procedures require time, time costs money, and thus those procedures, regardless of their necessity, also cost money. These costs, of course, are usually "hidden" in that they are evenly spread throughout the whole process and are attributable indirectly to other components.

Material and installation costs are the more readily identifiable (and hence justifiable) aspects of the land development function. Materials can be considered as the "physical" input whereas installation is the "action" input.

Once the servicing function has been completed, the developer may calculate the selling price of his lots in one of two ways. He may determine the land servicing cost, add it on to his land costs, and add a profit margin which he considers reasonable and which will replace his used up inventory. Alternatively, he may consider what the current market selling price is (and try to get as much as he can in the market),

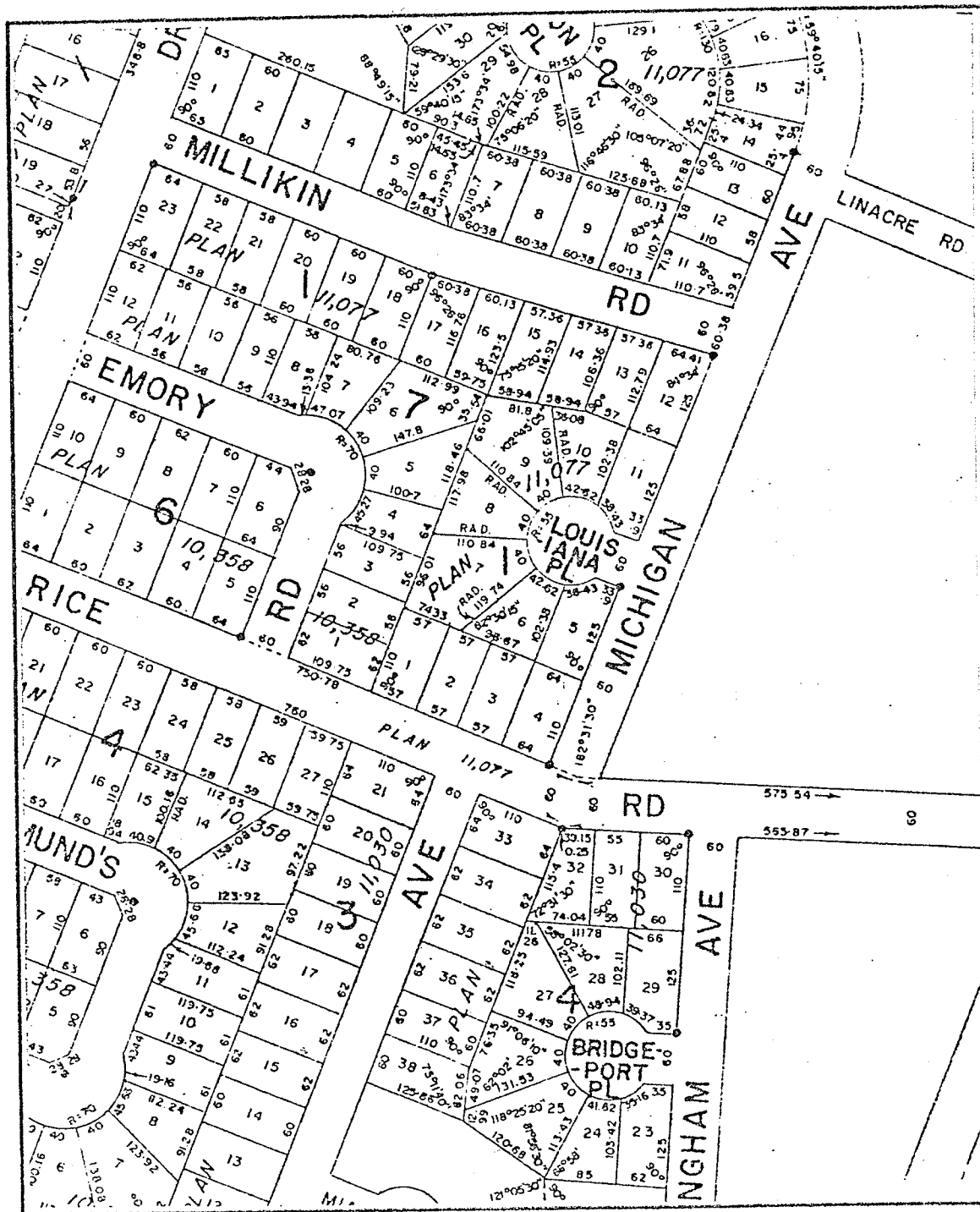
subtract his land servicing and raw land costs, leaving him with a profit margin which will hopefully be enough to permit him to replace his inventory and still enjoy a comfortable profit. The impression gained in this research is that the former method is used by most developers in Winnipeg.

The normal method of cost and selling price calculation is determined on a frontage foot basis. By selling lots by the front foot, a more equitable price is arrived at for lots of differing width. Lot servicing costs vary directly with lot frontages as the width of the lot determines the length of pipes, roads and sidewalks that must be provided. Lot depths as a rule have very little bearing on servicing costs. For example the City of Winnipeg requires a 25-foot setback from the front lot line so that most houses have the same length of servicing connections on the site.

What the developer does, then, is estimate the servicing cost for the entire subdivision area (e.g., 200 lots on approximately 50 acres), divide the total cost by the number of saleable front feet (e.g., average 55 foot fronts x 200 lots), add a profit margin (which will also enable him to replace his inventory at current market prices) and thus arrive at his selling price per front foot. The accompanying diagram (Figure K) indicates the lot configurations of a typical subdivision (Fort Richmond) found in Winnipeg today. While some lots have varying frontages and layouts, all have approximately the same site area. Setbacks are standard (a City requirement) so that all on-site costs will be roughly the same. Thus the lots largely vary in price depending on

FIGURE K

Lot configurations: Fort Richmond, Winnipeg



Source: Metropolitan Corporation of Greater Winnipeg, Planning Division, Subdivision Branch, August 1972.

street frontage.

C. RAW LAND COSTS

Preliminary to any discussion of serviced land costs one must consider the price of the raw land itself. It is necessary to have an understanding of the costs of the raw land insofar as they are reflected in the final selling price of the house. Considerable variation does exist today in the price being paid for raw land. This price variation appears at times to be geographically irrational in that two adjacent parcels often sell for grossly differing amounts. This is partly due to the size of the parcel being bought, the location of the parcel relative to existing development and future planned extension of City services, and the vendor's and buyer's relative knowledge of current market conditions. However, as indicated in Chapter III, raw land costs primarily reflect current demand/supply situations in the market place.

Present costs of raw land in the Winnipeg area have reached an all-time high and there appears little likelihood of prices decreasing.¹ Table 7

¹An interesting example of the inflationary trend in land prices due to shortages is a 106-acre parcel of land south of the Transcona Golf Course now owned by Qualico Developments Ltd. In a flurry of sales between July of 1973 and January 1974, the property first sold for \$1,090 per acre in July and then was resold in September for \$2,104 per acre and then again resold (this time to Qualico) in January of 1974 for \$3,254 per acre. That the first and second sales involved a well-known individual selling his property to his own company, which in turn sold it to Qualico (thus making a profit of over \$1/4 million) is beside the point, though the ethical justification of such business practices is questionable. Price spirals of this magnitude are common, and naturally the home purchasers end up bearing this cost.

TABLE 7
Sample raw land purchases

Date of purchase	Community committee area	Price per acre
August 1973	St. James-Assiniboia	\$4,818
January 1972 to January 1974	Lord Selkirk	5,245
June 1973 to March 1974	West Kildonan	3,736
January 1973 to January 1974	East Kildonan	1,426
September 1973 to April 1974	Transcona	2,045
March 1974	St. Boniface	2,250
June 1973 to July 1973	St. Vital	4,195
January 1973 to March 1974	Ft. Garry	3,707
August 1972 to April 1974	Assiniboine Park	1,442

Source: M.H.R.C. Prices are average figures obtained from examination of many sales. While extremely low or high prices may affect the average price, it is felt that the quoted prices are indicative of current raw land costs.

indicates some sample purchases in the past years on the fringes of the City. More recent purchases in the nature of \$8,000 to \$15,000 are not uncommon.

D. INSTITUTIONAL COSTS

Institutional costs are those which arise directly or indirectly out of bureaucratic and administrative processes. Most of these costs, such as the process of obtaining plan approvals as discussed in Chapters IV and V, are time generated.

Another such influence may be found in the development requirements of the City of Winnipeg (see Appendix A). While many of these parameters are requisite, the feeling also exists within certain circles that many of the parameters are overly stringent and quite inflexible. This may largely be the result of bureaucratic inertia and the proven success of a traditional methodology.

Some forms of institutional costs which are attitudinally generated may be found in the developer, the engineer, the existing homeowner, and the planner.

The land developer, usually owning large tracts of land at the periphery of the built-up area, is often anxious to have some of this land developed as quickly as possible. As most undeveloped land is far removed from existing servicing infrastructure, the cost of servicing these areas can be astronomical. In many cases the area actually serviced may contribute

(through taxes) only a portion of the construction and maintenance costs. It is said that completely planned and well-integrated subdivisions have a lower per dwelling servicing cost than more piecemeal developments (see N. Pearson, 1967). Detailed cost comparisons and evaluations of alternate forms and strategies of development as well as a re-examination of municipal financing are required in this area.

The engineer is usually design-oriented and conscious of flow factors, life span, and construction costs. For example, in per unit of capacity, large sewers are generally less costly than smaller ones. Doubling the diameter of a sewer will not double its cost but will increase its flow by a factor of four. Similarly, properly selected sewer materials may possess a very long physical life. Thus sewers are often designed for 40 or 50 years in the future although the financing costs must be repaid much sooner.

The landowner or resident who lives in an already serviced area may be reluctant to finance the servicing of a new area.² It can be argued that

²It really is a question of "how, and to what extent, should Metro's present (servicing) works beneficiaries prepay the future benefits to be serviced by others" (Alvord et al., 1965). Residents who now live in partially serviced areas, having become established and financially secure, may demand improvements in their services. This can be seen to be happening in Tyndall Park in Lord Selkirk Community. Initially serviced with open storm drainage, gravel streets, and no sidewalks (which meant a lower initial house purchasing cost), tenders are now out for asphalt surfacing of these streets. The problem arises in that these improvements are paid for in accordance with the terms of the Local Improvement By-law which means that the residents of Tyndall Park will pay only about 50% of the cost involved, and the City at large (meaning tax payers in other already serviced areas) will pay the remainder.

urban sprawl, to a certain extent, is being subsidized by public trunk utilities because the full marginal cost of trunk services is not being paid by the purchaser of a new home. If the new home buyer had to pay the full cost of supplying trunk utility services to his area, he might be unwilling to pay. In other words, an argument may be made that land in some areas is being developed before it is economically ready for development (economic in the sense that new residents do not pay the full cost). The resulting cost inefficiency may be said to be in part due to the premature extension of sewer and water lines without full recovery.

The planner strongly influences the type and direction of development. As a guideline for future urban expansion, the 1968 Metropolitan Development Plan has been followed fairly closely. Originally development was

²Continued: The argument, of course, becomes circuitous. People living in already fully serviced areas such as Westwood and Windsor Park will protest at having to subsidize improvements on other people's land, improvements which will benefit the residents of Tyndall Park but not the residents of Windsor Park. Residents of Windsor Park were required to pay the full cost of servicing when they moved into the area because the development was fully serviced at that time. Now, when required to help subsidize improved services in Tyndall Park, they may feel that they are being asked to pay "double". It is especially aggravating for others when a homeowner in Tyndall Park who benefitted from lower initial costs, and perhaps only half paid for subsequent improvements, can sell his home for a price comparable to selling prices in other parts of the City, thus making a handsome profit.

This stand can be countered by pointing out that residents of Windsor Park received the benefit of lower land costs, lower servicing costs, and lower housebuilding costs at the time of the development of their area and furthermore part of this benefit accrued from investments in servicing infrastructure was made by the residents of other parts of Winnipeg at that time. Consequently each area in turn should be willing to contribute to development in other areas. This may be a difficult case to make to the individual homeowner who can only see rising municipal taxes and living costs.

not to occur in the "areas of no urban expansion" as outlined in the Plan. However, one of the inadequacies of the Plan was its lack of foresight in predicting areas and directions of strong demand for growth and allowing for them. For example, while natural urban expansion in Winnipeg tends to follow the Red River north and south and the Assiniboine River to the west, expansion, according to the Plan, was to be contained within the Perimeter Highway excepting for the St. Norbert area but discouraged for the most part beyond the Perimeter Highway in other areas. Some low density development was to occur around already existing villages such as Dugald, Birds Hills and Headingley. As the Plan is currently under review, there is the possibility of some changes in development policies in relation to the existing City and the Additional Zone.³

The Perimeter Highway is proving to be an artificial container of metropolitan growth. Designed and built by the Province in the 1950's and 1960's prior to the Development Plan of 1968 and taking little account of natural trends in urban expansion, it merely provides a circular route

³For example, two possibilities exist in the Headingley area. Limited development with minimum lot sizes of 10,000 feet² with pump-out sewage tanks and trucked-in water is being permitted at present. This is expensive (present trucked-in water costs \$10 to \$15 per 1,000 gallons and in Ontario it is estimated that pump-out tank operations cost around \$475 per year (MacLaren, 1973). The land can withstand only limited development. There are two options open: either to stem development around Headingley and retain this type of servicing system or to provide extensions to the existing sewer and water network beyond the Perimeter Highway to service Headingley. If this were to occur and development between Headingley and the Perimeter took place, then an additional sewage treatment plant would be required in the western portion of the City. If, on the other hand, no intervening development was permitted between the Perimeter and Headingley, water could probably be provided, not under pressure, through tapping the present system.

around the City, a route which the Plan arbitrarily adopted as a seemingly adequate boundary of growth.

E. INSTALLATION COSTS

Numerous variables enter into consideration when attempting to depict trends in servicing costs over a period of years. Not only have labour costs (both skilled and unskilled) increased substantially but so have the costs of materials, equipment, maintenance, fuels and other components. Thus the sources of servicing cost escalations can seldom be narrowed down to one or two items.

An attempt was made to isolate changing costs of sewer and water and related utilities over time with a view to relating those changes to overall costs of development, lot costs and, eventually, housing prices. Several difficulties were encountered.

First, it frequently happens today that a developer is required by the City to install capacity over and above what is actually necessary for his particular development. This is to ensure that adequate trunk capacity will exist for future developments which may be built on the fringes of the built-up zone. If this should occur, the developer is to be reimbursed by the City (the amount is negotiable) for the excess capacity installed at his expense (as per the Development Agreement Parameters) and theoretically this should be passed on to the homebuyer in the form of lower serviced land costs. However, by examining contract tenders, one obtains only the total cost involved so that the cost per

lot figure indicated may not be entirely accurate.

Second, on awarded contracts the lot sizes and street patterns are often not indicated so that certain assumptions have had to be made about assigning servicing costs to lot prices.

Third, over time tendered servicing costs have fluctuated so significantly due to evolving servicing standards that comparative trends have been difficult to determine.

An attempt was made to determine the relative importance of the various components of servicing, that is, the watermains, sanitary sewers, storm sewers, building connections, and roads and sidewalks and then to work out a representative figure relating to the total servicing cost per lot. As each development is geographically unique, the costs of one project may vary considerably from those of another. Thus universal cost factors for land servicing are difficult to derive. However, the costs presented in the following analysis can be considered as being fairly representative of a standard subdivision in Winnipeg.

F. MATERIAL INPUTS

Once the decision has been made by the developer to proceed with the development of a parcel of land, a consulting planner and a consulting engineer (both functions may often be performed by the same firm) are contracted to draw up the specifications for that particular development. Providing the plan receives the approval of all the various departments

and agencies (as outlined in Chapter IV), bids are then accepted from the various construction firms operating in the City and contracts are awarded for the installation of required services. The materials used in the servicing of land must meet the requirements of the City of Winnipeg engineering staff (as expressed through the Development Agreement Parameters and Development Specifications).

1. PIPE MATERIALS

A fairly wide range of materials is available for sewer and water piping. Storm sewers can be constructed from concrete, asbestos cement (AC), vitrified clay, polyvinylchloride (PVC), or corrugated steel pipe. The same can be used for sanitary sewers except for the corrugated steel pipe which has been found to be unsatisfactory. Water lines can be constructed from ductile iron, polyvinylchloride, polyethylene, cast iron, reinforced concrete or asbestos cement.⁴ However, in Winnipeg concrete is used almost exclusively for both sanitary and storm sewers while watermains are invariably constructed from AC piping. Such practice is largely due to existing design and installation criteria for each type of piping. The comparative costs of various pipe materials (as in Table 8) also influence usage, and where relatively low prices combine with favoured design criteria and established engineering preferences it is usual that only a few material types will be used extensively. Table 9 lists those prices of materials associated with the

⁴Recent "scares" concerning asbestos fibres in drinking water carried through AC pipes have proved unfounded and consequently AC piping can be freely used.

TABLE 8
 Cost of piping materials

Description	Cost per unit			
	4-inch	6-inch	8-inch	10-inch
Ductile iron, class 0, 0.25-inch		\$3.82/foot	\$5.27/foot	
Ductile iron, class 2, 0.31-inch		4.58/foot	6.54/foot	
Polyvinylchloride pipe		3.00/foot		
Concrete sewer pipe*		1.47/foot	1.68/foot	\$2.00/foot
Clay sewer pipe	\$1.21/foot			
Asbestos cement watermain		2.76/foot		
Asbestos cement sewer	1.01/foot	1.53/foot	2.57/foot	

*Includes the cost of mandatory rubber gaskets.

Source: personal communication with suppliers to Winnipeg land development operations, May 1975.

TABLE 9

Cost of servicing materials other than piping

<u>Description</u>	<u>Cost per unit</u>
Hydrant, 9-foot burial	\$675.00
Curb stop	15.60 to 18.72
Service box	16.00 to 16.70
Sand bedding	0.30/foot
Polyethelene sleeve	0.12 to 0.15/foot
Corporation brass 3/4-inch pipe	0.90 to 1.00/foot
Gate valve, 4-inch	140.00
Gate valve, 6-inch	223.00
Gate valve, 8-inch	356.00
Gate valve, 10-inch	616.00
Gate valve, 12-inch	859.00

Source: personal communication with suppliers to Winnipeg land development operations, May 1975.

installation of sewer and water piping.

2. FACTORS AFFECTING PIPE SIZE REQUIREMENTS

Numerous factors enter into consideration when one is attempting to determine the ideal sizes of sewer and water lines. For example, overly large sanitary sewers may result in inefficient scouring action and attendant odors from slow flow or the increased maintenance and unnecessary expense of over-design. Sewer and water lines, therefore, should not be over-built without careful consideration even if the cost of the larger sewer is only slightly more expensive than the smaller one.

Costs per unit of servicing are reduced as the density of development increases due to the lessening of the distances between dwelling units. The length of sewer and water pipe necessary is a function of area rather than density but density has a major effect on the size of pipe required for the main lines (for a detailed discussion, see Dowing, 1969).

The costs of transporting sewage from a subdivision to a treatment plant is a function of the distance between the subdivision and the treatment plant, the amount of lifting, comminuting (grinding) and pumping necessary, and the addition (if any) to the size of the main interceptor required to carry the sewage to the treatment plant.⁵ The capital and op-

⁵The cost of an installed service network may depend on the depth, the size of the trench and pipe required, the type of soil encountered, and the material of which the pipe is made. For example, the cost of the

erating costs of the pumping stations are affected by both the volume of sewage the station is required to handle and the "head" (the number of feet) which the pump is required to lift the sewage. Due to the rather gentle gradient in Winnipeg the required head is quite small.

Similar factors affect the costs of supplying water to a subdivision. Of particular importance is the necessity of maintaining adequate pressures to be used for fire fighting.⁶

A good measure of potential sewage flow is the magnitude of water demand. It is often assumed that the average rate of sewage flow, including a moderate allowance for infiltration, equals the average rate of water consumption (Steel, 1960). In Winnipeg, it is assumed that domestic sewage flow is about 80% of domestic water consumption with considerable amounts added by industrial processes. Infiltration rates vary considerably and should be carefully taken into account when designing a sewerage

⁵Continued: actual sanitary sewer pipe usually runs around 10% of the total installation cost. The cost difference between a 6-inch and an 8-inch concrete sewer is minimal (about 20¢ a foot) though 6-inch sewer lines are infrequently used in Winnipeg. When drafting plans, local engineers usually do so on the basis of a minimum 10-inch sewer. The small degree of slope within the City would necessitate very deep trenching and more frequent lift stations if 6-inch piping were commonly used. What saving might be gained in material cost would be quickly offset by deep trenching (necessary to maintain a flow of 2 fps) and lift station installation, operation and maintenance. However, all installation networks necessitate that cognizance be taken of problems encountered with overly large sewers (i.e., scouring action, stagnation, etc.).

⁶For a description of required fire flows, see W. Bloxom and B. D. Thraves; "The City of Winnipeg: Water Supply and Distribution, Waste Water Collection and Treatment", Planning Secretariat of Cabinet, Province of Manitoba, 1975.

system. Within Winnipeg, rates vary from a low of about 100 gallons per acre per day (gad) in Tuxedo to a high of 170 gad for some parts of Ft. Garry and St. James.

3. STREET SURFACING AND SIDEWALKS

Various options are open to an engineer when planning the streets in a residential area. The streets can be left in an unfinished or semi-finished state, they can be gravelled and perhaps oiled, they can be asphalted, or they can be surfaced with concrete. Each alternative provides various advantages and disadvantages. Unfinished and semi-finished road surfaces have the lowest initial cost but suffer the disadvantages of high maintenance costs, unserviceability in periods of inclement weather, and unaesthetic appearance. A gravelled street is more durable and can quite adequately service an area. Unfortunately, maintenance costs and the dust factor detract from its advantages. This can be somewhat overcome by oiling the street but this adds to the expense and re-oiling is required periodically. Asphalt paving provides a durable surface for 12 to 15 years before losing its "ride-ability" and hence requiring resurfacing or patching. Concrete pavement is the most durable although it is somewhat more expensive than asphalt.

The soils of Winnipeg and the Red River Valley are unique in chemical composition and physical structure, and while being highly valued agriculturally, they present certain problems for construction. Extreme freeze-thaw mechanisms require the best of servicing and presumably this factor is instrumental in concrete paving being advocated in development

agreement parameters. Concrete is less affected by soil settling and shifting than asphalt and hence is preferred in the Winnipeg area. Outside the Red River Valley, where soil conditions are "better", it is possible to utilize asphalt to a greater extent and this has been the observed practice. For example, one of the few sections of the TransCanada Highway which is not asphalted is that section in the immediate vicinity of Winnipeg.

Traditionally, concrete has been used in the Winnipeg area so that in the Inner City and in most of the established residential areas, streets and sidewalks are constructed of concrete paving. However, considerable asphaltting has been undertaken in parts of Ft. Garry and Assiniboia over a period of years. While for the most part adequate, neither the quality nor the durability of these streets is as high as that of concrete pavement, with the result that local engineers will point to asphaltting's higher maintenance costs vis a vis concrete paving. Thus, while asphalt streets under normal use can be expected to last 12 to 15 years before requiring extensive repairs, concrete pavements have a life span of at least 25 years on the poorest of soils. The average life span of all North American concrete roads, both highways and residential streets, is 33 years.

It is felt by some in the construction and development businesses that certain of the weather restrictions that the City imposes over asphalt and concrete street surfacing operations may not be necessary, or at least may be overly restrictive. However, due to the rather severe climatic conditions of the Winnipeg area, only a relatively limited time

of the year is available for surfacing projects.

4. STREET LIGHTING

Lighting recommendations are drawn up by the Illuminating Engineering Society and approved by the Canadian Standards Association. Mercury vapour lighting is most common in Winnipeg although some examples of incandescent lighting still exist and Manitoba Hydro is presently experimenting with a high pressure sodium illumination system which reportedly gives better "direction" than existing arrangements. Mercury vapour wattages vary from 175 watts on residential streets and 250 watts on collectors to 400 watts on major thoroughfares.

Maximum illumination efficiency is achieved where lighting is arranged to serve grid street patterns. Consequently, the present tendency to introduce curvilinear streets into new subdivisions may contribute marginally to increased servicing costs.

At the time of writing, Manitoba Hydro could install lighting in residential subdivisions at an average cost of \$800 per unit or approximately \$267 per lot assuming 160-foot spacing of poles and individual lot frontages of 53 feet. With spacing at distances of up to 200 feet, grid street networks and smaller lot sizes, lower per lot costs would be incurred. Where lighting is introduced on collector roadways, per unit costs approximate \$900, with higher costs on major thoroughfares. In each case the additional price is largely attributable to material costs. Generally speaking, labour costs amount to some two-thirds of total in-

stalled lighting costs to the developer, such an amount being passed on to the homeowner as a portion of the serviced lot cost.

G. LABOUR COSTS

A significant cost factor in any construction project is the cost of labour. While increases in the price of land and materials are noticeable, such increases are nowhere near as great as those experienced by labour. Using 1961 as a base year (base index = 100.0), Table 10 indicates the relative price index increases of selected items dealing with single detached dwelling construction in Canada. Thus the cost of labour has become crucial when considering a development. (This critical cost may be seen to be reflected in the increased usage of prefabricated and mass produced housing components.)

Within the area of construction labour itself, wage rises have been fairly uniform though as the figures for Winnipeg indicate (see Table 11) there has been some intra-industry variation.

H. THE NATURE OF TENDERING BIDS

From tendered bids and awarded contracts, it has been possible to determine the costs of installing the various servicing components. Through experience contractors have learned to apportion their labour, equipment and operating costs to the individual items specified by the Plan. Thus, while the cost of 6-inch asbestos concrete water pipe may be \$2.76 per linear foot (delivered in bulk) from a pipe supplier, one company may

TABLE 10

Price indices for single detached residential construction
in Canada (1961 = 100.0)

Year	Total cost of dwelling*	Construction cost per foot ²	Land cost	Materials	Labour	Consumer price index
1961	100.0	100.0	100.0	100.0	100.0	100.0
1962	99.3	98.3	107.0	n.a.	n.a.	101.2
1963	100.9	99.0	114.3	n.a.	n.a.	103.0
1964	104.8	103.1	118.4	n.a.	n.a.	104.8
1965	110.0	109.3	118.9	n.a.	n.a.	107.4
1966	119.0	117.7	133.7	120.5	128.1	111.4
1967	124.5	122.9	137.6	125.3	140.8	115.4
1968	133.2	130.5	144.0	132.1	152.8	120.1
1969	143.7	139.8	161.5	139.2	164.5	125.5
1970	147.2	142.5	161.0	137.6	188.7	129.7
1971	153.5	146.4	176.3	144.4	214.8	133.4
1972	163.6	155.9	187.6	158.5	237.4	139.8
1973	181.4	178.9	179.5	179.0	261.6	150.4
1974	n.a.	n.a.	n.a.	195.7	284.6	163.5

*Adjusted for declining square footage areas of newer dwellings.

Source: Statistics Canada Census Bulletins.

TABLE 11

Basic union wage rate indices for major construction trades
in Winnipeg (1961 = 100.0)

Trade	Weights*	1971	1972	1973	1974
Composite	100.0	193.4	213.8	234.7	256.2
Carpenter	29.5	188.0	207.2	225.2	244.4
Cement finisher	2.4	206.7	222.6	244.6	269.7
Electrician	9.0	182.5	205.4	230.7	252.9
Labourer	16.2	209.1	238.2	265.5	291.5
Plumber	11.8	194.3	214.3	232.9	255.4
Sheet metal worker	4.1	190.3	209.7	227.9	247.4
Heavy equipment operator	3.8	190.5	211.6	236.3	262.6
Bricklayer	8.0	178.5	197.4	214.1	232.6
Painter	14.0	190.9	212.7	233.2	253.2

*Component categories total does not equal composite figure due to omission of some "non-residential" types of occupations.

Source: Statistics Canada Census Bulletin 62-008, 1975.

tender a bid of \$6.00 a linear foot to install said pipe while another may tender a bid of \$10.50 a linear foot. These may not be truly representative figures in that each company may have a personal motive for charging that particular price. Thus a contractor who tenders low may be doing so in order to keep his men working during periods of slack rather than risk losing skilled workers by laying them off, even though his profit will be minimal. Similarly, a company may deliberately tender high in order to not be awarded the contract, particularly if it already has sufficient work to keep it busy for some time. Companies usually respond to offered tenders in one form or another to ensure being considered for future works. Variations in bid prices for an individual item may nevertheless vary considerably between two contractors who are keenly interested in obtaining the contract. However, this difference is usually countered by variations in bid prices for another item. Table 12 indicates various bid prices for selected items in the Waverley Heights development. Considerable variation in price is evident for individual items as well as for the complete bids.

I. OFF-SITE AND ON-SITE DEVELOPMENT COSTS

Residential land servicing costs are commonly divided into two categories: the off-site costs and the on-site costs (Urban Land Institute, 1958). Off-site costs consist of those costs incurred outside the actual lot itself but which provide trunk services for that lot and others (see Figure L). As a rule they vary directly in magnitude with the street frontage of the lot. Such costs would be those associated with the clearing, excavation, grading and construction of the streets and lanes,

TABLE 12
 Sample tendered bids for Waverley Heights, November 1973

	Taillieu*	Borger	Nelson River	McNicol	Cambrian	Dominion	B.A.C.M.
6-inch AC waterline supplied and installed complete in open trench	\$6.00/1f**	\$7.75/1f	\$6.90/1f	\$7.00/1f	\$6.50/1f	\$7.70/1f	\$10.50/1f
6-inch gate valves supplied and installed complete	\$275.00/unit	\$180.00/unit	\$235.00/unit	\$200.00/unit	\$235.00/unit	\$225.00/unit	\$325.00/unit
Hydrants supplied and installed complete	\$800.00/unit	\$650.00/unit	\$615.00/unit	\$900.00/unit	\$1,060.00/unit	\$750.00/unit	\$1,025.00/unit
Standard manholes on storm sewers greater than 24 inches in diameter	\$52.00/vf***	\$50.00/vf	\$45.00/vf	\$90.00/vf	\$60.00/vf	\$80.00/vf	\$92.45/vf
Rip rap supplied and installed around outfall pads as specified	\$10.00/yard ²	\$25.00/yard ²	\$50.00/yard ²	\$30.00/yard ²	\$5.00/yard ²	\$15.00/yard ²	\$70.00/yard ²
Total tender	\$461,190.00	\$515,900.00	\$516,071.75	\$532,421.27	\$544,015.75	\$592,877.00	\$715,321.75
Estimated completion time	7 months	8 months	7-1/2 months	6-3/4 months	7-1/2 months	7-1/2 months	12 months

*Taillieu Construction Ltd. was awarded the contract.

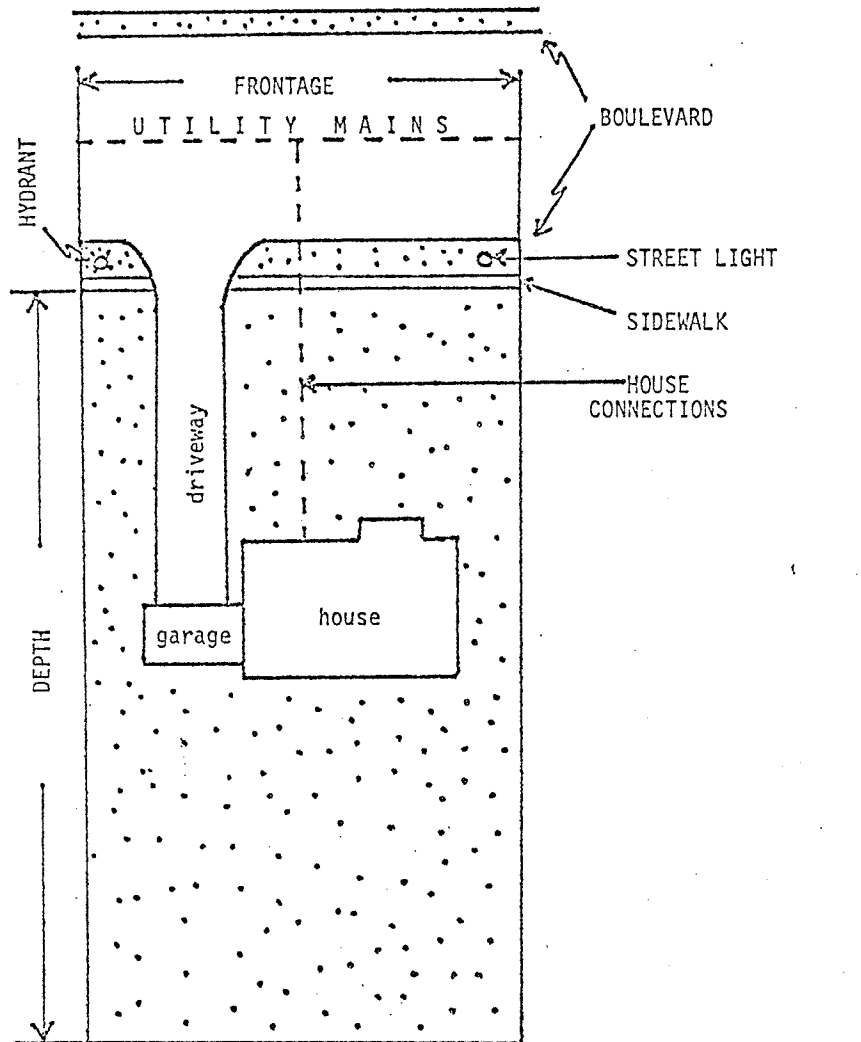
**1f = linear foot

***vf = vertical foot

Source: Underwood, McLellan and Associates Ltd.

FIGURE L

On-site and off-site costs



OFF-SITE COSTS

- Streets
- Sidewalks
- Water main
- Storm sewer
- Sanitary sewer
- Curbs and gutters
- Boulevards
- Lighting

ON-SITE COSTS

- Driveway
- Walkway
- House connections
- Landscaping

Source: Urban Land Institute; Technical Bulletin Number 32, 1958.

installation of storm and sanitary sewers, watermains, gas lines, hydro and telephone cables, as well as the provision of sidewalks, boulevards, sodding and street lights.

On-site costs, on the other hand, consist of those of the house construction itself (not considered here), the building connections (sewer, water, gas, hydro and telephone), driveway and walkway installations as well as such landscaping provisions as clearance and topsoil removal, grading, loam and seeding, and the planting of trees and shrubs.

Table 13 reflects some of the on- and off-site cost relationships present in land development. The off-site costs indicate the costs of each item as installed. In other words, the labour costs and the equipment costs, etc. have been included in each item cost. This is the practice followed by the construction firms when bidding for work. From one subdivision to another, off-site costs may vary considerably. It may be necessary to install larger than necessary watermains and sewer lines in order to provide for future development of contiguous areas. The same may be the case for roads. The figures in Table 13 have been derived from bid sheets and information supplied by local developers. While some variation may occur due to the reasons cited above, the cost figures are believed to be fairly representative of the present situation. One item which is becoming increasingly more expensive as development occurs away from the rivers is the installation of storm sewerage. In order to partially offset these mounting costs, many newer developments are being equipped with artificial ponding systems. While in some instances they are developed as potential market attractions, artificial ponds also serve as

TABLE 13
Site improvement costs (late 1974)

	Estimated cost per acre	Year 1 costs	Year 2 costs	Year 3 costs	Total costs
A. Off-site costs					
Clearing and site preparation	\$1,000		\$1,000		\$1,000
Watermains	2,108		2,108		2,108
Sanitary sewers	1,860		1,860		1,860
Storm sewers	3,600		3,600		3,600
Streets, lanes, sidewalks, curbs and gutters	9,560			\$9,560	9,560
Boulevards and sodding	1,140			1,140	1,140
Street lighting	1,068			1,068	1,068
Service connections to lot line	1,100 ^a		1,100		1,100
Total A	\$21,436		\$9,668	\$11,768	\$21,436
B. Associated costs					
Winnipeg administration (2% of A)	428	\$428			428
Survey and registration	100	100			100
Planning and engineering design (8% of A)	1,715	1,715			1,715
Engineering supervision (7% of A)	1,500		676	824	1,500
Total B	\$3,743	\$2,243	\$676	\$824	\$3,743
Total A + B	\$25,179	\$2,243	\$10,344	\$12,592	\$25,179
Developer administration (4% of A + B)	1,007	90	414	503	1,007
Interim financing*	3,290	673	1,862	755	3,290
Total cost per acre	\$29,476	\$3,006	\$12,620	\$13,850	\$29,476
Total cost per lot**					7,369
Total cost per front foot***					139

*For simplicity, an interest rate of 12% per annum has been assumed. This is calculated from the seventh month of the year of expense to the end of year 3 when the servicing stage is assumed completed. No allowance was made for holdback on contract payments.

**Assumes 4 lots to the acre.

***Assumes 53-foot frontage on the lots.

Sources: Underwood, McLellan and Associates Ltd.; Ladco Company Ltd.; Reid, Crowther and Partners Ltd.; Manitoba Hydro; Leaf Rapids Corporation

temporary storage basins for storm run-off.

J. A HYPOTHETICAL SUBDIVISION

The following conditions are assumed to apply to the analysis of Table 13:

(a) The site improvement costs, which have been obtained from a varied source of builders and developers are assumed to be correct.

(b) Year 1 is devoted to acquisition, planning, engineering design, and surveying.

(c) Years 2 and 3 are the construction years. During this time a certain amount of engineering supervision is required.

(d) The developer's administration cost (4% of all costs) is calculated at the end of each year.

(e) The City of Winnipeg administration fee (2%) is collected at the end of year 1 but is actually based on the total estimated construction cost.

(f) Planning and engineering design is assumed to be 8% of all costs and is paid at the end of year 1.

(g) Engineering supervision is considered to be 7% of all construction costs within that year.

(h) Disposal of the lots: after the end of year 3 all lots are either sold or transferred to a builder. In reality, if this does not happen the developer then will incur higher holding costs. The builder will most likely also charge interest on his investment in the lot(s). Assuming he holds the lot for one year before finishing

the house and selling it to the consumer, an interest rate of 12% should also be applied to year 4.

Thus, the developer's site improvement cost is approximately \$29,500 per acre (\$7,369 per lot or \$139 per front foot). Adding the 12% per annum interest charges when held by the builder, the serviced land costs become:

	<u>Years 1-3</u>		<u>Year 4</u>		<u>Final</u>
per acre	\$29,476	+	[12% x \$29,476]	=	\$33,013
per lot	7,369	+	[12% x \$7,369]	=	8,250
per front foot	139	+	[12% x \$139]	=	155

It is assumed that the builder will not receive payment for his lot until the completion of construction (one-year period).

K. ALTERNATE COSTING METHODS IN SUBDIVISION DEVELOPMENT

The material and installation costs as developed in the previous section have been considered in relation to the time generated costs as developed in the previous chapter in order to analyze the evolution of a hypothetical development. Several approaches may be employed to arrive at a final frontage foot selling price. It should be emphasized that all of these approaches are correct in that they are legitimate applications of various accepted accounting practices. What is notable is the great differentiation in the final cost figures.

In this hypothetical analysis the following conditions are assumed to apply:

- (a) The initial tract of land is 100 acres in area and posses-

ses no unusual physical qualities which would reduce the amount of usable land.

(b) A four-year development period is required between the time of initial purchase of the land to the final sale of the houses. The two functions of land development and housing construction are combined here as a one-firm developer-builder function. Thus a four-year time period is considered until the sale of the houses.

(c) Present subdivision design practices are followed so that there are 4 lots to the acre, each having a 53-foot frontage.

(d) The 10% land dedication now required by the City of Winnipeg for parks, recreation, etc. is assumed to apply.

(e) The local school board requires 6 acres, 3 of which are obtained from the City (from the dedicated lands) under the terms of a joint-use agreement and 3 of which are acquired from the developer at market price (i.e., the price the developer has just paid for his land).

(f) As soon as the developer has purchased the land he drafts and submits a subdivision plan so that the land dedication and school requirements are immediately transferred and the developer can therefore minimize holding costs. As well, the municipal tax increments are assumed to apply as developed in the companion report. (Federal or provincial income taxes were not included in this analysis.)

(g) The off-site cost relationships developed in Table 13 are assumed to apply.

The costs presented here are indicative of the situation as it existed in late 1974. The reader should allow at least 15% to 20% for general inflationary trends in materials and labour since that point in time.

Five examples of alternate methods of considering certain costs are presented in Tables 14-19. That other methods are possible is acknowledged.

Two immediate conclusions may be drawn from this analysis. First, it is obvious that considerable variation may occur in the final selling cost depending on how one considers interest charges and inventories. Second, the very great impact of financing costs on the final lot selling cost is apparent. A simple variation of one or two percent in the cost of borrowing money can have a significant impact on how much an individual must eventually pay for his lot.

L. LAND COST COMPARED TO HOUSING COST

As an indication of the relationship between land costs, construction costs, and the final cost of new dwellings, Table 20 is presented.

It is evident that the cost of land is increasing at a much faster rate than the overall cost of housing and that an increasingly larger percentage of a home purchaser's money is being spent on the land itself. Between 1962 and 1975, the total cost of housing increased 175%. Construction costs in the same period increased 156% while land costs increased 370%.

TABLE 14
Cost analysis -- example A

	<u>Cost</u>	<u>Cumulated</u>
1. Land acquisition: Developer-builder purchases outright 100 acres at \$4,000/acre	\$400,000	\$400,000
2. Land dedication: Developer-builder dedicates to the City 10% (10 acres) of the land area at no cost. This land is to be used for parks, recreational areas, etc.	0	400,000
3. School requirements: Developer-builder sells 3 acres to the school division (at market price). This \$12,000 can be invested by the developer for the 4-year development period at 12% accumulated per annum	+18,882	381,118
4. Interest: Developer-builder incurs holding costs on his \$400,000 investment. Holding costs at 12% accumulated per annum for 4 years	229,408	610,526
5. Municipal taxes: Developer-builder pays taxes on 87 acres for 4 years at a 4-year average of \$1,215/acre (includes interest)	105,705	716,231
6. Servicing cost: Developer-builder services 87 acres at a cost of \$33,013/acre	2,872,131	3,588,362
7. Profit markup: Developer-builder adds on a profit margin (assumed to be 20% of cost incurred thus far)	717,672	4,306,034
8. Inventory replacement allowance: The final selling cost of the land is based not on what the original purchase price was, but rather on what now must be paid to replace the spent inventory. Assuming a general increase in land values of 20% per year, the original \$4,000 per acre will now be worth \$8,294 per acre (an increase of \$4,294 per acre). Replacement of 100 acres at an additional \$4,294/acre	429,400	4,735,434
9. Final selling price:		
per 87 acres		\$4,735,434
per acre		54,430
per lot		13,607
per front foot		257

TABLE 15

Cost analysis -- example B

	<u>Cost</u>	<u>Cumulated</u>
1. Land acquisition: Developer-builder does not purchase outright the 100 acres at \$4,000/acre but rather enters into an agreement whereby he pays only the interest (12%) on the agreed-upon sum until final sale of the serviced lots whereupon the \$4,000/acre is due. (It may be that in a situation such as this, a higher premium interest rate will be used; however 12% will be considered here.)	\$229,408	\$229,408
2. Land dedication: As in example A2	0	229,408
3. School requirements: As in example A3	+18,882	210,526
4. Taxes: As in example A5	105,705	316,231
5. Servicing cost: As in example A6	2,872,131	3,188,362
6. Profit markup: As in example A7	637,672	3,826,034
7. Allowance for payment for land plus inventory replacement: Upon sale of the lots, original owner must be paid for his land. As well, the developer-builder considers that his inventory must be replaced at current market value (which is \$4,294/acre more than 4 years previously as per example A8)	829,400	4,655,434
8. Final selling price:		
per 87 acres		\$4,655,434
per acre		53,510
per lot		13,378
per front foot		252

TABLE 16
Cost analysis -- example C

	<u>Cost</u>	<u>Cumulated</u>
1. Land acquisition: As in example B1	\$229,408	\$229,408
2. Land dedication: As in example A2	0	229,408
3. School requirements: As in example A3	+18,882	210,526
4. Municipal taxes: As in example A5	105,705	316,231
5. Servicing cost: As in example A6	2,872,131	3,188,362
6. Profit markup: As in example A7	637,672	3,826,034
7. Payment of land acquisition cost: Upon sale of the lots, the original owner must be paid for his land (\$4,000/acre). This payment must be considered by the developer-builder when calculating the selling price of his lots. In this case no allowance is made for "replacement of inventory" or "selling at current market value". In the two previous examples, the purchaser of the finished lot was in effect being asked to ensure the maintenance of the developer-builder's land inventory. In other words he was paying for his own land as well as part of the land to be developed in the future (presumably the future purchasers would be asked to do the same). Such practice is not assumed in this example	400,000	4,226,034
8. Final selling price:		
per 87 acres		\$4,226,034
per acre		48,575
per lot		12,144
per front foot		229

TABLE 17

Cost analysis -- example D

	<u>Cost</u>	<u>Cumulated</u>
1. Land acquisition: Developer-builder purchases land outright at \$4,000/acre as in example A1	\$400,000	\$400,000
2. Land dedication: As in example A2	0	400,000
3. School requirements: As in example A3	+18,882	381,118
4. Municipal taxes: As in example A5	105,705	486,823
5. Servicing cost: As in example A6	2,872,131	3,358,954
6. Profit markup: As in example A7 a 20% profit markup on cumulated costs is included. In this case the carrying costs of the land are not considered for the profit markup cal- culation. This is because the carrying costs are in a sense a form of profit making themselves in that they are actual- ly opportunity costs (that is, if the de- veloper-builder had simply invested the \$400,000 at 12%, he would have considered the accrued interest as being profit on his investment. Thus, by adding a profit calculation on top of capital plus in- terest, the developer-builder is in ef- fect "double counting"). As in example C, no allowance is made for the "replace- ment of inventory"	671,791	4,030,745
7. Final selling price:		
per 87 acres		\$4,030,745
per acre		46,330
per lot		11,583
per front foot		218

TABLE 18

Cost analysis -- example E

	<u>Cost</u>	<u>Cumulated</u>
1. Land acquisition: Developer-builder purchases outright as in example A1	\$400,000	\$400,000
2. Land dedication: As in example A2	0	400,000
3. School requirements: As in example A3	+18,882	381,118
4. Municipal taxes: As in example A5	105,705	486,823
5. Servicing cost: As in example A6	2,872,131	3,358,954
6. Interest: Interest charges on the land in this case must be recovered at 12% per year for 4 years. As in example C, no allowance is made for inventory replacement. As well, in this case, no profit markup is calculated. This approach would be similar to that em- ployed in the disposal of publically banked lands	229,408	3,588,362
7. Final selling price:		
per 87 acres		\$3,588,362
per acre		41,245
per lot		10,311
per front foot		195

TABLE 19

Comparison of alternate costing methods

	Example A	Example B	Example C	Example D	Example E
Land acquisition	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000
Land dedication	0	0	0	0	0
School requirements	+18,882	+18,882	+18,882	+18,882	+18,882
Interest	229,408	229,408	229,408	0	229,408
Taxes	105,705	105,705	105,705	105,705	105,705
Servicing cost	2,872,131	2,872,131	2,872,131	2,872,131	2,872,131
Profit markup	717,672	637,672	637,672	671,791	0
Replacement allowance	429,400	429,400	0	0	0
Total for 87 acres	4,735,434	4,655,434	4,226,034	4,030,745	3,588,362
Cost per acre	54,430	53,510	48,575	46,330	41,245
Cost per lot	13,607	13,378	12,144	11,583	10,311
Cost per front foot	257	252	229	218	195

TABLE 20

Changing costs of new bungalows* in Winnipeg

Year	Total cost	Construction cost per foot ² **	Land cost***	Land cost as percent of total cost
1962	\$15,617	\$11.44	\$2,831	18.1%
1963	15,720	11.30	2,921	18.6
1964	16,602	11.46	3,211	19.3
1965	17,164	11.73	3,241	18.9
1966	18,297	12.58	3,095	16.9
1967	18,622	13.35	3,111	16.7
1968	19,674	14.39	3,705	18.8
1969	22,489	15.65	4,525	20.1
1970	23,041	15.95	5,584	19.9
1971	21,583	15.78	4,534	21.0
1972	23,691	17.00	5,190	21.9
1973	27,176	19.17	6,359	23.4
1974	36,520	24.53	10,075	27.5
1975	43,014	27.07	13,306	30.9

*Financed under N.H.A.

**Includes land, construction and other costs, but excludes mortgage insurance fees.

***Land cost data reflect the prices paid for lots regardless of the extent of servicing or the method of financing.

Source: C.M.H.C.; Canadian Housing Statistics.

M. THE FINANCING OF URBAN RESIDENTIAL DEVELOPMENT

1. INTRODUCTION: THE NATURE OF RESIDENTIAL FINANCING

The roles played by financial intermediaries in the urban residential development process have not received the attention that has been devoted to the roles of some of the other participants. This is probably largely due to the fact that financial activities are for the most part passive "behind-the-scenes" actions.

Financial intermediaries usually do not directly partake in the purchase or servicing of land or the construction of houses. However, this is not to deny their importance. Institutional mortgage lenders are undoubtedly the most important passive determinant of the form of land conversion. Most participants in the residential land development business do not have sufficient capital resources to completely finance their undertakings and consequently are limited by the cost of credit. Nor is most financing simply a one-shot operation. The modern method of developing residential subdivisions usually necessitates refinancing at various stages throughout proceedings. Thus the financier is not only essential, he is all-pervasive. His interest rates and conditions of loan, and even the geographic locations he favours, influence the market decisively

Investment in land development and housing presents certain problems to the financier that are not readily apparent in other industries. For one thing, most real estate investment is illiquid. That is, once made, the investment is seldom reversible and even then may incur great losses.

Also, each parcel of land and each housing subdivision are unique. Perfect substitutes do not exist and thus the options available in other industries (such as some other consumer product industries whereby one may substitute one product for another with no loss of utility) are not present in housing. Similarly, the supply of land and/or housing is irregular and unassured. The many restrictions and controls operative in the real estate industry act to dampen productivity. These all combine to present certain unique difficulties, difficulties which may of course be overcome, but usually only at a cost. Consequently, credit in housing and land development tends to be expensive (as a rule 2-1/2 to 3-1/2 points above prime rate).

2. THE CAPITAL/EQUITY/CREDIT SITUATION IN HOUSING

Many of the land development and housing firms have limited capital resources and tend to be equity poor. Thus they are forced to rely heavily on external financing rather than equity capital to finance their undertakings. The reasons for such reliance on borrowed capital are varied (Clawson, 1971).

Firstly, the size of the firm is important. Small firms, of course, lack the resources to finance the major undertakings which are characteristic of today's market. Large firms exist on a continued large volume of production. While the large firm may have considerably greater capital resources than a small firm, its structural organization and high overhead require that those resources be constantly reinvested in new developments. Therefore, the opportunity to gather sufficient capital to

completely finance new developments is lacking.

If a developer or builder were to completely finance his own work, the great expenses involved would limit his projects in size and hence he would have a low capital turnover rate. If, however, he borrowed heavily, he would be able to do more work, and the greater productivity would lead to greater potential profits. Most developers and builders, therefore, attempt to maximize turnover by relying heavily on borrowed capital and reinvesting their profits in new developments, thus remaining equity scarce (Maisel, 1965).

Secondly, builders and developers appear to have preferred to use earned profits to expand the diversify their operations rather than become financially independent. This is probably due to the nature of the land conversion industry itself which appears to be expansive in character, requiring continuous growth to avoid being overwhelmed by competition.

A third reason may be found in the inherently risky development game itself. Outside equity capital has tended to be wary of the many economic pitfalls which exist in the land development and housing industries and has consequently sought safer investment opportunities elsewhere.

Thus financing of undertakings is frequently done with expensive borrowed capital. As lenders almost invariably will finance only sound investments, innovative, untested and altruistic undertakings usually suffer from lack of capital unless it is forthcoming from government agencies. Consequently, developers and house builders tend to be basically conservative in

nature and any changes in design and structure are usually marginal at the most. In the United States, this conservation of capital is considered by some as being one of the agents perpetuating racial and housing class distinctions (Clawson, 1971).

3. FINANCING A DEVELOPMENT

Financing takes three basic forms: that concerned with site acquisition, that dealing with actual construction, and that employed by the home owner in his purchase process. Land acquisition and construction mortgages are of relatively short term and as a rule are not insured by any governmental agency, whereas the permanent home owner mortgage is a long term (15 to 30 years) agreement and is usually C.M.H.C. approved (and, therefore, insured).

a. LAND ACQUISITION MORTGAGING

The cost to a developer of using capital or credit must be considered as a development cost and thus ultimately must be recovered when the lot or house is sold. For most developers and builders, financing constitutes a major expense. Carrying costs are high (in terms of opportunity costs, taxes and interest), and prior to development the land remains non-productive.

The initial step in developing a piece of land, of course, is the acquisition of the site. Several methods of purchase are open to the developer.

Firstly, the acquisition may be a simple straightforward "normal" purchase which results in full ownership being passed to the developer. While this may be accomplished as a cash transaction, it is more common for the developer to take out a mortgage through a trust or insurance company or a bank, or to make mortgaging arrangements with the vendor himself.

Another purchase alternative is by way of purchase option. This entails drawing up an agreement whereby the land owner is given a sum of money as a deposit by the developer. This then gives the developer sole rights to purchase that piece of land at an agreed price and under certain terms at any point during some specified time period. It involves absolutely no commitment on the part of the developer other than annual payments and entails only a very small financial loss for the developer if he should decide not to proceed with the purchase.

Several variations of the purchase option are available. There is what can be called the "straight option" whereby the option price is credited to the purchase price when the option is exercised (but this may not be so if the land owner has sufficient bargaining power). The "declining credit option" in effect gives the vendor some degree of compensation if he has to wait for an exceedingly long time for his money. For example, an option price of \$5,000, to be credited on the purchase price when exercised, may be worth \$5,000 if exercised within one year, but only worth \$4,000 in the second year, \$3,000 in the third year, and so on. The "rolling option" permits the developer to acquire a larger parcel of land in smaller sections as he needs them, while at the same time holding

first option over the entire area. Thus if a large tract worth \$100,000 is divided into 10 parcels valued at \$10,000 each, the developer may obtain an option over the entire tract for \$5,000. If he chooses to purchase only one parcel for development, he may pay \$10,000 and the option money will "roll" onto the remaining parcels. Conversely, he may pay only \$5,000 for the parcel, using the \$5,000 option fee to finance the rest of the purchase, but then he loses the rights to the remaining tracts.

Option agreements have traditionally benefited the purchaser in that he has been able to exercise certain rights over the land without assuming the responsibilities associated with full ownership. Some researchers find that option agreements are becoming less common as lawyers are advising the land owners to reject option offers (Chamberlain, 1972).

A third method of land purchase is via a conditional purchase agreement. In this situation a developer may agree to purchase a tract of land, conditional to his being able to complete a larger land assembly, obtain the necessary rezoning, or obtain the required financing. In a way, the conditional purchase agreement resembles an option. The purchaser pays a deposit, the terms are written into the agreement, and a deadline is set. Failure by the purchaser to achieve the conditions as set out in the agreement void that agreement. Depending on the terms, the frustrated purchaser may or may not lose his deposit.

Regardless of the method of acquisition employed, this aspect of the conversion process is expensive. Due to the "riskiness" of land purchase

and development, this "front-end money" usually carries high interest rates. Thus developers not only hesitate to hold large tracts of land for long periods of time with borrowed money, but also attempt to push plans through the development approval processes as quickly as possible. Nonetheless, the land purchase activity is expensive, an expense which is ultimately paid by the home buyer.

Once servicing is completed, the developer sells the lots to a builder. The developer seeks more than simply a good price for his product. The developer, as does the builder, envisages a long-term of operation in one community and hence values his reputation and reliability. Thus the developer prefers a builder who can produce a highly saleable end product. This is also very important from a financial aspect in that part of the developer's capital (usually borrowed) is as a rule tied-up until the completed housing units in the subdivision are sold. Often the construction mortgage and invariably the home owner mortgages are confined to smaller areas than the developer's mortgage. Thus the developer must have the ability to free these smaller areas from the lien of his underlying mortgage as they are paid up.

b. CONSTRUCTION FINANCING

As only a very few homes are owner-financed (and then these are usually custom-built), the large operative builder finds it essential to obtain a construction mortgage to secure his needed supplies and subcontractors. The construction loan itself is not guaranteed through the government as C.M.H.C. (through the N.H.A.) restricts itself to guaranteeing only com-

pleted homes. However, in a buoyant market where the builder can be fairly confident of selling his completed unit, the assurance that a guaranteed loan can ultimately be attained by the home owner makes it possible for the builder to obtain a temporary construction loan. The construction financier can be reasonably assured that his loan will be repaid out of the permanent home owner mortgage.

Construction loans may be either secured or unsecured. When a builder has actual legal title to the land, he gives a deed of trust to the financier and the loan is secured. However, when a builder is building on someone else's land, his construction loan is unsecured and usually slightly more expensive.

The builder's mortgage may be set up so that he can "draw" part of his mortgage as certain stages of the project are completed and financing of following stages is required. This is somewhat less expensive than a lump sum mortgage.

c. PERMANENT HOME OWNER FINANCING

Today most home owner loans are C.M.H.C. approved (insured). With this degree of security, mortgage rates for home owner financing tend to be slightly lower than, say, those for land acquisition financing. Under certain conditions, mortgages for home purchasing may be obtained directly from C.M.H.C. (through the N.H.A.) but as a rule financing comes, with C.M.H.C. approval, through banking or approved mortgage lending institutions.

Alternatively, to promote house sales, a builder may take out a home owner mortgage which the home buyer either may assume or remortgage at different terms when he purchases the house. In order to facilitate the movement of houses, the builder may offer to the prospective purchaser mortgage rates slightly lower than those available through traditional lending institutions. Thus the builder, in effect, may require two sources of financing: the construction mortgage and the permanent home owner mortgage.

The situation is actually rather complicated, belying the three-fold separation as presented here. Many of the larger builders won't commence a construction project until they have been assured there is a strong commitment for mortgage financing. Without this particular financing, builders feel that the sale of their products would be very difficult. At the same time, the granting of a construction loan by a lending institution to a builder is often contingent on the availability of mortgage financing. Unless the builder can assure good possibilities for sale of his houses (i.e., through having his own mortgage financing), the lending institution may be hesitant to risk granting a construction mortgage.

4. THE IMPORTANCE OF FINANCING

In an industry geared towards efficiency of operation, quality of product (and hence reputation), and profitability (and hence continued viability of the firm), the effect of financial restrictions is of critical importance. The land development and housing process is not one market, but

in fact several overlapping ones. The credit availability and costs of the finished housing unit market affect ultimately the credit availability and costs of the raw land market. Thus easy credit terms for the home buyer are a great advantage to the home builder and ultimately the land developer. This is the reason why major builders attempt to secure their own home owner financing, as the easier credit terms offered by the builder enhances sales.

The housing market is very sensitive to interest rates. A change in interest of 1/2% to 1% may be sufficient to significantly change the market demand. This is one of the reasons why the housing industry experiences so many fluctuations in terms of housing starts. With tight money and high inflation, stricter qualifications for home ownership are in force and housing starts, therefore, plummet.

N. SOME SOURCES OF HIGH LAND DEVELOPMENT COSTS

The sources of high land development costs are varied and no less varied are the possible solutions to the problem. The premise was stated at the beginning of this chapter that costs were of three basic types: land costs, institutional costs, and installation costs. Combined, all three contribute to a serviced lot market which is becoming increasingly exclusive in terms of those who can afford to enter into it. Consequently, possible stabilizations to the inflationary trend in land development costs may be found in either one or all three areas.

1. RAW LAND COSTS

Current raw land costs have been tabled and examples given of inflationary markups on land transactions. As the raw land cost may be (and usually is) the single most expensive component, serious efforts should be made to reduce the rate of inflationary increases. Two possible approaches may curtail such severe land inflation. First, a land speculation tax which would destroy all non-productive gain inherent in speculative transactions would perhaps serve to remove the incentive for speculation but it is doubtful that it would necessarily stem inflation. Secondly, a sound large-scale land banking program by a governmental agency will alleviate much of the speculative increase. This program may have to ensure that adequate land is available to private builders at any one time so that supply is always meeting demand.

2. INSTITUTIONAL COSTS

These costs are somewhat more difficult to isolate than either raw land or installation costs and consequently solutions are rather more difficult to define. The more common complaint centres around artificial constraints. Constraints on the supply of serviced land can be seen to arise from three sources: first, constraints applied by the City for planning reasons (i.e., in an attempt to direct or shape growth in specialized or the Province or Federal government for legislative or legal requirements, directions, etc.); second, constraints unintentionally applied by the City and the Province or the Federal government as a consequence of bureaucratic procedure inertia (i.e., the slowness of ap-

provals, communications, etc.); and lastly, those constraints applied by the land owner who may wish to withhold land to limit or control supply or who simply feels that the market conditions do not justify development at this particular time.

a. PLAN REGISTRATION

Most developers and those connected with land development processes argue that, while it may be possible to effect marginal cost savings by redesign of certain servicing utilities, political and policy decision factors constitute the most costly aspect of land development. It is felt by some that the current administrative process is far too unwieldy to permit a smoothly operating development procedure. While the City of Winnipeg Act was an attempt to combine the best of possible city government forms, the result, at least as perceived by the land development industry, has been a lengthened series of steps which must be taken in order to have a subdivision plan approved. Many of these steps are time consuming and all of them may be possible sources of delay or may even mean complete stoppage. Thus while most of those in the development business agree that there are many possible cost reductions in the actual servicing process, they also strongly argue that such reductions are marginal and are economically insignificant compared to savings, which might be attained by a streamlining of the development approval procedures.

In a study commissioned by the local shelter industry in 1973, a local consulting firm found that:

"The subdivisions registered in 1972 contained less than enough lots to meet demand. In 1973, the situation worsened to a point where supply (was) only meeting about one-third of demand. Even with immediate action, the affects of curtailed subdivision approvals will be felt in future years."

(Underwood, McLellan and Associates, 1973)

The delay in the registering of lots, and consequently the delay in providing serviced land for housing, may be determined in the discrepancies between the applications made and the lots registered (Table 21).

TABLE 21

Applications versus completed registrations

	Applications made	Lots registered	Lots in plans to be processed
1972	4,719	2,632	2,087
To October 1973	4,430	699	3,877

Source: U.M.A., 1973.

Without doubt, all land suitable for development has not always been placed on the market leading to counter charges of market manipulation and speculation against the developers by urban administrators. The line between speculation and development is, of course, a thin one, especially when it is realized that any landowner is in a sense a speculator. What is required is a more streamlined lot registration and subdivision plan approval procedure with fewer possible bottlenecks along the way. At the same time developers must learn to adjust to development procedures

which exist for good reason in order to avoid unnecessary delays and to ensure their developable land which has been given approval is developed promptly.

b. COMMUNITY COMMITTEES

While ideally democratic in that they supposedly permit active participation by individual citizens, the community committee hearing process may also be a source of delay in development approval if a citizen raises unreasonable objections. For example, for one to raise an objection it is not necessary for the objector to be either a resident or to be professionally qualified to make judgment. While not denying the democratic process, it would appear that a development may be delayed unreasonably. Perhaps more flexibility in dealing with minor objections at the local level would avoid delays yet at the same time ensure citizens their right to be heard in the democratic process.

c. PLANNING MYSTIQUE

The need for a comprehensive urban development and planning process for a large city is undeniable. However, an overly rigid development plan which is inflexible and unadaptive to change or economic realities may often negate any advantages it may provide. Some plans appear more concerned with preserving and promoting ideal shapes and some abstract ideal about city form than providing wider choice as well as economic viability for the majority of existing and future residents. Consequently, growth may be channelled away from areas of "natural" development in

order to conform to an abstraction.

A rigid plan may also aid in-land speculation in that certain areas of future growth may be too precisely determined without adequate safeguards against monopolistic practices. The attitude at times seems to exist that all development must be rigidly controlled in order to protect the citizen against the developer speculator. Yet at the same time this often firm technocratic control of urban development may in itself result in higher costs of shelter for everyone.

d. LAND DEDICATION

The City of Winnipeg's development parameters require that at least 10% of the land area in a new development be devoted to recreational purposes (provision is made for a cash grant in lieu of land but this normally only applies where land is at a premium, such as in the downtown area). This land dedication, as well as that required for artificial ponding systems, does reduce the amount of land available for residential housing. As the developer passes the costs of his total development on to the consumer, the cost of this dedication is eventually paid by the house buyer. It is not a major per lot cost in a large subdivision but it is one of many costs which accumulate to give the final selling price.

Some participants in the development business have expressed concern that this land dedication is at times excessive and particularly detrimental as the City administration often requests the best land for the dedication. Of course, this is purely a developer's objection; environmentalists and

most urban residents would argue that the best land should be kept for public use.

3. INSTALLATION COSTS

a. THE DEVELOPMENT PARAMETERS

The possibilities of alternate pipe materials and road surfacing materials have been mentioned previously. However, major variations are at present ruled out by the existence of (and strict adherence to) the Development Agreement Parameters.

Ideally, the purpose of the development parameters is to provide uniform standards of servicing. However, the adoption of a uniform code has meant the adoption of very high standards as whenever amalgamation of varying standards occurs, it is usually the highest standards which are chosen. This has resulted in an excellent degree of servicing but at a relatively high price.

It would seem that more flexibility is needed in the design parameters, especially in terms of adopting lower initial degrees of servicing. As the parameters now exist, it is difficult to provide anything less than a "Cadillac" standard of servicing. Local district engineers, being familiar with local conditions, should be best equipped to determine what standards within reason should be employed in their areas.

b. SUBDIVISION DESIGN

Studies pertaining to residential housing densities, street configurations and other features of servicing have generally concluded that cost savings can result from alternate design practices (see N. Pearson, 1967, for example). However, designs which may be conducive to maximizing dwelling units while minimizing length of streets, may also ignore the environmental quality and longer term market desirability of such designs. In addition, although certain curvilinear or grid iron patterns may favour street level servicing, there is no guarantee that a similar configuration may necessarily provide an efficient pattern of underground services. For example, certain cul-de-sac arrangements may require watermain looping even though the cul-de-sacs actually reduce the length of linear street frontage and provide an environmentally satisfactory lot arrangement.

Various economies can be attained by the use of completely planned development, Carson et al. (1973) presenting an example (Table 22) in Howard County, Maryland, where estimates for various types of development were established. Considerable cost savings are apparent with the high density cluster development of Model III. These are due to the shorter lengths of pipe required with clustering and the ability to plan and stage larger scale installations efficiently through the use of utility corridors.

TABLE 22

Servicing cost estimates, Howard County, Maryland

Cost item	Model I*	Model II**	Model III***
Water utilities	\$65,011	\$47,110	\$32,068
Sewer utilities	83,941	62,777	38,693
Total services	252,156	181,925	119,231

*Model I characterized by urban sprawl with no planning or control.

**Model II characterized by planning in the city itself but uncontrolled sprawl around the fringes.

***Model III characterized by well planned, clustered development.

Source: Carson, Rivkin and Rivkin (1973)

Paul Theil Associates have estimated savings of up to 40% by setting aside traditional servicing specifications and techniques and by evaluating service infrastructure needs in the context of specific site characteristics and projected post-development activity patterns (Theil, 1975). In many cases this involved the abandoning of traditional techniques where justification for continued usage was not forthcoming. Savings were achieved with the introduction of new or previously neglected materials, new or adopted utility connection and placement procedures, and a more liberal approach to lot design and siting of structures. Notable among these innovative concepts were: reduced standards for rights-of-way by attuning pavement and sidewalk widths to cope with actual rather than theoretical projected automotive and pedestrian usage; placement of underground services in a common, readily accessible and, where

advantageous, curvilinear conduit; greater spacing of hydrants and catch basins to reflect the capabilities of improved fire fighting and sewer cleansing technologies; and abandonment of conventional sideyards in favour of zero lot line and post constructional lot surveying methods conceived to aid maximum privacy per dwelling, while at the same time increasing dwelling densities per acre. Table 23 indicates certain of these approaches as they apply to watermain and sewer installations.

As an indication of the applicability of these concepts, Theil analyzes the villages of Central Park, Bramalea. Theil argues that if similar success is to be achieved elsewhere, considerable pre-development co-operation is required between the public and private sector in establishing consensus on long-term community objectives. Also, considerably more time is required to research the characteristics and necessities of each new development package than is the case with conventional subdivision design, and consequently, an atmosphere must be generated in which potential innovations are readily examined and subsequently introduced when considered beneficial.

0. SUMMARY

This chapter has presented an analysis of cost factors associated with current residential subdivision practices. As with any attempt at generalization, difficulties have been encountered due to the uniqueness of each development. However, it is felt that the analysis presented here will be useful in helping to isolate the relative strengths of various cost parameters as well as providing a basis from which further di-

TABLE 23

Summary of sewer and watermain modifications in Central Park, Bramalea

Service type	Normal requirement	Central Park requirement
<u>Sanitary sewers</u>		
Minimum size:	8-inch diameter	8-inch diameter
Depth of cover:	9 feet (to drain basements)	9 feet (to drain basements)
Manhole spacing:	300-feet maximum	550-feet maximum
Curvilinear sewers:	not permitted	used extensively
Material:	concrete and vitrified	AC, concrete and PVC
<u>Storm sewers</u>		
Location:	on all streets, centre roadway	serving catch-basins only, sewer under curb
Connections:	roof water leaders and weeping tiles	roof drainage onto ground
Depth of cover:	5'6"	4' minimum
Minimum size:	10-inch diameter	8-inch diameter
Curvilinear sewers:	not permitted	used extensively
Catch-basin spacing:	300-feet	600-feet
Catch-basin tops:	standard 24-inch ² grating	standard 2-inch ² grating
<u>Watermains</u>		
Minimum size:	6-inch diameter	2-inch in <u>cul-de-sacs</u> , 6-inch to <u>hydrants</u>
Hydrant spacing:	400-feet	800-feet
Materials:	cast and ductile iron	RVC to 6 inches, ductile over 6 inches
Service connection:	3/4-inch copper single connection	3/4-inch single, 1-inch durable polyethylene
Dead ends:	hydrant required	2-inch blow-off

Source: P. Theil Associates Ltd.; "A New Approach to Engineering and Planning for Land Development", Bramalea, 1975.

rections of research might be developed.

SUMMARY
CONCLUSIONS
AND
RECOMMENDATIONS

**Chapter
seven**

A. SUMMARY

The intent of this research was to describe in detail the process of converting raw agricultural land to fully developed suburban land with a view to indicating the inter-relationships between the various actors, their constraints, their activities, and the costs which accumulate during the process.

The major findings of the research may be summarized as follows:

The rural to urban trend in population in all likelihood will continue with the result that demand for suburban living space (embodied in the single detached dwelling) will persist.

A moderately sized subdivision may require four or more years to be fully developed and marketed.

While normally ignored, the time requirements for development can have a very real cost, a cost which is ultimately reflected in the end selling price of the house.

Two major groups of actors are involved in the development process: active

and passive participants. Active participants may succinctly be described as "doers" whereas passive participants most commonly act in either a regulatory or a contributory fashion.

The land conversion process is anything but simple; a vast array of outside influences combine to alter the process from one of simplicity to one of extreme complexity.

The major factor governing the values of raw land, developed land, and housing is the relationship between supply and demand. The only viable long-range solution to the housing crisis is to create a situation of over-supply in the market place.

Speculation is only a residual function, not a causative function, and therefore cannot significantly affect land prices.

Today there are only four major land developers in Winnipeg who maintain large land banks and engage in long-range programs of lot supply. Most of these developers have their own house building subsidiaries and hence should more properly be termed developer-builders.

The plan approval process involves many departments and agencies and it may require 18 months or even more simply to obtain approval for a proposed subdivision.

The house builder faces a much simpler approval mechanism than the developer as the main format of the development will have been determined

by the developer's plan of subdivision. Often the land servicing and housebuilding processes overlap as builders attempt to complete certain portions of their work before winter.

There are three categories of costs in the residential development process: raw land costs, institutional costs, and installation costs.

Raw land is becoming increasingly more important as a cost component as demand and supply mechanisms contrive to push up the cost of housing and land.

Institutional costs are those arising from administrative time requirements. While not directly measurable as a cost input, the effect of delays can ultimately be very significant to the final house cost.

Installation costs are those incurred in the provision of the required services. While each component cost may be considered as having a "labour factor" and a "material factor", they are normally measured as a lump sum tendered cost.

The serviced lot is becoming an increasingly important part of the total housing package cost.

Potential cost savings exist in using alternate materials and in varying the standards of servicing required in new subdivisions.

B. CONCLUSIONS

Five broad conclusions have resulted from this research. These conclusions focus around five of the key aspects of land development: the supply-demand relationship and the effect on housing prices, the potential role of the government in solving the housing crisis, the length and the complexity of the development process, the roles of the various active participants, especially the developer-builder, and the servicing standards now required in new subdivisions.

Firstly, it may generally be conceded that the major factor in setting high housing and land prices is the imbalance between the amount of housing available (the supply) and the amount which should be available (the demand). While numerous ad hoc programs such as land speculation taxes and rent controls may be introduced in attempts to ease high costs of shelter, they are in fact little more than "tinkerings" with the basic market mechanism. A permanent solution to the housing crisis is to be found in a long-term policy of supply, a policy which in the long-run would negate the very reasons for land speculation taxes and rent controls.

The second general conclusion arises out of the first. If a condition of over-supply is to be created, it is obvious that the private sector, with its constraints of profit and economic viability, should not be expected to provide that over-supply. Thus if such a condition is desired, it must be created by the public sector. It is not a question of driving the private sector out of business but rather a challenge to

create a supply system which is mutually beneficial to both the public and the private. The prime danger of having the government be the sole supplier is the monotony and "classlessness" of that which is produced in the absence of a competitive spirit.

Thirdly, the entire process of housing supply has become far too complex and time consumptive to permit the efficient supply of moderately priced shelter. No one department or governmental level is entirely to blame; it is, rather, the result of fragmented authority, vast bureaucratization, and lack of accountability on the parts of those involved. This is a problem not unique to Winnipeg but is universal in its geography. The most rational solution to the problem is for the provincial government to exercise a firmer role in housing supply rather than following its past trend of surrendering many of its jurisdictions through enabling legislation to the City.

The fourth general conclusion revolves around the role of the developer-builder in housing supply. It becomes apparent after some study that the private sector is largely unable to perform satisfactorily due to the numerous controls and constraints put on it from all three levels of government and the public in general. Criticism about housing in general are most often aimed at the developer-builder. It would seem that those criticisms often arise out of ignorance about the development process and out of the fact that the developer-builder is the most readily identifiable element, and hence is the most easy to "hit".

Lastly, it may be concluded that the servicing standards in new subdivisions

are excessively high. This is not to infer that they are absolutely unnecessary and should never be employed but it may be questioned as to whether they are really necessary when the subdivision is first developed. If lower cost housing is the goal, it may be preferable to develop at first with minimal services and provide the remainder in the future through local improvements.

C. RECOMMENDATIONS

Throughout the course of the research it became obvious that the land development game is one characterized by a high degree of opinion and a paucity of fact. Criticisms of the various participants are common but as few attempts have been made to treat the topic in its totality, these criticisms are commonly highly subjective and biased.

While numerous recommendations for further study may arise from this research, it would seem that there are three very basic areas of concern which would well warrant in-depth considerations.

Firstly, and probably most importantly, is the relationship between municipal finance and residential development. This would cover the whole range of municipal revenues, alternate taxation policies, trunk services financing and cost recovery, and the extent to which new developments should pay for the costs they incur. Many attitudes towards proposed new developments are conditioned by ill-conceived ideas of how these developments are financed, ideas which bear some investigation and evaluation.

Secondly, current thinking as to present servicing standards in subdivisions should be reviewed, not so much with the idea that the standards are wrong but rather from the point-of-view that they may be ill-timed. While a considerable amount of technical expertise would be advisable for this study, it is necessary also to have a good understanding of the financial implications of alternate servicing strategies.

Lastly, the entire delivery mechanism for housing should be reviewed so that its efficiency may be improved. Ideally, what is required is an examination of alternate systems used elsewhere, not only in Canada but in the world, especially in terms of their efficiency and comprehensiveness. As well the social and economic costs of a cumbersome bureaucratic process should be investigated so that arguments for changes have a quantitative as well as qualitative basis.

APPENDIX A

Appendix

THE CITY OF WINNIPEG: DEVELOPMENT PARAMETERS

Following are some of the required parameters pertaining to sewer, water and road/sidewalk services in new developments as required by the Development Agreement Parameters of the City of Winnipeg:

i) Sanitary sewerage

It is the developer's responsibility to install complete all sanitary sewer lines serving his subdivision. This includes all manholes and related works and joins to the main interceptor. If the City requires the main lines to be larger than necessary to serve the planned area (i.e., in case of future development such as was the case in the recent contract for the development of Heubach Park), then the City pays the cost of the additional capacity at a negotiated price. Some would argue that no such reimbursement is necessary in that if the developer wants to build badly enough, he should be prepared to absorb the total cost. This does not apply to pipes of inside diameter of 12 inches or less. For example, if a development requires only a 10-inch pipe for its needs but the City requires a 12-inch pipe for future expansion, no reimbursement shall be made for that extra two inches.

The amount of reimbursement by the City is determined in negotiation between the developer and the Commissioner of Works and Operations. The developers say it is an accepted fact that they will not receive full reimbursement but cannot refuse the offered terms if they wish to continue the development. Of course the Commissioner would be derelict in his duty if he did not attempt to negotiate the best deal possible for the City.

If provisions for the reimbursement by the City have not been made in this year's budget the developer will have to carry the cost over to the following year.

ii) Storm sewerage

Similarly, the developer is responsible for all storm drainage facilities as required by the City excepting in cases where excess capacity is required. As with sanitary sewerage, the City will pay for excess capacity but in this case only when the storm sewer line is greater than 48 inches inside diameter. In addition, the developer shall install at his expense storm sewer lines from the main line to the property line of all commercial, church, park, recreation, and multiple

housing sites within the planned area, a stipulation not made concerning sanitary sewerage.

If, because of development, it is apparent that previous natural drainage may be hindered or blocked, it is the developer's responsibility to provide for the removal of that blockage at his expense.

iii) Water distribution systems

The same requirements must be met in providing water to the planned area. Here the City will not be liable to pay for an oversized pipe with an internal diameter of 10 inches or less.

The developer is responsible for installing a service line of up to 2 inches in diameter from the watermain to the property line of each park, playground, recreation site, etc.

The specific requirements for the sewerage and water networks are determined by the office of the Commissioner of Works and Operations.

iv) Building services

It is the developer's responsibility to provide all domestic services up to the lot lines of all single and two-family residential sites at sizes required by the Works and Operations Department. If a multiple-family development of more than 15 residential units is being planned, two water services separated by a watermain valve are required. This ensures that in case of a break, an alternative water supply is available at all times. The sizes required are determined by Works and Operations.

v) Streets and lanes

Portland Cement concrete, or its equivalent, is required for all streets and lanes, to be laid on a base and sub-base as determined by Works and Operations. Residential streets and lanes must be 25 feet and 16 feet in width respectively and both must be 6 inches in thickness. If greater width and depth is required, the cost shall be borne by the City unless that increase in traffic has been generated by the developer's commercial or multiple-residential construction. All extra widths and depths are to be determined by the Commissioner of Works and Operations.

Street rights-of-way must be 60, 66, or 80 feet in width as determined by the Commissioner of the Environment. Interestingly, 66 feet is the length of a surveyor's chain; there seems to be no other logical reason for choosing this length. The developer is not responsible for providing additional widths to cope with traffic from other areas. Lanes must have a minimum right-of-way width of 20 feet in residential areas and 24 feet in commercial areas.

Where parking is required for three or more cars in a multiple-residential, commercial, or industrial area, a parking area and requisite access roads must be provided and must be paved according to the

dictates of the Commissioner of the Environment.

vi) Sidewalks

Sidewalks are to be 5 feet in width and 4 inches thick (except where crossed by vehicular traffic; 6-inch thickness is required in those places) and are to be constructed along all streets providing direct pedestrian access to schools and on all collector routes within the development as designated by the Commissioner of Works and Operations. No mention is made of whether or not a sidewalk is required on each side of the street or only on one side. Presumably, in a "complete" development, sidewalks would be installed on each side of the street.

vii) Miscellaneous services

Additional services such as boulevards, street signs, special signs, street lights, and underground electrical and telephone lines are also covered in the Development Agreement Parameters. As with previously mentioned parameters, most are subject to approval either by the City Council or the Commissioner of Works and Operations or the Commissioner of the Environment.

viii) Maintenance

The developer is required to maintain the services for the following periods of time:

Watermains	1 year
Land drainage (storm) sewerage	1 year
Waste water (sanitary) sewerage	1 year
Street lane pavement	1 year
Sidewalks and walkways	1 year
Building services*	2 years**
Boulevards	2 years***

The standard of maintenance is determined by the Commissioner of Works and Operations. The developer is required to place with the City a 100% performance bond which is a guarantee of construction and maintenance for the services specified. This bond may in certain instances be replaced by a letter of credit which guarantees the construction and maintenance of the said services.

*Meaning sewer and water house connections and associated items.

**After water has been turned on for domestic use.

***Or until the home is occupied, whichever comes first.

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