

# **Property Taxation and Urban Development**

## **Effects of the Property Tax on City Growth and Change**

**MARY RAWSON**

**Research Monograph 4  
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## **STATEMENT OF OBJECTIVES OF URBAN LAND INSTITUTE**

Urban Land Institute is an independent, non-profit research organization incorporated in 1936 under the laws of the State of Illinois. Its interests and activities cover the entire field of urban planning, growth and development. Among the principal purposes of the Institute are to study and to interpret trends in real property and to seek their orientation in the changing economic, social and civic needs of the country; to study principles and methods by which urban land can be developed and improved most efficiently; and to act as a clearing house in this field for the dissemination of information in the form of case material, monographs, and technical journals.

This monograph is one of a series of research publications to further the objectives of the Institute and to make generally available authoritative information of assistance to those seeking knowledge in the urban field.

## FOREWORD

**Property Taxation and Urban Development** is the fourth in the Urban Land Institute Research Monograph series inaugurated in 1959. This monograph deals with a highly important and controversial subject, the real property tax. Miss Rawson's study is not a theoretical or philosophical discussion of the subject, but an able and well documented case study of what would happen in terms of land use and development in a municipality if the local ad valorem tax were shifted from land and improvements toward a land value tax.

The land value tax is not to be confused with the "single tax," originally proposed by Henry George, which contemplated putting all taxes on the value of land. The land value tax considered here is the local real property tax applied only to land or site value. Land value taxation was at one time extensively used in western Canada and is now widely used in Australia and New Zealand, and partially so in several cities in the United States.

A major interest in this study stems from the fact that ULI is now embarked upon a research program involving the Impacts of Taxation upon the Processes of Change in Urban Land Use. While it is too early to determine how Miss Rawson's study may relate to our own findings, we feel it contributes significant insights into a better understanding of the tax process as related to land use and development.

**Property Taxation and Urban Development** is an outgrowth and extension by the author of her master's thesis, completed at the Department of City and Regional Planning, University of North Carolina, in 1959, including extensive rewriting, updating, and the preparation of maps and other graphic material for this monograph.


Miss Rawson is a native of British Columbia, Canada, where ad valorem tax methods are generally the same as those in effect in the United States. She is a graduate of the University of British Columbia in Economics and Slavonic Studies and was attached to the National Research Council of Canada in Ottawa for a period of years. She has studied in Europe and is now in private consulting practice in Vancouver, B. C.

The Institute is indebted both to Miss Rawson for her work in preparing the monograph and to Professor M. Mason Gaffney, land economist of the University of Missouri, for calling our attention to the original thesis.

MAX S. WEHRLY

Executive Director  
Urban Land Institute

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# Part I

## STATEMENT OF THE PROBLEM

### I. INTRODUCTION

Perhaps, at first blush, it may seem ridiculous to suggest that the real property tax is of any concern to the city, other than as its chief source of revenue. Reflection on the economic forces which help to shape the city, coupled with an appreciation of the relation of taxation to economic activity, however, will commend the subject to anyone interested in city development. With real estate providing the principal source of local revenue, with the pattern of land use and building development being the very stuff of city planning problems, the effects of the real property tax should be of concern to planners and developers and to assessors and appraisers, in particular.

Probably no one in the field would contest this view. But few have mentioned it and only a handful have emphasized it. One would naturally expect a lead from the economist-planners, but these have lent their talents mainly to the exploration of economic base studies.

American economists who have chosen "land economics" as their special province in recent decades have almost to a man turned their faces away from a consideration of the property tax as a factor in the problems and policies of urban land use. Furthermore, in their treatments of the property tax they have almost consistently failed to analyze the divergent effects of taxes on land and on buildings, apparently taking the view that to the individual property owner it doesn't matter.<sup>1</sup>

To economists at least, an analysis of real estate taxation should pose two distinct problems—the analysis of the incidence and effects of taxation on land, and the analysis of the incidence and effects of taxation on capital. An analysis of real estate taxation which treats the two components of real estate as though they behaved the same way under the same pressures takes for granted what is patently and demonstrably untrue. The question then arises—why have so many who have written so much used "real estate" as a generic term in analysis? Especially in taxation analysis?

<sup>1</sup> R. T. Ely and economists of the Ely school, G. Wehrwein, E. M. Fisher, and R. U. Ratcliff, to name the most eminent of them, must accept much of the blame for this failure.

When one has read through a dozen books devoted to "land economics" one is driven to the conclusion that the question of land taxation is under a taboo in the academic world, a taboo which, when traced to its source, appears to have arisen largely out of Professor R. T. Ely's aversion to the Single Tax.<sup>2</sup> This deeply rooted aversion seems to have cast a veil between him and an objective analysis of land taxation as such. His treatment of the question is confused, contradictory and shot through with nonsense.<sup>3</sup> Unfortunately some of the same confusion occurs in the writings of his students, although of late they have retreated from analytical to descriptive economics.<sup>4</sup> In spite of rumblings about and eruptions of discontent with real estate taxation, the legacy of prejudice and confusion engendered in earlier days by controversy over the Single Tax still

<sup>2</sup> See the entire three volumes of R. T. Ely's *Outlines of Land Economics*, Edwards Bros., Ann Arbor, 1922. Professor Ely is generally accepted to have been the "father" of land economics in the United States.

<sup>3</sup> "A second peculiarity [of urban land] is that it is easy to separate improvements on urban land from land values, and the consequences of this are important." Ely, *Outlines*, Vol. I, p. 137. "Among the many reasons why we should not tax separately the value of the land and the value of the improvements is the difficulty of separating the two values. Improvements, in both urban and agricultural land, become in many cases so blended with the land itself that they are indistinguishable and inseparable." Ely, *Outlines*, Vol. III, p. 115.

The number of unsupported statements and insinuations in Ely's work is rather surprising. A few examples: Poor people own most of the land (Vol. II, p. 111). Wealthy people do not put their money in land; it is the poor man's investment (Vol. III, p. 98). "It is proposed by some to tax land to the point of confiscation, in order to bring it into use. Yet when we come down out of the clouds to solid earth, we find that some kinds of land are being brought into use too rapidly . . ." (Vol. I, p. 3). "The tendency of taxing land on selling value is to produce congestion, as can be seen in the writer's home town and in many other places; perhaps in every city in the country." (Vol. III, p. 161).

Professor Ely constantly refers to land taxation but fails anywhere to provide a coherent description and analysis of it. Von Ciriacy-Wantrup in a review of Ely and Wehrwein's *Land Economics* (1940) remarked: "Land taxes are mentioned repeatedly but there is little discussion of the principles governing their modus operandi and their relation to some of the other important aspects of land economics mentioned."

<sup>4</sup> The most recent work of what may be called "the Ely school" is Raleigh Barlowe's *Land Resource Economics*, Prentice-Hall, Inc., Englewood Cliffs, N. J., 1958, a volume of 566 pages. His treatment of the subject can be appropriately contrasted with Ralph Turvey's analytical study, *The Economics of Real Property*, Geo. Allen and Unwin, London, 1957, 150 pp.

impedes rigorous research in the field. Planners, by the nature of their work, cannot remain aloof from the problem, and by default of the economists are left "holding the bag" in this research.<sup>5</sup>

Faced with the problems of deteriorating cores, skipped-over lands and generally patchy development on the one hand, with tax delinquency and hardship to taxpayers on the other, those concerned with the city have from time to time taken pot shots at the property tax. "Reform" was needed it was said, not just more grants from a senior government, or a reshuffling of responsibilities, but an overhaul of the property tax itself, from administration and assessment procedure, to the kinds of property that should be taxed. The movements toward tax-limitation and homestead exemption were the outcome of this dissatisfaction; both have been criticized for their distorting effects on taxation patterns and practice.<sup>6</sup> The desire for reform remains, with notions of what to do little advanced from those of twenty years ago and with knowledge of the property tax still grievously deficient.<sup>7</sup>

It must be accepted that the primary purpose of taxation is to raise revenue. But along with zoning and subdivision regulations, taxation may also be viewed as an instrument for the promotion of sound urban development.<sup>8</sup> The aim of this study is to clarify the role of the property tax in this respect.

<sup>5</sup> Turvey's comments on the need for analysis support this statement. He says that property taxation has received very little attention in Britain in recent years and that this is a deplorable state of affairs. In his opinion, "the economic analysis implicit in the Uthwatt Report, to name but one example, is very amateurish." "On the one hand people concerned with real estate problems, such as valuers and town planners, lack one of the essential tools for their work. On the other hand economists have done little to help them and are failing to take up interesting and important problems." Turvey, *Economics of Real Property*, p. vii.

<sup>6</sup> R. D. Thomas, "Exemption of Homesteads from Taxation—A Case Study in Oklahoma," *Journal of Land and Public Utility Economics* (Hereinafter referred to as *J.L.P.U.E.*) 1935, pp. 256-65. Also R. E. Carlson, "Economic Implications of Homestead Tax Exemption," *J.L.P.U.E.*, 1937, pp. 343-49; Walter Morton *Housing Taxation*, University of Wisconsin Press, Madison, 1955, pp. 191-2 and p. 180; and others.

<sup>7</sup> Note the comments of Max S. Wehrly and J. Ross McKeever in *Urban Land Use and Property Taxation*, Technical Bulletin No. 18, Urban Land Institute, May 1952. "The poverty of information that encompasses the scope and objectives of the study will be evident from the fact that research on the subject turned up only a few cities which had conducted detailed economic investigations that offered any basis on which to evaluate the relationship between urban land use and property taxation." (From the Foreword). "Nearly all returns show that cities lump the total yearly revenues from general real estate taxes without recording the source according to the use of land. Hence, it is not known just how much all the residential property contributes to the sum total, nor is there any compilation to show what the commercial and industrial uses produce." p. 4.

<sup>8</sup> Report of the Committee on Urban Land Policies, Pro-

## II. THE PROPERTY TAX AND PROBLEMS OF CITY DEVELOPMENT

The question of the difference between the two components of the bundle commonly called "real estate" is of fundamental importance in an analysis of the effects of property taxation. That land and buildings may be lumped together in a compound term for the sake of convenience should not blind us to the fact that they are different things. They are different factors of production—the economic concept of "land" applying to the one, the concept of "capital" to the other. Sources of value in them are different and the incidence and effects of taxation on them are different. Land and buildings are, in truth, more different than alike.

To appreciate the importance of the distinction between land and capital in analyzing taxes on real estate one cannot do better than refer to Edwin Seligman's definitive work, *The Shifting and Incidence of Taxation*. Seligman says:

"The urban real estate tax is either a pure land tax—for example when laid on vacant lots—or a tax on both the land and the buildings. The latter is called in America the real estate tax, and on the continent the house tax; but both of these designations are, from the point of view of economics, incorrect. The continental term is wrong because the house tax really includes a tax on the site as well as a tax on the structure. The American term is incorrect, because it confuses such entirely different taxes as the ground tax and the building tax, which are governed by different laws of incidence."<sup>1</sup>

Seligman's axiom on tax shifting and incidence is: If a tax is shifted, it cannot be capitalized; if a tax is capitalized, it cannot be shifted. In the case of the real estate tax he concludes that normally the tax on improvements is shifted,<sup>2</sup> but that the tax on

<sup>1</sup> Edwin Seligman, *The Shifting and Incidence of Taxation*, Columbia University Press, N. Y., 4th ed., 1921, p. 277.

<sup>2</sup> Cf. Morton, *Housing Taxation*, Chapter 6, "The Incidence and Effects of Property Taxes." "The correct view is probably that in normal or boom times the property tax [on improvements] is being paid by the tenants; in periods of depression, all or part of it is being absorbed by the owner. For the owner-occupier these distinctions have little significance. During normal times he pays the tax as an occupier; during depression he pays the tax as an owner. So far as he is concerned, it is an invariable burden. To the country as a whole, such a tax levied during depression probably further depresses construction activity, and through the multiplier effect creates further unemployment." p. 118.

ceedings of the Annual Meeting, American Institute of Planners, 1946; "Municipal Real Estate Taxation as an Instrument for Community Planning," *Yale Law Journal*, New Haven, 1947, Vol. 57, pp. 219-242; J. H. Beuscher, ed., *Land Use Controls*, The College Printing and Typing Company, Madison, 1957, pp. X42-X56.

land is capitalized, that is, it reduces the market price of land. Seligman's view has never been seriously challenged yet all too many authors in writing of the property tax fail to make any distinction between land and improvements, a failure which limits the value of the resulting analysis.<sup>3</sup>

One recent study which hints at the divergent effects of the twin-pronged property tax is Walter Morton's *Housing Taxation*. Following Seligman's cue, Morton distinguishes between the two elements of real estate, and he dwells in detail on the effects of the tax on improvements which he describes as "a sales tax on shelter." The tax on improvements, he says, is regressive in relation to income, it decreases the volume of output, raises the unit cost of living space, and decreases community welfare. Because it acts as a deterrent to the creation and use of housing facilities, it probably has a depressing effect on the economy as a whole.

"When ample material and labor are available, a reduction in the tax on improvements should stimulate new construction, increase total housing space, and benefit home-owners and tenants alike . . . . A tax reduction on land will have no effect on construction but will be capitalized by landowners."<sup>4</sup>

This allusion to the effect of the property tax on land values is suggestive, since the cost of land is one of the chief obstacles to home ownership today; it is unfortunate that Morton did not explore this half of the question a little further.

A second useful study of the property tax is an Australian one, *The Reclamation of an Industrial Suburb*, published in 1949.<sup>5</sup> This is a well illustrated and thorough analysis of properties, assessments and taxes in the industrial slum of Fitzroy, Victoria. The aim of the study was to find out whether a change in the municipal taxation system, in particular the exemption of improvements, "would provide a force for regeneration by encouraging improvements and discouraging the holding of properties in a deteriorated condition." It is worthwhile

<sup>3</sup> For example: Henry J. Amy, "Real Estate Taxes and Values," *Appraisal Journal*, Vol. 16, July, 1948, pp. 360-68; Harold Groves and Louise Prober, "Equity Grounds for Property Taxation Re-examined," *Journal of Land Economics*, (hereafter referred to as *J.L.E.*), 1951, pp. 143-50; J. K. Lasser and Wm. J. Casey, "Impact of Taxes on Real Estate Values," *Appraisal Journal*, Vol. 20, January 1952, pp. 94-100; Gordon MacDonald and Rosalind Tough, "New York City and its Peak in Real Property Taxation," *J.L.E.*, 1955, pp. 13-23.

<sup>4</sup> Morton, p. 176.

<sup>5</sup> *The Reclamation of an Industrial Suburb—a Municipal Rating Study of Fitzroy*, conducted by the Land Values Research Group, A. R. Hutchinson, Director, Melbourne, 2nd issue, 1950. Hereafter referred to as the *Fitzroy Report*.

to look at both the methods and the findings of this unique study of a city slum.

Fitzroy (area 923 acres) is the smallest of the many municipalities forming Greater Melbourne. It is also one of the oldest, some of its buildings being over 100 years old. In the oldest portion, at least three-quarters of the houses are over 70 years old.

"For this reason Fitzroy faces most acute problems which are looming larger with all of these inner-industrial cities as the years go by. These are the problems of decay. A high proportion of the buildings have reached the end of their useful life and should be rebuilt.

"Yet rebuilding has been conspicuous by its absence for many years. During the period 1935 to 1940 inclusive, the number of building permits issued for new private dwellings, flats, hotels, etc., averaged only 13 per annum. This is quite insignificant beside the more than 6000 dwellings in the municipality."<sup>6</sup>

The research team, in order to make its analysis of the effects of taxing land only (site-value rating), worked out the ratio of total value to land value for each assessed property on the rolls. If the property were a vacant lot, the ratio was 1:1. The average ratio of improvement for the city was found to be 4.65:1. Thus, without actually working out the money-rates of taxation on each property it could be said that any property with an improvement ratio of more than 4.65:1 would carry lower rates under a change to site-value rating, and those with ratios of less than 4.65:1 would carry higher rates. "The difference in rates will be directly in proportion to the magnitude of the figure above or below this average ratio for the district as a whole. A property with a ratio of 9.30 would have its rates halved under the site value basis. One with a ratio of 2.32 would have its rates doubled under that change."<sup>7</sup>

A change in the tax system obviously means a shift in the tax burden. Some properties will pay more, some less. But the important point is not how many, but what kinds and conditions of property benefit under a given system.

The research team investigated particularly the effects of a tax shift on housing and slum reclamation. They compared their findings with the results of a survey previously carried out by the Housing and Slum Abolition Board, a survey which had included 827 dwellings in Fitzroy. The following table shows the result of a change to site-value rating.<sup>8</sup>

<sup>6</sup> *Fitzroy Report*, p. 3.

<sup>7</sup> *Ibid.*, p. 4.

<sup>8</sup> *Fitzroy Report*, p. 6.

CLASSIFICATION GIVEN BY SLUM  
ABOLITION BOARD

	Houses with Lower Taxes		Houses with Higher Taxes	
	Number	Percent of Class	Number	Percent of Class
V Sound, with amenities, fit for habitation	119	72	46	28
VX Sound, but needing extensive repairs and/or domestic amenities	269	63	161	37
X Bad repair, lacking amenities, unfit for habitation	79	50	77	50
XX and XXX Fit only for demolition	37	48	39	52

"The overwhelming proportion of sound properties provided with amenities are seen to be benefited by a change to the site-value rating basis. The proportion gaining reduces as the quality deteriorates . . . . The reason why some of the properties in the poorest class would gain under site-value rating is simply that the general level of improvement for the City is low. As more properties were repaired or rebuilt the average degree of improvement for the City would rise and the pressure on the remaining decadent properties would increase."<sup>9</sup>

The team also found that for 140 typical properties on eight of the poorer streets, the assessed values had *decreased* in a twenty-year period (1927-47) from 20 to as much as 90 per cent, and they point out that "these substantial decreases in assessments have meant that other properties have had to make up the loss of revenue."<sup>10</sup> The team made detailed analyses of commercial and industrial properties in Fitzroy, with similar results.

The slum and blighted conditions to be found in Melbourne's core are duplicated in hundreds of cities in North America. That it has been necessary to go so far afield for a detailed analysis of the Fitzroy type merely illustrates the fact that American economists and students of housing,<sup>11</sup> with few exceptions, do not appreciate the practical importance of analyzing separately the effects of taxes upon land and capital—no matter how strong or weak the "compound" in any given parcel of real estate. For, taken together, the destructive effect of taxes on improvements, the capitalization of taxes on land, and the shift in tax burden which would occur in the Fitzroy slum were improvements to be exempted, these facts suggest both the powerful pressures the

property tax exerts on city growth and the way in which taxation could promote better development. The obvious course would seem to be to eliminate the destructive element, the tax on buildings, and to emphasize the beneficial element, the tax on land.

Taxes on land are regarded as useful, or appropriate, for two main reasons. First, since land value is primarily a social value which rises where people cluster together for exchange and social intercourse, it is particularly suitable for taxation, since taxation itself is a social phenomenon, the need for which arises out of the same clustering of population. Second, other things being equal, a tax on land value tends to lower the asking price for land and thus to make more sites available for development, or at least, at a lower price.<sup>12</sup> It is the second point that concerns us here.

<sup>12</sup> Market value of land is of course affected by many other factors, most of them acting to increase the desirability or demand for land and thus exerting an upward pressure on price. That a tax on land value reduces the price of land in exchange is a simple deduction from Seligman's doctrine of shifting. Perhaps the point is made easier to see by saying that if the tax were reduced, the selling price of land would rise; that is, the *tax reduction* would be capitalized.

R. R. Renne, *Land Economics* (1947). Speaking of the graded tax plan he states that "the tax on land would keep values down and make land easier to acquire," p. 609. He is apparently in agreement with H. M. Groves, *Financing Government* (1939), pp. 135 and 149, to which he refers.

F. C. R. Douglas, *Land Value Rating* (1936). "Another important effect of a tax on economic rent is that it diminishes the capital value of land. This is a consequence of the fact that the selling value or price of land is the discounted value of the returns which the owner expects from it in the future." Discussion pp. 21-24.

F. D. Stocker, "How Taxes Affect Land and Farmers," *Land—Yearbook of Agriculture* (1958). "Generally accepted economic doctrine holds the chief result of a land tax is to reduce land values. . . . If the tax is considered to be permanent, land values will fall exactly in proportion to the reduction in the net return—that is, the tax will be capitalized into the value of the land. If the tax is thought to be temporary, it will be capitalized only in part, and land values will fall less than in proportion to

<sup>9</sup> *Ibid.*, p. 7.

<sup>10</sup> *Ibid.*, p. 8.

<sup>11</sup> Some eminent researchers in housing do not even raise the point, let alone deal with its significance, e.g. Miles Colean, *Renewing Our Cities*, Twentieth Century Fund, N. Y., 1953; Glen H. Beyer, *Housing: A Factual Analysis*, Macmillan Co., N. Y., 1958.

As far as the property tax rests upon the site value of a property, it rests upon the potential earning power of the site, in direct proportion to it, and without consideration of whether the owner develops his property well or poorly. Because the tax takes a portion of the land's annual value, whether or not the land is well used, it discourages, however mildly, the speculation and "withholding" with which planners and developers are constantly faced. Considering that speculation in centrally located sites is as much a cause of blight and a barrier to natural renewal<sup>13</sup> as speculation in peripheral sites is a cause of urban sprawl and premature subdivision (with all that these imply),<sup>14</sup> a tax which tends to check speculation can rightly be described as beneficial.

<sup>13</sup> Mabel Walker, *Urban Blight and Slums*, Vol. 12, Harvard City Planning Studies, Harvard University Press, 1938, pp. 7 and 103.

<sup>14</sup> See especially Philip Cornick, *Premature Subdivision and Its Consequences*, New York, Institute of Public Administration, Columbia University, 1938. Also, Charles D. Clark, "Penalties of Excess Subdividing," *City Planning*, April 1934, pp. 51-61; Edmund Bacon, "A Diagnosis and Suggested Treatment of an Urban Community's Land Problem," *J.L.P.U.E.*, Vol. 16, 1940, pp. 72-88; Fred T. Aschman, "Dead Land," *J.L.E.*, Vol. 25, 1949, pp. 240-245; Robert Whitten, "Suburban Land Speculation," *J.L.P.U.E.*, Vol. 12, 1936, pp. 221-227.

the reduction in net return to the land." Discussion pp. 240-241.

Britton Harris, *Problems Related to Real Estate Taxes* (1959), unpublished. "Existing total taxes on a piece of property reflect the assessed value, which is some proportion of market value determined by local practice and by other factors, such as honesty of administration. The market value in turn reflects not only the rental income and the rate of return to capital, but also the pre-existing real estate tax structure. If a tax rise is initiated, the increased taxes must be deducted from the owner's income. This in turn affects the capitalized value of that

One may say then that the components of the property tax work at cross-purposes as far as the development of the city is concerned. The tax on improvements evidently contributes to the shortage of housing and to the deterioration of our cities by its inhibiting effect on building and capital investment. The tax on land, through its tendency to lower land prices, lowers the real cost of housing. By providing a stimulus to the efficient use of land, it encourages rebuilding in central areas and it checks the practice of holding land in a vacant or ill-used state.

Should a city, recognizing the schizophrenic nature of the property tax, determine to levy its general rates on land only, what would be the practical results? What sorts of property would pay more? Which less? How would residential property fare? What share would commercial and industrial property pay? What kind of city development could such a system be expected to encourage?

In order to answer such questions, at least in part, it is necessary to analyze the assessments of various land uses in a particular city, to suppose that a certain sum of money must be raised from real property, and then to strike two different rates: 1) when taxing land and buildings equally and 2) when taxing land only. Part II presents such an analysis.

income, and ultimately lowers the market value of that property. . . .

"It may be shown that *ad valorem* tax rates could, in theory, be increased indefinitely up to many times the value of the property annually. The tax yield would asymptotically approach the full rental value of the property, and the capitalized value would similarly approach zero."

# Part II

## ANALYSIS OF A CITY

### I. GENERAL DESCRIPTION OF BURNABY

Burnaby has an area of 24,777 acres (nearly 40 square miles) and an estimated population (in 1959) of 93,000. Its irregular topography can be simplified into two ridges running east-west separated by a valley through which winds a drainage stream, lake and peat bog. Settlement has followed two main routes which were early established along the higher ground of the ridges. A mountain with a precipitous northern slope rising from sea level to 1300 feet lies in the north-easterly portion of the

municipality. About 80 per cent of the land area in Burnaby is considered usable (see Figures 1 and 2).

Until the Second World War Burnaby was a semi-rural municipality, lying between the early-established and largely developed urban areas of Vancouver and New Westminster. The importance of agriculture in the municipality is rapidly declining, although poultry production, requiring relatively little land, will probably survive for some time. Some commercial truck gardening is carried on; there are several large greenhouse operations; and



FIGURE 1

Map of the District Municipality of Burnaby in Relation to Other Municipalities Surrounding Vancouver, B. C.

## LAND USE AND TOPOGRAPHY BURNABY, B.C.

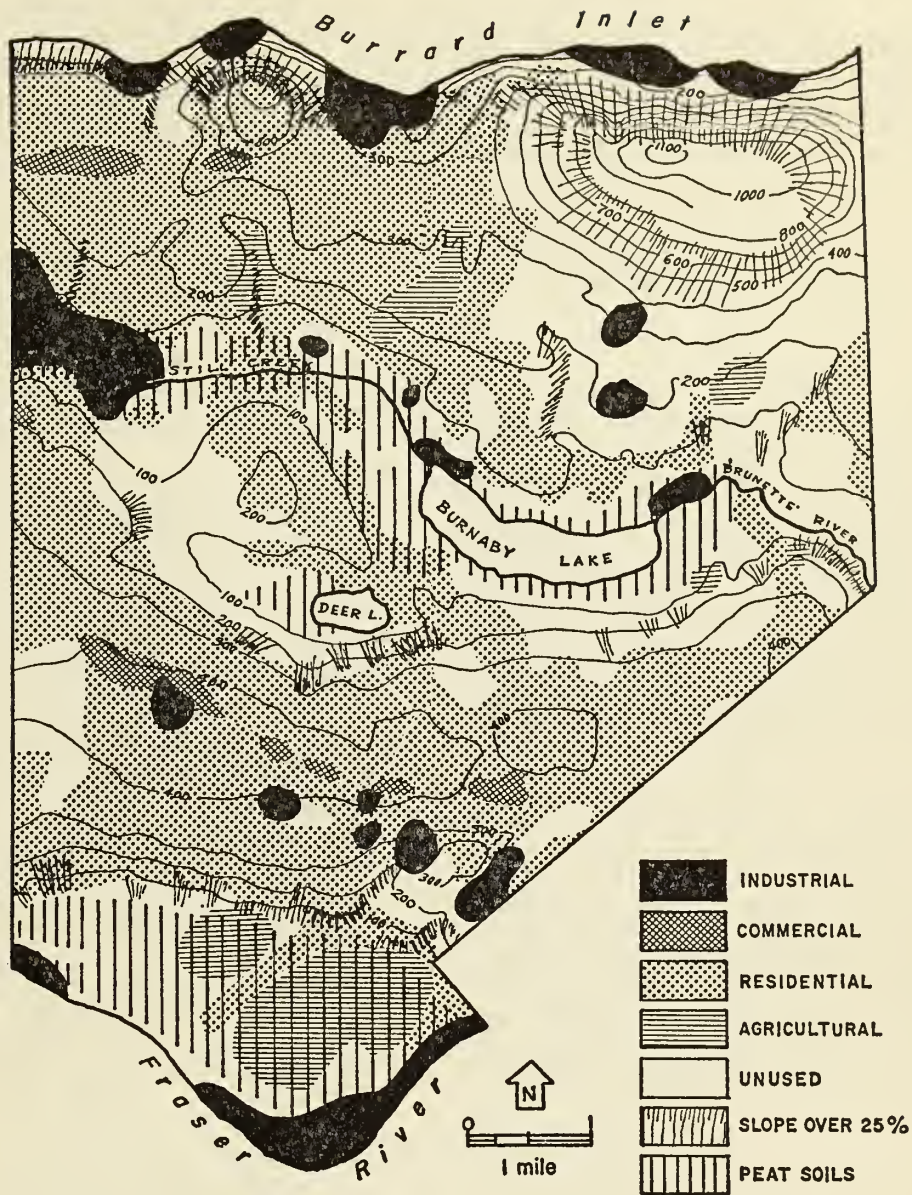


FIGURE 2

Map of Land Use and Topography, Burnaby, B. C.

the production of specialized floral crops is increasing.

Urbanization has increased markedly since the war. Some two thousand homes are being built annually, mostly of wood construction—the standard for British Columbia. The average house now being built costs about \$11,500 and stands on a lot 50' x 120' costing \$3500-\$4000.

Industry is gradually moving in, principally oil marketing terminals, warehousing and storage facili-

ties, and smaller industries subsidiary to the established lumber mills.

There are two main commercial centers in the municipality. The Hastings Street strip in the northwesterly portion is a fairly consolidated shopping area catering principally to pedestrian traffic from the surrounding early settled and heavily populated area. The Kingsway strip is a rather garish and, in places, shoddy commercial development stretching along the 5-mile length of the main highway running

into Vancouver. Much of it is bordered by gas stations and car sales lots. There are also a number of auto courts which cater to the considerable tourist traffic.

Very large areas of land are in institutional and public ownership. For example, Central Park—225 acres; Burnaby Mountain Park—1100 acres; Borstal School—60 acres; Department of Veterans' Affairs Hospital and Lands—325 acres; Oakalla Prison Farm—200 acres. In addition there is a considerable acreage of unused Crown and municipally owned land which has not yet been designated for a particular purpose.

## II. QUALITY OF ASSESSMENT

Since the validity of analysis of value ratios based on assessed values rests on the quality of assessment, it was of paramount importance to choose a taxing jurisdiction with a high quality of procedure and results in its assessment work. Burnaby satisfies this paramount requirement rather well. It employs a large professional staff of valuers; it follows as closely as may be done in "an inexact science," a scientific procedure; and its assessments, like those of other municipalities in the province, are subject to an annual assessment-sales ratio analysis by a senior authority.

The assessor, who is a trained architect, has been chief assessment officer of the municipality for seven years. His deputy has had 13 years of assessment experience and has been on the staff since 1954. Altogether there are 12 professionals on the assessment staff including the assessor, his deputy, 2 land appraisers, 7 buildings appraisers and 1 mechanical appraiser. All of these officials are appointed and permanent employees of the municipality. The im-

portance of having trained and appointed persons in assessment work does not need elaboration.

Burnaby's assessment system appears to be in accord with principles of good assessment practice. Relevant information on each property is recorded on individual cards, with separate cards for land and for improvements. Separate value structures for land and buildings are built up and the values entered separately on the assessment rolls. There is a constant check on market values—every transaction in land must be recorded in the Land Registry Offices of the Province and a copy of the information relevant to assessment is forwarded to the assessment department concerned. Finally, there is a constant revision of assessments, the entire municipality being completely re-assessed every 3 or 4 years.

Burnaby is subject, too, to a kind of indirect control over its assessments under the provisions of a Provincial enactment which aims at uniformity of assessments among taxing jurisdictions. By the assessment year of 1959, assessments in the various municipalities were to be in line with one another at a datum of approximately 60 per cent of actual value.<sup>1</sup> On each sale of property recorded at the Land Registry Offices, the municipality must report to the Provincial Assessment Commissioner the value at which the said property is assessed, and, if the sale price is not a valid one in the opinion of the assessor, this fact must also be noted. The analyses of sales-assessment ratios which the Provincial

<sup>1</sup> "Actual" value is an approximation of market value. Land is assessed (1959) at 60% of average 1954-1957 value. Improvements are assessed at 60% of 1953 value less depreciation at 1½% per annum to a maximum of 35% of value.

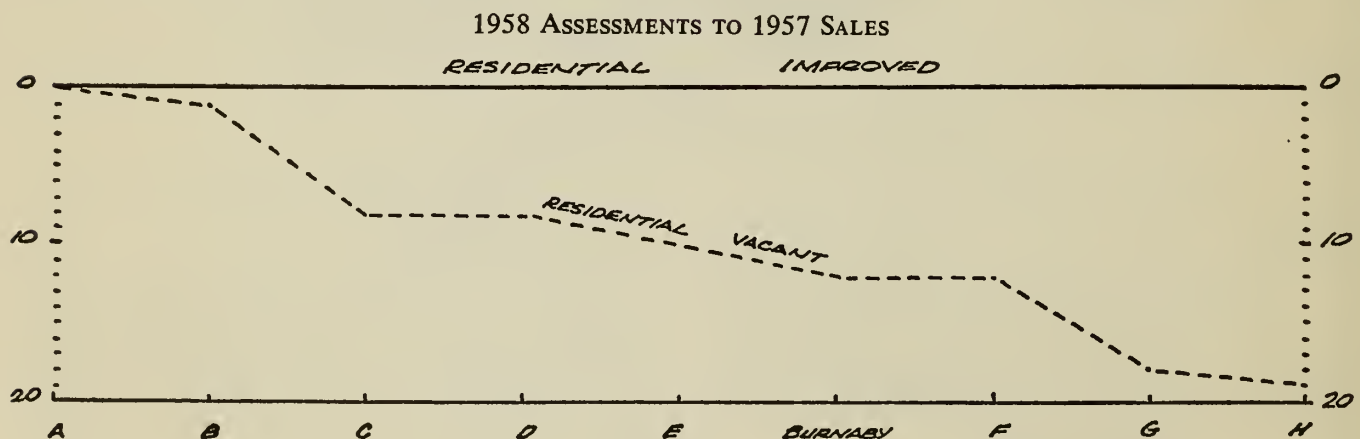


FIGURE 3

Average Percent Difference in Assessments of Vacant and Improved Residential Properties  
Nine Municipalities in the Vancouver Area

## 1958 ASSESSMENTS TO 1953-56 SALES

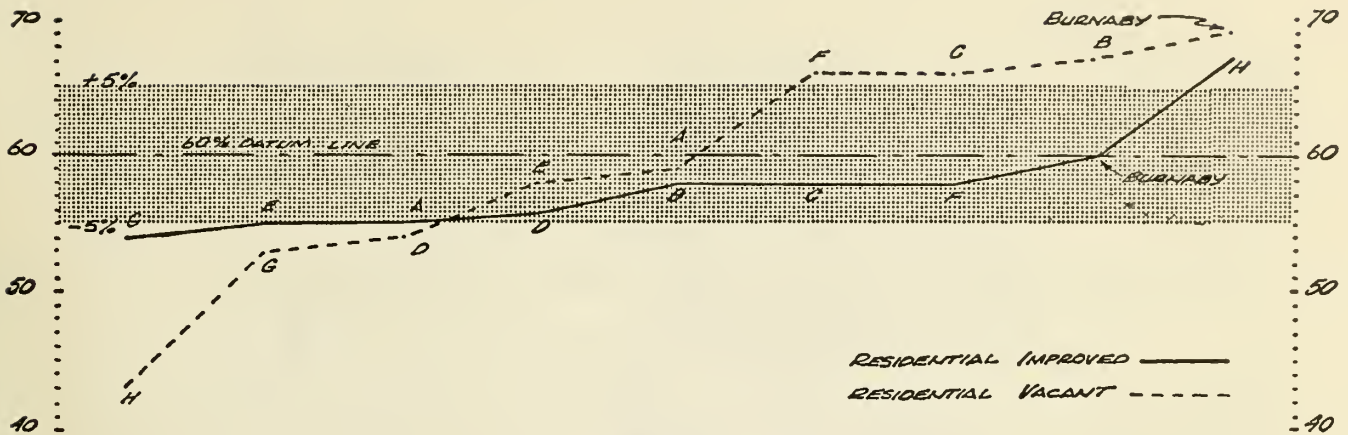


FIGURE 4

Assessments as a Percent of Sales Prices, Residential Properties, Nine Municipalities in the Vancouver Area

Assessment Commissioner subsequently works out indicate both to the Province and to the municipality where adjustments in assessment must be made.

The accompanying charts (Figures 3 and 4) show Burnaby's position in regard to the assessment-sales ratio analysis and the 1959 datum line of 60 per cent of actual value. The charts relate to sales of residential property only because the number of sales of commercial and industrial properties was too small to permit valid generalizations. Because industrial land values have been increasing so quickly in recent years with the influx of industry, even with a constant boosting of assessments it appears that vacant industrial sites are underassessed relative to vacant residential sites. Bearing these imperfections in mind, it must be said that Burnaby does enjoy a good quality of assessment.

### III. SAMPLING METHOD

The assessor had divided the city into 22 sales-assessment districts for purposes of making the sales-assessment ratios analysis. The boundaries of each district were drawn to include a relatively homogeneous type of development within them, although legal divisions, zoning boundaries and natural features modified these boundaries somewhat (see Figure 7).

Taking these 22 districts as a base, each district was further defined by age and character of development on the advice of members of the city planning department, special care being taken to delineate possible problem areas—areas of changing use and areas of old or poor construction. Several days were then spent driving through each of these districts and picking, for the sample, a block which appeared

to be typical of that district. Occasionally a district contained such a diversity of lot sizes, land uses and improvement types that two or three blocks were selected to represent the various types of development. At the very beginning, certain areas of the city were excluded from the sampling as being almost entirely in municipal or Crown ownership (and not subject to taxation), e.g. Oakalla Prison Farm, Burnaby Mountain Park, and certain other areas. The resulting sample amounted to 59 sample blocks of various shapes, sizes, uses and degrees of development.

The legal descriptions of the properties in each of the sample blocks were obtained by reference to maps in the assessment office, and with these descriptions it was an easy matter to refer to the assessment roll for the municipality to obtain for each property the office code number, the owner (whether resident or absentee), the land assessment, and the improvements assessment. Information on zoning and on areas served by water, sewer, and paved road was obtained from maps in the planning and engineering offices. Sketch maps at a scale of 1" to 200' were made for each sample block showing the lines of subdivision and the land use of each of the properties.<sup>2</sup> For those blocks which the planning department had done rough "quality" surveys (dwellings only), the quality was marked on the sketch maps.

Cards filed by the office code number are kept separately for each land assessment and each building assessment. Reference was made to these cards during more intensive studies of certain sample blocks following analysis of the land and building

<sup>2</sup> From maps made available by the Lower Mainland Regional Planning Board of British Columbia, New Westminster, B. C.

Legal description		LAND ANALYSIS			
Street address					
Area or Extent		Land Use		Unique Factors:	
Assessment Rate		Adj. Arterial Hwy.			
Roads: Paved		District Trend			
Gravel		Devel. Stage: Stable			
Lane		Declining			
General Services: Sewer		Transitional		Calculations:	
Water		Mortgage Loan Area			
Sidewalk		Density: Heavy			
Cleared		Medium			
Transportation		Low			
Shopping		Marketability: Good			
Schools		Fair	YEAR	ASSM'T	YEAR
Churches		Poor	1953		1958
Park or Recreation Fac.		Market Price in Area	1954		1959
Elevation		Improvements	1955		1960
Slope			1956		1961
Drainage			1957		1962

Reverse side of card has room for notes and a grid for showing subdivision lines of land.

FIGURE 5

Details of Land Analysis Card, Burnaby Assessment Department

STRUCTURE ANALYSIS			Legal description	
Code No.				
CLASS	No. ROOMS	CONDITION	Street Address:	
Exterior Walls	Interior Walls	Foundation	Breakdown of Assessment Rate:	
			Base Replacement Cost:	
Roof Type	Floors	Basement	Const. Yr.	Depreciation:
			Bldg. Permits	
Roof Material	Plumbing	Basement Rooms	Assessed Value	Outbuildings:
			Year	
Chimneys	Attic or 2nd Fl.	Heating	Total Ass'd Value	
Fireplace	Insulation	Electrical		

Reverse side of card has lines for further notes and a grid for layout plan of structure.

FIGURE 6

Details of Structure Analysis Card, Burnaby Assessment Department

## THE 22 ASSESSMENT ANALYSIS DISTRICTS AND THE 59 SAMPLE BLOCKS

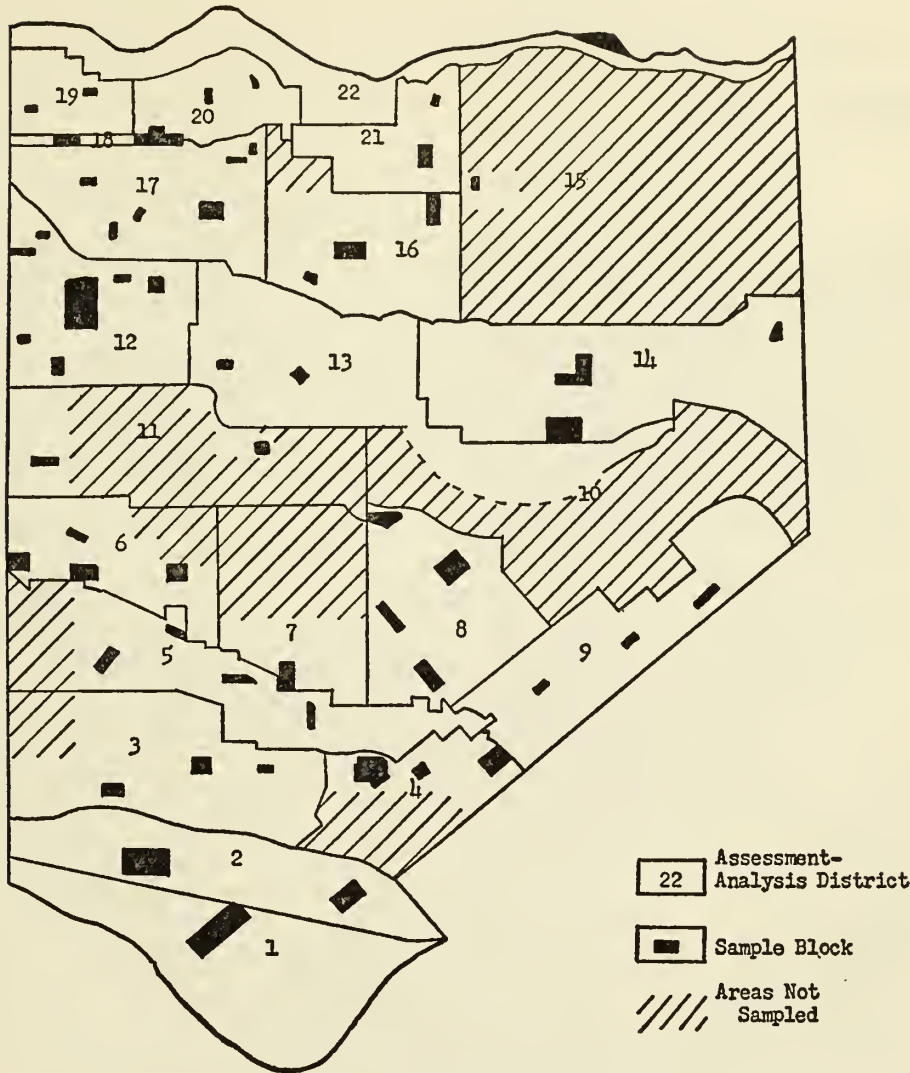


FIGURE 7

Map of the 22 Assessment Analysis Districts and the 59 Sample Blocks, Burnaby, B. C.

ratios. A contour map<sup>3</sup> of assessed land values was also made, and on the information thus compiled the analysis of the effects of the property tax was based.

#### IV. ANALYSIS

The analysis of values presented in this part of the study is directed to demonstrating what the difference in the tax load on various types of use and development in a particular city would be in two cases a) the taxation of land and improvements equally and b) the taxation of land only.

<sup>3</sup> Adapted from August Losch, *The Economics of Location*, New Haven, Yale University Press, 1954, pp. 452-454.

In considering this question two points should be borne firmly in mind. In any city the value of land per unit area is very much higher at central points than in the outskirts.<sup>4</sup> And, for fully improved sites, the ratio of land value to improvement value is gen-

<sup>4</sup> F. C. R. Douglas, *Land Value Rating*, The Hogarth Press, London, 1936, p. 2. This proposition is generally accepted. Cf. Lawson Purdy, "Land Values and Social Values," *City Planning*, October 1927, pp. 253-262; Losch, p. 452; and Amos Hawley, "Land Values in Okayama, 1940 and 1952," *American Journal of Sociology*, March 1955, pp. 487-492. "The distribution of land-values in Okayama is similar to that obtaining in Western cities. There is in both instances a fairly uniform decline in land values with distance from the focal point in the central business district. Apparently, a centripetal tendency toward maximum accessibility, with the resultant competition for sites, operates in Okayama as in cities in the United States and Europe." p. 491.

# ASSESSED LAND VALUE BURNABY, B. C.

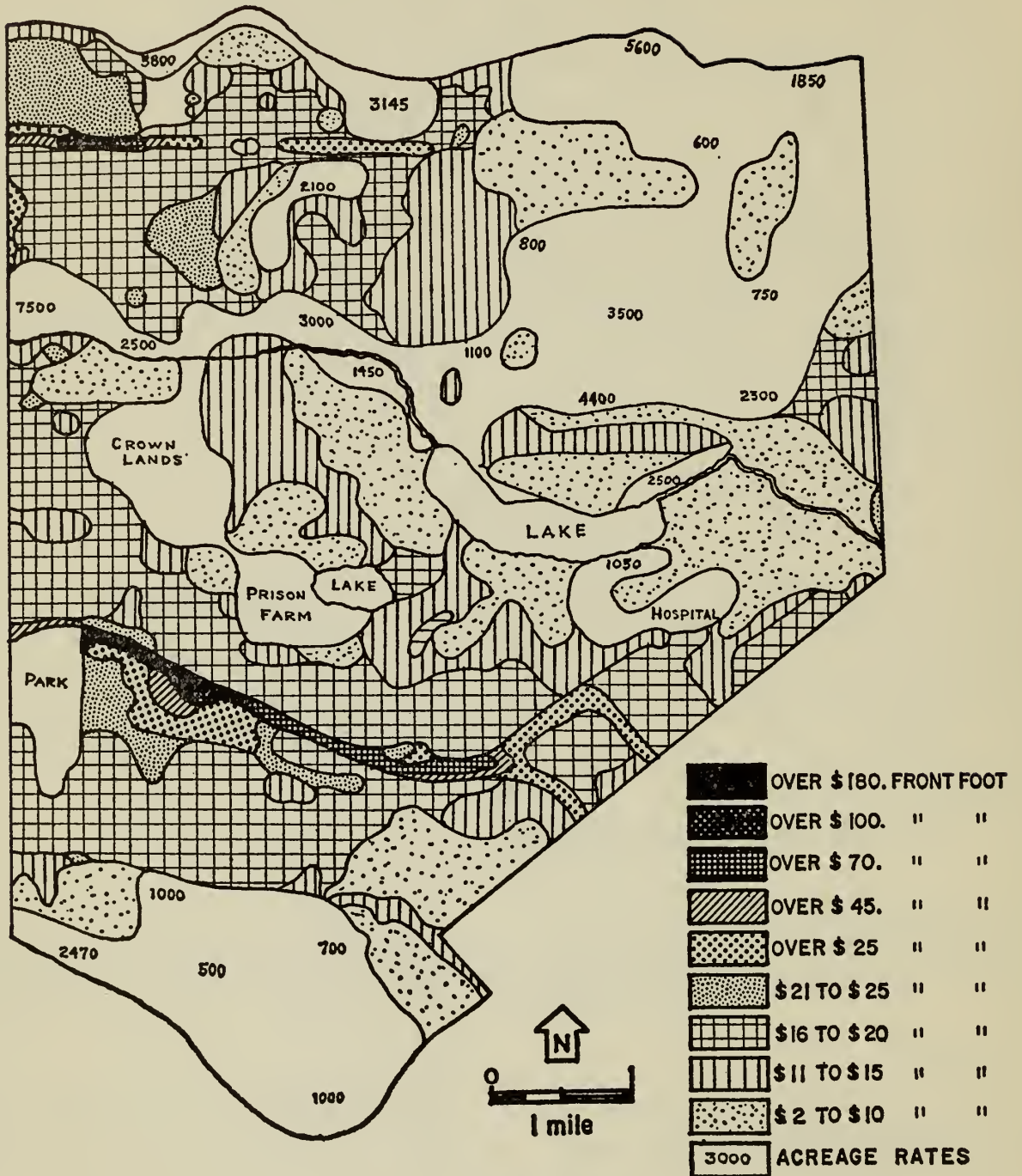


FIGURE 8

Contour Map of Assessed Land Values in Burnaby, B. C.

erally much higher at the central points of the city than in the outskirts.<sup>5</sup>

In Burnaby, for example, the point of highest value occurs on the Kingsway commercial strip between Sussex and Nelson Avenues—\$210 per front foot unit; the lowest values, from \$2½ to \$5 per front foot unit, are to be found on the slopes of Burnaby Mountain and in parts of the peat flats near the Fraser River (see Figure 8). The differences in value between central and peripheral lands in a city are much more striking in more densely popu-

<sup>5</sup> Douglas, pp. 2-3. This point does not seem to be well-documented but occasionally one sees suggestive references to it. Cf. Harold M. Lewis, "Assessed Values and Zoning in the District of Columbia," Preliminary Report Number 5 of the Rezoning Study of the District of Columbia (mimeographed), January 1956, p. 18; H. Carl Goldenburg, "Report of the Commission on Municipal Taxation," City of Winnipeg, 1958, p. 66.

lated cities serving metropolitan or region-wide functions.<sup>6</sup> In Vancouver, Burnaby's western neighbor, assessed values run from \$4 per front foot unit at the lowest points to \$3600 at the point of highest values in Vancouver's central business district. The peak value in the dominant metropolitan city, Vancouver, is several times the peak value in any of the surrounding municipalities.

The second point is that different urban land uses, even when the land is well improved and fully used, exhibit on the average different ratios of improvement to land values. Ratios of improvements to

<sup>6</sup> "Considerations of accessibility to an urban region or to a regional or even an international complex of urban areas have to some extent displaced the older concept of accessibility to the urban core." Paul F. Wendt, "Theory of Urban Land Values," *Journal of Land Economics*, Vol. 33, August 1957, p. 237.

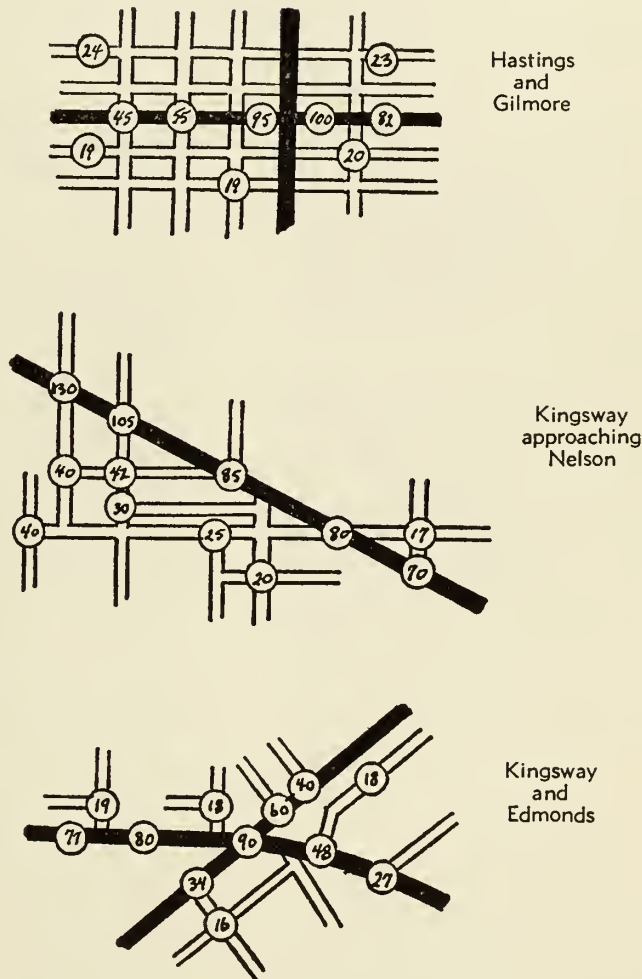


FIGURE 9

Patterns of Land Values in Relation to Traffic-Bearing Streets,\* Burnaby, B. C.

\* After Richard Hurd, *Principles of City Land Values*, New York, The Record and Guide, 1903.

Values are in dollars per front foot.

AVERAGE PROPORTIONS OF VALUE IN TYPES OF LAND USES

BURNABY 1959

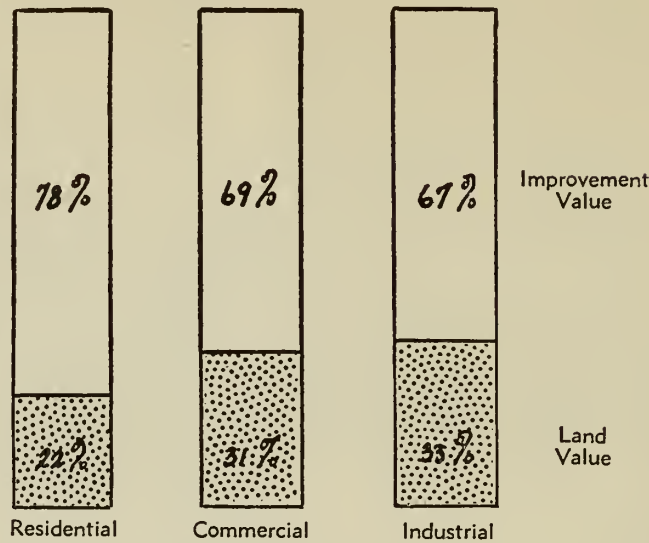


FIGURE 10

Average Proportions of Value in Types of Land Uses in Burnaby, B. C., 1959

land may run in the neighborhood of 6 or 7 to 1 in good residential development. In commercial and industrial areas the ratio is generally lower—3 or 4 to 1, and in the central business districts, even though the sites may support well constructed multi-story buildings, the ratio may be 2, or even 1 to 1 because of the very high element of site value in the total value of the property.

The point of these generalizations is that to shift taxation from buildings and land to land alone would bring a shift in the tax load from the peripheral to the central areas, and probably from residential to industrial and commercial properties. It is worth noting that a low ratio of improvement may mean that a site is not well developed, or it may mean simply that the land, although used intensively, is of very high value. The ratio itself, without reference to the use of the site and to its location in the general topography of values in a city, would not be a

good guide to determining the quality of improvements in a given property.

The information in the table below, supplied by the assessor, shows the assessed values and the average ratios of value for different land uses in Burnaby in the 1959 assessment year (see also, Figure 10). Properties which are not subject to taxation are not included in this summary. The assessor has entered in the residential category vacant land which may be zoned industrial but which in his opinion has no immediate prospect of industrial use. He has entered as agricultural only those lands which are actually being farmed. Where land zoned for small holdings or agricultural use is predominantly in residential use, it has been entered in the residential category. Vacant lands are included in the summary of each of the categories which tends to lower the average improvement to land value ratios.

Land Use	Land Value	Improvements Value	Ratio Improvements:Land
Residential	\$30,154,600	\$102,413,715	3.396:1
Commercial	6,952,235	15,293,550	2.199:1
Industrial	10,575,020	20,975,010	1.983:1
Agricultural	281,495	136,720	.485:1
Miscellaneous	396,630	852,750	2.141:1
<b>TOTAL</b>	<b>\$48,359,980</b>	<b>\$139,671,745</b>	<b>2.888:1</b>

### A Note on Ratios

Various ratios may be used to express proportions of value in a property. For example, in the table above the ratio expressed is: *improvements* to land when land is taken as unity. If the land were vacant the resulting ratio would be 0:1. This ratio quickly conjures up a picture of the state of the property's development.

Another method is to express the ratio as a fraction or percentage: land value as a percentage of improvement value, e.g. .20 or 20%; or building value as a fraction of land value, e.g. 4.00 or 400%. The percentage ratio is a little clumsy however.

For the purpose of this analysis the most useful ratio appears to be that used by the Australians in the Fitzroy study described in Part I, that is: *total property value* to land value (as contrasted with improvement value to land value), land value taken as unity.

Using this ratio, which will be called the ratio of improvement, a vacant lot would have a ratio expressed as 1:1, that is, the total value of the property is equal to the land value.

The average ratio of improvement of various land uses in Burnaby (from the table on page 20) are thus expressed:

Residential	4.396:1
Commercial	3.199:1
Industrial	2.983:1
Agricultural	1.485:1
Miscellaneous	3.141:1
Average ratio of improvement of the city <sup>7</sup>	3.888:1

The average ratio of improvement for the city as a whole becomes the pivotal point for determining whether a given property will pay more or less tax under (a) taxation of land and improvements at an equal rate, or (b) taxation of land only. Properties exhibiting improvement ratios *above* the average ratio for the city will pay higher taxes under case (a). Properties with ratios *below* the average for the city will pay higher taxes under case (b).

<sup>7</sup> Total assessed value of taxable real estate in Burnaby is \$188,031,725, including land value of \$48,359,980. The ratio of total value to land value is therefore 3.888:1.

### The Operation of the Mill Rate

In 1957 Burnaby raised \$3,049,000 for general municipal purposes by the tax on real estate.<sup>8</sup> For purposes of illustration it has been assumed that Burnaby required \$3,500,000 for general purposes in 1959, to be raised by the property tax. This would have required either (a) a mill rate of \$18.60 per thousand dollars of assessed valuation of land and improvements, or (b) a mill rate of \$72.30 per thousand dollars of land value. These mill rates have been used throughout this analysis wherever a comparison of taxes has been made.<sup>9</sup>

Three simple examples will serve to show how different ratios of improvement will result in different tax burdens if land alone is taxed. In each of these constructed cases the total value of the property is the same—\$10,000. If land and improvements are taxed at an equal rate the tax each property pays will be \$186 (18.6 mills × \$10,000). If land alone is taxed, at a rate of 72.3 mills, the different portions of land value in the total value, as indicated by the ratio, will result in different tax burdens:

i. Land value \$2000: Improvement value \$8000:  
Total value \$10,000

*Ratio* of Total value to Land value 5:1  
Taxes @ 72.3 × \$2000 = \$144.60

ii. Land value \$8000: Improvement value \$2000:  
Total value \$10,000

*Ratio* of Total value to Land value 1.25:1  
Taxes @ 72.3 × \$8000 = \$578.40

iii. Land value \$2580: Improvement value \$7420:  
Total value \$10,000

*Ratio* of Total value to Land value 3.88:1  
Taxes @ 72.3 × \$2580 = \$186.50

Where the ratio of the property stands in relation to the *average ratio* of improvement for the city reveals both the magnitude and the direction of the change in taxes which that property would bear under a changed system of levy.

<sup>8</sup> *Municipal Statistics*, Department of Municipal Affairs, Province of British Columbia, Queen's Printer, Victoria, 1958, p. 26. In addition Burnaby levies taxes on machinery. Taxes are also levied against property for school purposes. Machinery taxes and taxes for school purposes are not being discussed in this paper, although insofar as the theory of taxes on land and on capital applies, the same conclusions may be drawn.

<sup>9</sup> A tax of 18.6 mills on a total land and buildings assessment of \$188,032,000 yields \$3,497,395. A tax of 72.3 mills on a land assessment of \$48,360,000 yields \$3,496,429.

It is not meant to imply that the average ratio of improvement has particular significance as indicating the type or quality of building development in Burnaby as a whole, or that conclusions could be drawn about another city's development by comparing its average ratio to that of Burnaby. The validity of comparisons of this kind remains to be tested. The average ratio is used in this analysis merely as a quick point of reference for judging whether a given property will pay higher or lower taxes under the two systems of taxation being examined.

**Redistribution of the Tax Burden:  
Shift from Residential Property**

On the average, residential properties in the city have a total value to land value ratio of 4.396:1, the proportion of value attributable to improvements being about 78 per cent. Since residential properties have so large a portion of their value in improvements, the system of exempting improvements from taxation would result in lower taxes for the

majority of home owners and would decrease the contribution made to general revenues by residential property as such.

The highest ratios of improvement are exhibited in the new planned subdivisions; not because land values are low—the values run about \$18 a front foot—nor because the houses are grand—the average assessment is \$6000 to \$6500—but because construction is recent and of reasonably good standard and there are no vacant or poorly used lots in the blocks.

Homes in the higher land-value areas where values run from \$22 to \$25 a front foot show ratios of 4.45:1 and 4.55:1 (sample blocks 19A and 5B). In certain lower value areas where the most modest homes are found ratios of 4.34:1 and 4.44:1 are common (sample blocks 12D and 12C). In these blocks, where average ratios of improvement are above the average for the city, properties generally would pay lower taxes if improvements were exempt.

BURDENS OF PROPERTY TAX AND LAND-VALUE TAX CONTRASTED

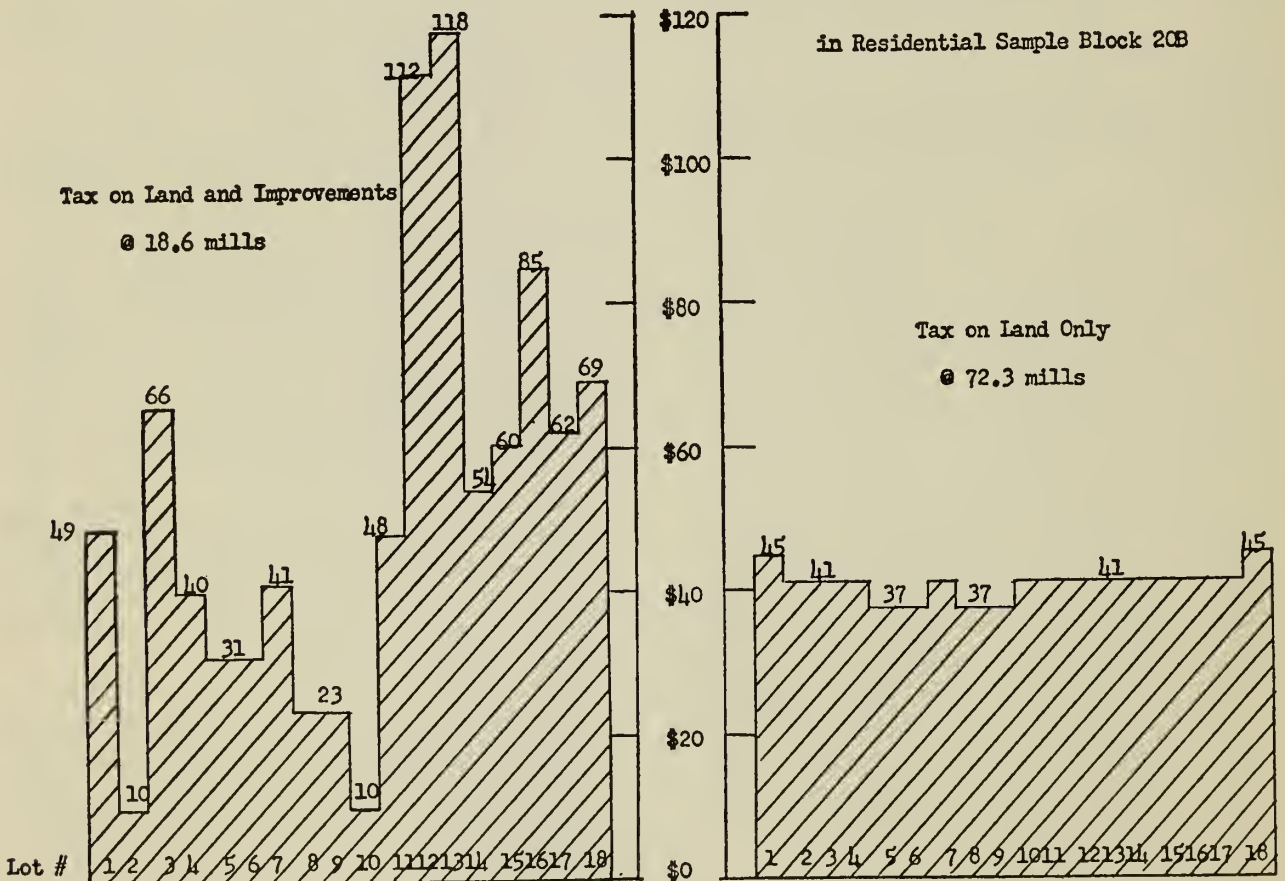


FIGURE 11

Taxation and Equity: Burdens of Property Tax and Land-Value Tax Contrasted in a Residential Block

Details of sample block 20B, a "typical" residential block, are given in Table 1, Appendix B. The block is in an area of rather poor small houses, with some better infilling. There are a few vacant lots most of which are owned by a resident occupying an adjoining lot. Only one of the properties in this sample block is registered in the name of a non-resident of Burnaby.

The area is zoned two-family residential. It is served by water, sewer and paved road and is close to shopping. The basic lot size is 33' × 122'; the front foot rate is \$17. Of the 29 dwellings in the block, 22 are considered to be in average (C) or above average condition.

Throughout the city, residential property in average to good condition, no matter what the type—single-family, duplex or apartment—could expect a decrease in taxes under the land-value tax system.

What kinds of properties would pay increased taxes then?

The larger the portion of value in a property attributable to the land, the more likely the property's tax would be higher if all improvements were exempted. Obviously vacant properties would pay

much more, as would the near-vacant properties used for parking lots and billboards (see Figure 11). Typical of this kind are vacant lots in sample block 20B where taxes would rise from \$10 to \$41, and in sample block 17B from \$16 to \$64. In sample block 18B, where the vacant lots are interspersed among commercially used lots, taxes would rise from \$28 to \$109.

### Redistribution of the Tax Burden: Shift to Commercial Property

The average ratio of improvement for commercial land uses in the city is 3.199:1, rather below the city average of 3.888:1. Thus, as a general rule, commercial property would pay slightly increased taxes, and the contribution of commercial land uses to general revenues would rise.

Ratios of properties in the best developed block of the Hastings commercial strip (sample block 18A), where land values run from \$85 to \$95 a front foot, average out to 3.433:1 (Table 2, Appendix B). All lots in this block are in commercial use, although on four lots, commercial and residential uses are combined. Of the 22 properties, 16 fall below the average ratio of improvement for the

BURDENS OF PROPERTY TAX AND LAND-VALUE TAX CONTRASTED  
COMMERCIAL SAMPLE BLOCK 18A

Tax on Land and Improvements

Tax on Land Only

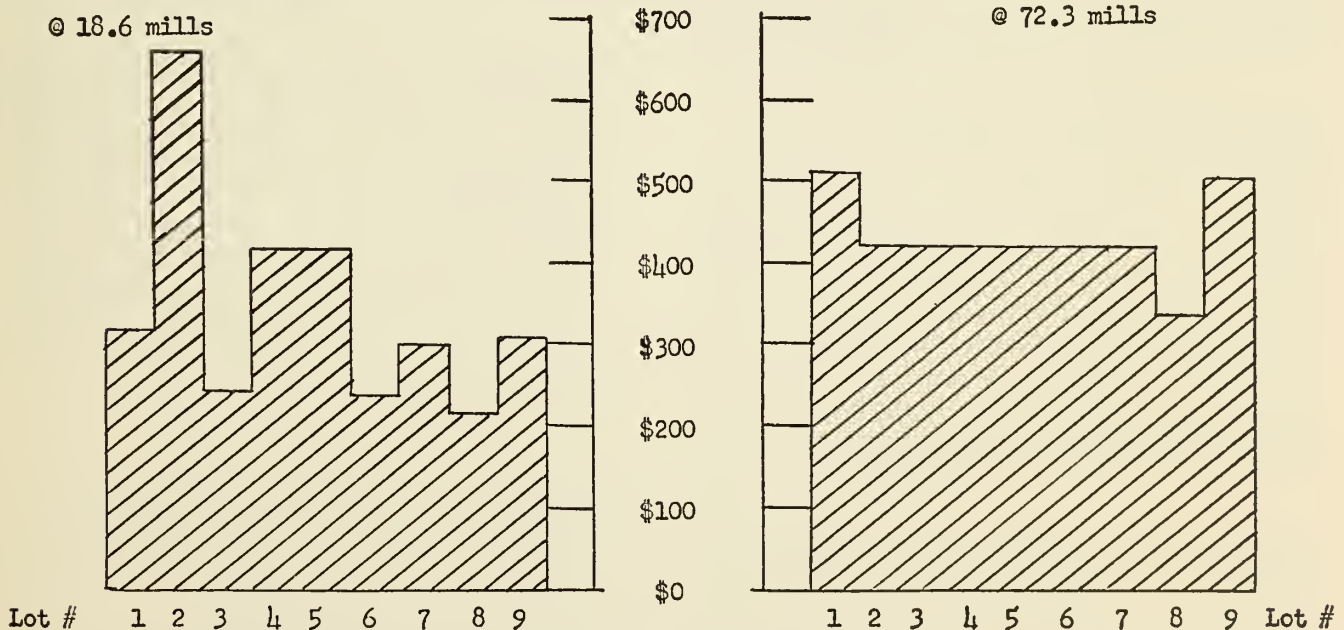


FIGURE 12

Taxation and Equity: Burdens of Property Tax and Land-Value Tax Contrasted in a Commercial Block

city. These 16 properties would pay higher taxes if improvements were exempted from taxation (see Figure 12); the contribution of the block as a whole would rise by about \$1000—from \$6460 to \$7426. It might also be noted that this block exhibits a high proportion of absentee ownership, only 10 of the 22 properties being registered in the name either of the occupant or of a person resident elsewhere in Burnaby.

That land value represents a greater proportion of total value in commercial land uses generally is due partly to the fact that commercial uses usually occupy the more central and valuable sites. Development in the area of peak land values is represented by sample block 5A (see Table 3, Appendix B). It is an intensive (for Burnaby) commercial development. The ratio of improvement is 2.477:1; two-fifths of the total block value is due to land value—the front foot rate being \$185 to \$210.

A second reason for the increased contribution of commercial land uses lies in the fact that many of them are poorly developed, that is, that valuable sites are being used much less intensively than they could be. Used car lots, gas stations with extensive blacktopped areas, and lots “used” only to support billboards are common in Burnaby. Commercial lots of this kind show improvement ratios on the order of 1.04:1 and 1.06:1 (billboards); 1.98:1 and 1.36:1 (gas stations). The four properties just mentioned would have their taxes raised substantially if improvements were exempt—the billboard lots from \$70 to \$262, and from \$128 to \$469; the gas stations from \$308 to \$604, and from \$996 to \$2843. These are typical cases.

### **Redistribution of the Tax Burden: Shift to Industrial Property**

The average proportion of total assessed value attributable to land in an industrial property in Burnaby is 33 per cent, compared to 22 per cent in an average residential property. The average ratio of improvement of industrial uses in the city is 2.983:1, well below the average improvement ratio for all uses (3.888:1). The more heavily land is taxed, therefore, the more industrial properties as a group will contribute to general revenues.

The “industrial” group however includes such markedly different users of land as railways and lockmakers. The assessments of the three railway lines running through Burnaby are entered in the rolls entirely as land value, that is, at an improvement ratio of 1:1. The ratios of improvement rise

through a sawmill—1.51:1; a fruit preserving plant—2.89:1; a Safeway warehouse—3.92:1; a Ford parts plant—4.47:1; a can company—7.07:1; to an extreme, a lockmaking company—14.78:1 (see Appendix C). In other words, it is hard to draw useful generalizations about this category.

The types of land uses classified by the assessor under the heading “industry” are evidently quite different in their nature and in their demands upon land; in this group, the use of the “average” as a typical case would be misleading. This point can be more fully appreciated by comparing the properties in the sample industrial block 12E (ratio 1.909:1) in Table 4, Appendix B, with the list of major industrial properties in Burnaby included as Appendix C.

### **Redistribution of the Tax Burden: Shift to Under-used Land**

#### *(i) Agricultural land in an urban area*

Although residential subdivision and the entry of industry have erased the semi-rural character of pre-war Burnaby, some patches of land, mainly in the peat areas, are still being farmed. By value, the category of agricultural land use amounts to only two-tenths of one per cent of the total. The average ratio of improvement for all farm holdings is 1.485:1. In effect, two-thirds of the value of these agricultural properties is land value. The exemption of improvements would result in a substantial increase of taxes on this land and, to that extent, encourage its more intensive use.

A generalization made about these lands might not apply to agricultural land in its usual setting, that is, in a rural area. Undoubtedly an element of value is included in the Burnaby farmlands which is justifiable (not merely speculative) urban value. Lands which are ten miles further from the metropolitan center, which have soils more suitable than these for agriculture, are now being subdivided and serviced to urban standards. Under the circumstances one cannot escape the conclusion that a good deal of agriculturally used land in Burnaby is in fact under-used land.

It may be as well at this point to refer again to the problem of premature subdivision which was touched on in Part I. It is partly because land in central areas is ill-used or not used that perimeter land is brought into residential use prematurely. That is to say, the presence of ill-used or unused lands in Burnaby is a contributing factor to the sprawl problem affecting the predominantly rural

metropolitan fringe municipalities of Coquitam, Surrey and Delta.<sup>10</sup>

### (iii) Patchy commercial development

Although a shift to land-value taxation would increase the taxes of all vacant properties since the total value of such property is attributable to land, not all vacant properties would have their taxes increased by the same amount. The importance of this fact can be best illustrated with reference to the Hastings commercial strip.

The Hastings strip stretches eleven blocks from Boundary Road in the west to Gamma Avenue in the east. Development is quite well consolidated in the area of peak land values but becomes interrupted and mixed in with residential uses and vacant lots toward both ends of the strip. In three of the blocks which were studied in detail, the one closest to the peak value area contained 36 lots of which 3 were vacant—or nearly so; four blocks to the east, out of 38 lots 11 were vacant; two blocks still further away from the shopping core, out of 36 lots 17 were vacant. There were also some lots in single-family residential use in each of the latter two blocks.

#### HASTINGS COMMERCIAL STRIP

(eleven city blocks)

peak land values			
XXX	•	•	•
a	b	c	
+179	+106	+81	

In the diagram above, points a, b and c indicate the position of vacant lots on the south side of Hastings Street. Vacant lots at point a, near the center of the shopping district, would have their taxes raised by \$179 per annum under the land-value taxation system; at point b, taxes would rise by \$106 per annum; at point c, taxes would rise by only \$81 per annum. Pressure to develop would be stronger on the central vacant lots than on the peripheral lots. The pressure for development would be greater at point a, and much less at point c.

The result should be the gradual consolidation of commercial frontage and the deflation of peripheral expectations. Both central and peripheral sites should tend to be brought into more rational use.

<sup>10</sup> The sprawl problem in this area is documented in *Economic Aspects of Urban Sprawl*, Lower Mainland Regional Planning Board of B. C., 1956, summarized in "Urban Sprawl," *Urban Land*, XV., No. 7 (July-Aug. 1956).

The accompanying map of development in sample block 18B, which comprises three city blocks at the eastern end of the Hastings strip, shows the existing mixture of uses and gives also an indication of the quality of the dwellings in the area (see Table 5, Appendix B). The land is zoned for commercial use. About one-third is in commercial use, one-third in residential use, and one-third is vacant. The table which follows shows, for each property in the sample block, the taxes which it would pay on the present assessment if land and improvements were taxed equally (rate 18.6 mills) and if land alone were taxed (rate 72.3 mills). Where a change to the latter system would bring an increase in taxes, as it would in all but three instances in this poorly developed sample block, the percentage increase is calculated.

### (iii) Urban decay and blight

Certain parts of Burnaby, such as the commercial strip described above, suffer from mild forms of urban blight. Although the character of Burnaby's blighted areas varies considerably, they have in common a low ratio of improvement. This means that land value is a large portion of the total property value and that most of the blighted areas would yield increased revenue if land values alone were taxed.

Sample blocks 2B, 12B and 5C (see Appendix B) serve to describe the kinds of development in the mildly blighted "problem" areas of Burnaby. Block 2B, with an improvement ratio of 2.154:1 can be described as a semi-rural semi-slum. The lots are nine-tenths of an acre or better. Although the land values are low, the front foot rate being \$9, most of the structures in the block rate fair to poor.

Sample block 12B is in an area now changing from residential to industrial use, close to the intersection of a north-south traffic route and a new central arterial highway. A number of old dwellings have been torn down and lots are being assembled for industry. Of 43 lots in the block, 23 are vacant, two are occupied by an industrial firm, one by a warehouse, and the remaining 17 are occupied by dwellings. Fifteen of the dwellings are in below average condition, five being rated C- and ten being rated D. The improvement ratio of the block is 2.68:1.

Block 5C is still predominantly in single-family residential use, although it touches the Kingsway commercial route. Judging by the land values—\$25 to \$42 a front foot—the area is under pressure for more intensive use. Some of the houses have

recently been demolished. Of the 30 properties in the block four are in commercial use, four are vacant, and the remainder are occupied by dwellings. Eleven of the dwellings are in below average condition. The improvement ratio of the block is 1.96:1.

It should be emphasized again that a low ratio does not of itself indicate that a block is poorly developed or blighted. Nevertheless it is obvious that blighted areas will exhibit low ratios.

From the three blighted sample blocks described, the exemption of improvements would bring tax yields of \$2,204, \$2,436 and \$8,952; an increase of about \$6,200 on the three blocks altogether. Tax shifts of this degree, though not to be compared with what would occur in central city slums, indicate clearly what could be expected there.

### **Comment on Tax Shifts Under Land-Value Taxation**

In the first instance the tax burden would shift partially from residential property toward commercial and industrial property and toward vacant and under-used land. The initial shift in tax burden would be followed by secondary and tertiary shifts in values but their direction and placement cannot readily be forecast.

Two main factors would be at work—the increased pressure on land and the absence of tax pressure on improvements. The one tends to lower land prices, to bring sites into use, in effect to increase the supply of land. The other, which makes building a more attractive investment, will increase the demand for land. These pressures acting at the same time, one pushing down and the other pulling up, may cancel one another out in affecting land prices. But pressures tending toward efficiency of development would continue to be exerted in each category of

land use irrespective of price. The word “tend” is used advisedly since these pressures in the main would have immediate results only on marginal properties.

The third-stage effect, or result third-removed, should be a further increase of pressure on the lowest-ratio development as a result of the gradual improvement and consolidation of development; that is, of a rise in the average ratio of improvement for the city.

An improvement in assessment would likely reinforce rather than counter the tax shifts described. For one thing, industrial land is presently under-assessed relative to residential land. For another, vacant residential land is underassessed relative to improved residential land. The shift which would take place from residential to industrial and from improved to vacant land, as revealed by the analysis of assessed values, is therefore probably underestimated in terms of true market values. On the other hand, residential buildings appear to be over-assessed in some areas relative to the sites they occupy. Increases in land assessment might lessen somewhat the general advantage residential property has, unless underassessment of land relative to buildings is equal for all categories of land use.

Considerations such as these in no way affect the validity of the tax shifts which would occur on the basis of present assessments. They do indicate however that a slightly different pattern of shift might be found in other taxing jurisdictions. And they show that assessment practice can have as important an effect as the tax system and the tax rate—that it may either emphasize or nullify a policy of taxing land at a higher rate than buildings. In any case, no matter what the tax system, the need to aim for equity in assessment remains.

# Part III

## SUMMARY AND CONCLUSIONS

### I. The Property Tax and Problems of City Redevelopment—Recapitulation

The aim of this study has been to clarify the role of the property tax in terms of its effect on urban development. PART I drew attention to the difference in incidence and effects of taxes on land and capital (buildings), briefly touched on the importance of this difference in relation to urban problems, and suggested that local taxes could be harnessed to constructive purposes by abandoning taxes on improvements and increasing taxes on land.

PART II analysed the broad shift of tax burden which would occur in a given city were land values only to be taxed. The absolute shift of taxes from buildings to land was found to be accompanied by a partial shift of taxes from residential to commercial and industrial uses, and from well developed to poorly developed and unused land.

With this picture of tax shifts in mind, it is worthwhile to look again at the relevancy of taxes to urban problems; for in some cases an increase in taxes on land may be the more important factor, while in others the abandonment of taxes on buildings may be an equal, if not a more important, consideration. There is also the question of equity.

### Taxation and Sprawl

The importance of increased land taxes can probably best be appreciated in relation to the problem of sprawl—its extent and its cost to the community.

Sprawl is not a new phenomenon. Emil O. Jorgensen, writing in 1925, calculated that half the potential farming area and over half of our urban centers then consisted of vacant land. It cost enough to build and maintain public improvements past all this unused land to reach people who were living further on, he said, but the amount of capital squandered, labor wasted and time consumed in passing and repassing these innumerable gaps of vacant land—daily, monthly, yearly,—was “something appalling” and, for the nation as a whole, “beyond all calculation or conjecture.”<sup>1</sup> Charles D.

Clark in 1934 found that nearly one-half of the lots in Los Angeles County were vacant. “Calculating from the known percentage of lot vacancy and the average cost per mile of maintaining streets in front of vacant lots, it is found that each year \$1,435,869 is expended for maintenance in front of vacant property” in the County.<sup>2</sup> In 1938 Edmund Bacon described similar costs to the community in a study of Flint, Michigan. He counted 28,526 vacant lots (of which 43 per cent were tax delinquent) which were serviced with water and sewer at a cost of some \$1,700,000. Despite this enormous area of vacant lots provided with utilities, the current building in Flint (1940) was taking place almost entirely outside the city limits in unsewered subdivisions.<sup>3</sup> This sad experience has been duplicated in scores of cities, including Burnaby.<sup>4</sup>

The sprawl problem is almost purely the result of land speculation at work. Thousands of vacant serviced lots lie within our cities while thousands of new urban lots are offered in patches scattered about in the suburban and rural rings.\* The services which are sometimes said to be rendered by speculators in land pale into insignificance when judged against the resulting pattern of costs to the community.

The speculative portion in land price is the difference between the price which the owner demands and the amount which can be paid for any rational and probable development. It is in fact a counterfeit element, for the owner is actually asking something for nothing. In Burnaby, for example, the return needed to justify the prices asked for some of the more central lands cannot be obtained from single-family residential development. Yet

<sup>2</sup> Charles D. Clark, “Penalties of Excess Subdividing,” *City Planning*, April 1934, pp. 56-57.

<sup>3</sup> Edmund Bacon, “A Diagnosis and Suggested Treatment of an Urban Community’s Land Problem,” *J.L.P.U.E.*, Vol. 16, 1940, pp. 72-88.

<sup>4</sup> Horace L. Brittain, “An Investigation and Survey into the Municipal Organization of Burnaby, B. C.,” *The Burnaby Broadcast*, Vancouver, 1933, pp. 5-6.

\* This observation may apply in certain parts of Canada, but in the U. S., with some exceptions, the backlog of vacant serviced lots was largely absorbed during the World War II and post-war periods. Subsequent trends have favored “package” subdivision development in contrast to the marketing of vacant lots. (Ed. note).

<sup>1</sup> Emil O. Jorgensen, *False Education in Our Colleges and Universities*, Manufacturers and Merchants League, Chicago, 1925.

the demand for more intensive uses may be fully satisfied for some years to come by available sites which are still more desirable or accessible. For each stratum of users there seems to be more than enough land being "held" available—available at a price not justified by the present level of activity. Those who need land must continually reach out to lower-priced areas. Thus the illusion is created that there is a shortage of urban land when much urban land is not being used at all.<sup>5</sup>

In Burnaby, as we have seen, there is a good deal of unused and ill-used land. The land in agricultural use is not of the greatest significance; more important is the wasted land lying scattered among residential and especially commercial uses. Yet the price of land in Burnaby keeps rising at a rate of some 22 per cent annually.<sup>6</sup>

The present annual levy on land, including taxes for school and debt purposes, is about 1.6 per cent of market prices. To switch general rates to land only, leaving school and debt costs as they are at present (only partially supported by rates on land), would raise the effective annual levy on land to some 3.6 per cent of market prices. The steepness of the trend in land price increases would be checked to a degree, at least until the population explosion forecast for two or three years hence exerts above-normal pressure. An increased tax on land would induce better development of under-used areas and relieve some of the pressure on fringe municipalities as well.

### Taxation and Slums

In contrasting the operations of the property tax and the straight land-value tax in relation to the problem of sprawl, the increased tax on land occasioned by the latter is the more important factor. In the case of slum and blighted areas, the absence of the tax on buildings plays possibly the larger role.

In Turvey's cautious opinion, to shift local rates from land and buildings to land only would produce noticeable but not spectacular results. The value of some sites would be raised and some lowered; the tax increase would but slightly increase the number of vacant sites developed. The tax relief of buildings would raise the optimal outlay so that new buildings would be larger or more durable than they would have been if planned to be built under the former tax system.

"The net effect of the two parts of the tax change taken together is thus to raise the profit from any given outlay on development. . . . The increase in rate liability due to reconstruction, enlargement or alteration of a building will generally be smaller after the tax change than before. Urban redevelopment will therefore be stimulated."<sup>7</sup>

To make a detailed analysis of the effects of a tax shift one would want a city with real slums. The mildly blighted "problem" areas of Burnaby hardly serve as a genuine example. The blighted sample blocks do show low ratios of improvement but the greater tax yields from them are a drop in the bucket compared to the potential tax yields of central city slums. Land values rise in geometric rather than arithmetic proportion approaching the city core. The slum rings characteristic of large central cities show dilapidation and insanitary conditions to a degree not found in a city like Burnaby, and the land is a hundred times more valuable.

In the slum, the process of natural renewal by private action has come to a stop, hindered, among other things, by speculation in land, and by the taxation of improvements. But, while millions of dollars are being spent and millions more are proposed to clear slums and to rehabilitate blighted areas, the city deteriorates faster than public action can renovate it.<sup>8</sup> Certainly, private action needs to be stimulated in some way.

To exempt improvements and at the same time to tax land more heavily would provide a double incentive to the owners of derelict buildings to demolish them and to use the land more intensively. Here surely is a golden key to urban renewal, to the automatic regeneration of the city—and not at public expense.

### Taxation and the Housing Problem

Urban redevelopment programs in North America have everywhere placed the problems of urban blight and property taxation in juxtaposition. The faults of the property tax have been thrown into sharp relief against the background of the slums. But we sometimes forget that the process of deterioration which has culminated in a stagnant city core is at work throughout the fabric of the city; that the forces which hinder or intensify this process do so

<sup>7</sup> Turvey, *Economics of Real Property*, pp. 90-92.

<sup>8</sup> Arthur Gallion, *The Urban Pattern*, New York, D. Van Nostrand Co., Inc., 1950, p. 207; Also Wm. Wheaton, "American Housing Needs, 1955-1970," *The Housing Yearbook*, 1954.

<sup>5</sup> See *Land—A Special Issue, House and Home*, Vol. 18, No. 2, Aug. 1960.

<sup>6</sup> See Appendix C.

in the residential and suburban rings as well as in the central business district; that the results of these forces are built into the structure of the city day by day, changing its shape and quality over time, subtly but surely working good or ill.

It is easy to underestimate the effects of small pressures over long periods, and similarly it would be easy to underestimate what a fundamentally more rational policy of taxation might accomplish over time.

A case in point is the problem of housing—nowadays a national concern. The studies of Morton and others have tended to show that taxes on homes result in lowered standards of space and quality in housing. The analysis of values in Burnaby shows that taxes on homes are likely to be higher when improvements are taxed than when land alone is taxed. In the United States and Canada then, thousands of municipalities are pursuing a policy of taxation which intensifies the housing shortage, which lowers standards of space and cuts into quality. It would be both simple and wise to choose a more constructive course.

In Burnaby, for example, the difference in tax burden which a prospective home-owner might expect is quite striking, as an analysis of a typical property in a relatively new subdivision will show. The example is taken from sample block 6A.

In round figures the average lot valuation is \$900 and the dwelling valuation \$6,000. Applying the mill rate of 18.6 to the total valuation of the property, \$6,800, the taxes amount to \$128. Applying the mill rate 72.3 to land value only, the taxes amount to \$65, a saving under the second system of \$63 per annum. This annual saving represents a capital sum, at 6 per cent, of better than \$1,000. In other words, a policy of exempting improvements from taxation while still maintaining the same revenue flow from real estate would allow the average home buyer in this subdivision to have \$1,000 additional value in his home in the way of more space or better quality construction.

To relieve dwellings of taxation removes a brake on investment which might take the form either of repair or of new construction. How great an improvement in the housing situation would result over time from this changed pressure, it is not possible to calculate. One must take a short-sighted and superficial view of the housing problem to discount the importance of tax pressures, and what is true of the effects of taxation on the quality of housing is

true also in respect to the quality of the city as a whole.

## II. Taxation and Criteria of Equity

It is clear that the adoption of a policy of land-value taxation in place of real estate taxation at the municipal level would markedly alter the distribution of the tax burden among different land uses, and among properties in the same kind of use. And although such a redistribution may well be justified on theoretical and on practical economic grounds, although its constructive effect can be demonstrated, one may still ask—what about fairness.

The two principles commonly used to judge the justice of a tax are the principles of "ability-to-pay" and "benefit-received."<sup>9</sup> Groves and Prober have tested the real estate tax against each of these principles and in neither case did it come out very well.<sup>10</sup> Usually however the property tax is justified mainly on the principle of benefit-received and those analysts who, like Groves, appear to favor the principle of ability-to-pay, tend to favor the abandonment of the property tax.<sup>11</sup>

Since the property tax is in fact two taxes, or, put differently, a tax on unlike things which react in unlike ways, it is not surprising that one is put into a quandary trying to decide which principle to

<sup>9</sup> It has not been thought necessary to relate the property tax or the land-value tax to any of the editorial axioms currently bedeviling thinking on taxation. "A 'broad' tax base is preferable to a 'narrow' tax base" equals: "the more things taxed, the better." "Services to land should be paid for by land but services to people should be paid for by people." But is there a municipal service which is not, in fact, a service to people? At the same time, does not this service enhance the value of land?

Then there are the claims that one type of property is "subsidizing" another—usually that commerce and industry are subsidizing residential property. This claim must be based on a conception of some fair and proper share which each type of land use should pay, but it is never very clear what is to be the basis for judging fair shares. According to Barnes and Raymond, the surveys and techniques now being used to determine a logical allotment of costs among land uses "are not only far from perfect, they are in most if not all instances misleading." (R. M. Barnes and G. Raymond, "The Fiscal Approach to Land Use Planning," *A.I.P. Journal*, 1955, Vol. 21, pp. 72-73.) To try to compartmentalize the city in this way is possibly misleading, too, for it is like a living body with inter-acting and inter-dependent parts. We do not consider that the hands "subsidize" the stomach.

The further we move away from testing taxation against the rigorous principles of equity, the more we must substitute vague axioms or rules of thumb, and the more we are led to justify a morass of burdensome and destructive taxes.

<sup>10</sup> Harold Groves and Louise Prober, "Equity Grounds for Property Taxation Re-examined," *J.L.E.*, Vol. 27, 1951, pp. 143-150.

<sup>11</sup> Harold Groves, "Income Versus Property Taxation," *J.L.P.U.E.*, Vol. 22, 1946, p. 351.

apply and whether the tax is a good one or a bad one. That flagrant injustices occur through its operation is easily illustrated.

A lot may be occupied by a well constructed building in good repair or by its opposite—a poorly constructed building poorly maintained. With the undifferentiated real estate tax in operation the owner of the building which is a credit to the city, which is one of the sound stones in the city edifice, is required to pay higher taxes than the one who builds a poor building or allows his building to decay. The less the poorly maintained property is required to pay by reason of its continuing deterioration, the more the well maintained property is asked to contribute. It is a misapplication of the principle of ability-to-pay that brings about this customary but incongruous situation.

The land-value tax however is relatively easy to justify. It accords well with the principle of benefit-received and it does not offend the principle of ability-to-pay. (Justification by either principle is made by reference to the property itself and not to the status or actions of its owner.)

The services provided by public improvements and the size and wealth of the community are directly reflected in land values. Whether or not the land owner takes advantage of the benefits conferred upon his property by availability of services, by access to the community at large, or by unique natural advantages, is not the point at issue. Benefits are conferred upon different sites in varying degrees and these benefits are measured in land values. A corner lot in the business district may be occupied by a department store or a car parking lot. The same public services are available to it, the same advantages accrue to it, whether or not it is well used.

On the principle of benefit-received then, it is fairer to tax the value of the site alone rather than the value of the improvement and the site together; that is, to tax on the potential use of the land not on its actual use.

To look at it from another point of view, a site's ability to pay is related to its ability to earn. Land value is an indication of the earning power of the site. A lot cannot be lazy if the tax is based on its ability to pay.

The principles of ability-to-pay and benefit-received are not necessarily in conflict and, in the case of the land-value tax, they can be said to coincide.

### III. Further Questions

This study represents but a first general foray into the problem of the economic consequences of taxation on city development. Only general shifts in taxation are noted, based on data gathered for only one municipality. The extent and direction of potential tax shifts need to be tested in other cities and this means the compilation of assessment and tax data detailed enough to be capable of the ratio analysis. There is need for much more data and more refined analysis, obviously, in relation to industrial land uses, and in relation to blighted areas. The question of shifts in land values which might occur as a result of shifts in taxation also wants study.

It is hoped that this study will serve to stimulate other such studies; first, by urging that taxation is an important and under-rated element in urban planning problems; second, by showing the need for compiling value data separately for land and for improvements; and finally, by illustrating a simple method of analysis.

# APPENDICES

APPENDIX A

**Information on Taxable Properties  
in Fifty-Nine Sample Blocks in Burnaby**

Of the fifty-nine sample blocks which provide the data used in the analysis forty-five are predominantly or entirely in residential use; two are entirely in commercial use and each of four others includes several properties in commercial use; two are in industrial use; one is in agricultural use (truck gardening); the remaining five can be considered vacant. A summary of information on the values, zoning, services and number of properties in each of these sample blocks is given below. The summary table was prepared from detailed information—property by property—such as that presented for the sample blocks in the text.

The symbols used in the summary table are as follows:

*Zoning:* I—industrial; SH—small holding; C—commercial; SF—single family; 2F—two family; MF—multi family.

*Predominant Use:* Vac.—Vacant; Ind.—Industrial; Com.—Commercial; Res.—Residential; SH—Small Holding.

*Sewer:* X—sewered; p—partly sewerred; dash (—)—not sewerred.

*Water:* X—served by water; dash (—)—not served by water.

*Road:* P—paved road on all sides; G—gravel road on all sides; N—no road on any side; PGN—partly paved, partly gravel and partly not served by road.

*Land Assessment Rate:* This is given in dollars per front foot where the assessment is made on a front foot basis, or in dollars per acre where the assessment is made on an acreage basis.

*No. of Properties:* The number of properties is the number of separate entries made in the land assessment roll for a given sample block.

*Assessed Values:* The values are given in dollar units.

*Ratio of Improvement:* The ratio of improvement is found by dividing the total value by the land value.

SUMMARY TABLE OF TAXABLE PROPERTIES IN 59 SAMPLE BLOCKS IN BURNABY

Sample Block	Zoning	Predominant Use	Sewer	Water	Road	Land Ass't Rate in \$ per Front Foot or Acreage Equivalent	No. of Properties	Land Value in \$	Improvements Value in \$	Total Value in \$	Ratio of Improvement
2A	I	Vac.	—	—	—	All lots in this block municipally owned and exempt					—
15	SH	Vac.	—	—	G	\$ 5-6	3	680	nil	680	1.000:1
14B	I	Vac.	—	X	P	\$ 8	8	135 470	100	135 570	1.000
12G	I	Vac.	X	X	PGN	\$ 20	6	41 485	11 225	52 710	1.270
12E	I	Ind.	p	X	PN	\$ 7500 ac.	8	233 650	120 300	353 950	1.514
12F	C&I	C&R	X	X	PGN	\$ 22-50	13	48 955	30 400	79 355	1.620
22	I	Ind.	—	X	P	\$ 5620 ac.	3	315 290	285 700	600 900	1.906
5C	I	R&C	—	X	PG	\$ 25-42	30	123 820	118 975	242 795	1.960
18B	C	C&R	X	X	P	\$ 40-70	69	192 855	215 775	408 630	2.118
2B	SH	Res.	—	X	G	\$ 9	26	30 480	35 175	65 655	2.154
13B	I	Res.	—	X	G	\$ 9	14	20 785	24 625	45 410	2.184
14A	SF	Res.	—	X	P	\$ 12	15	41 310	51 900	93 210	2.256
1	I	SH	—	X	G	\$ 600 ac.	19	11 915	26 675	46 590	2.339
17F	SH	Res.	—	X	P	\$ 10-15	7	18 005	24 300	42 305	2.349
5A	C	Com.	X	X	P	\$ 185-210	7	221 715	327 575	549 290	2.477
12B	I	Res.	X	X	G	\$ 14-29	46	33 550	56 650	90 200	2.680
17C	2F&C	Res.	p	X	PG	\$ 16-30	8	15 390	26 700	42 090	2.734
8A	2F&C	Res.	—	X	GP	\$ 10-14	23	38 475	77 075	115 550	3.003
21A	2F	Res.	X	X	GP	\$ 10-13	24	35 960	74 175	110 135	3.062
11B	SF	Res.	—	X	G	\$ 13	15	21 670	47 500	69 170	3.191
5D	I	R&C	—	X	PG	\$ 19-20	33	53 745	118 600	172 345	3.206
6C	2F	Res.	X	X	PG	\$ 17-18	36	49 035	119 725	168 760	3.441
20A	SF	Res.	X	X	G	\$ 12	11	12 700	31 375	44 075	3.470
16C	2F	Res.	p	X	PN	\$ 13-14	32	44 520	113 090	157 610	3.540
16B	2F	Res.	—	X	PN	\$ 13	27	45 685	116 725	162 410	3.554
18A	C	Com.	X	X	P	\$ 95-100	45	236 230	613 100	849 330	3.595
8C	2F	Res.	—	X	GPN	\$ 9-14	21	35 515	92 375	127 890	3.601
6B	2F	Res.	X	X	PG	\$ 17-18	26	43 455	118 275	161 730	3.721
7	2F	Res.	—	X	PG	\$ 15-16	42	54 630	155 600	210 230	3.848
8B	SF	Res.	—	X	PN	\$ 10-15	20	31 195	89 075	120 270	3.855
13A	2F	Res.	—	X	PGN	\$ 13	19	16 505	48 050	64 555	3.911
3C	2F	Res.	—	X	P	\$ 18-19	24	20 550	60 300	80 850	3.934
4C	2F	Res.	—	X	GPN	\$ 14-15	43	82 885	245 500	328 385	3.961
12A	I	Res.	X	X	G	\$ 19	20	23 080	70 400	93 480	4.050
14C	SF	Res.	p	X	P	\$ 11-16	11	16 475	53 650	70 125	4.256
3B	2F	Res.	—	X	GP	\$ 18-19	71	64 255	214 570	278 825	4.339
12D	2F	Res.	—	p	GN	\$ 9-10	25	18 125	60 600	78 725	4.343
17B	2F	Res.	—	X	PG	\$ 16	26	24 920	84 075	108 995	4.373
9A	2F	Res.	X	X	PG	\$ 18	18	18 640	62 900	81 540	4.374
20B	2F	Res.	X	X	PG	\$ 17	34	26 180	89 075	115 255	4.402

PROPERTY TAXATION AND URBAN DEVELOPMENT

Sample Block	Zoning	Predominant Use	Sewer	Water	Road	Land Ass't Rate in \$ per Front Foot or Acreage Equivalent	No. of Properties	Land Value in \$	Improvements Value in \$	Total Value in \$	Ratio of Improvement	
12C	2F	Res.	X	X	PN	\$ 15	12	10 890	37 475	48 365	4.441:1	
19A	2F	Res.	X	X	P	\$ 24	17	20 415	70 375	90 790	4.447	
9B	2F	Res.	X	X	GPN	\$ 16	17	15 620	55 075	70 695	4.525	
5B	MF	Res.	X	X	PG	\$ 22-25	70	102 690	364 700	467 390	4.551	
19B	2F	Res.	X	X	P	\$ 21-22	31	25 805	92 750	118 555	4.594	
11A	2F&C	Res.	X	X	P	\$ 18	38	34 095	129 875	163 970	4.800	
21B	SF	Res.	X	X	P	\$ 16	14	11 495	45 525	57 020	4.960	
17A	2F	Res.	X	X	P	\$ 19	33	20 985	83 675	104 660	4.987	
6D	2F	Res.	X	X	PG	\$ 17	52	53 090	221 275	274 365	5.167	
17D	2F	Res.	X	X	P	\$ 20	24	23 630	98 700	122 330	5.176	
20C	2F	Res.	X	X	G	\$ 18	27	21 570	90 775	112 345	5.208	
3A	SF	Res.	—	X	GP	\$ 18	39	45 115	191 300	236 415	5.240	
4B	2F	Res.	—	X	GPN	\$ 15	16	14 145	60 050	74 195	5.245	
8D	2F	Res.	X	X	P	\$ 18-22	77	70 540	340 295	410 835	5.824	
17E	SF	Res.	X	X	P	\$ 22	19	22 560	121 425	143 985	6.382	
9C	SF	Res.	X	X	P	\$ 18	38	42 555	245 400	287 955	6.766	
16A	SF	Res.	—	X	P	\$ 17	9	9 210	55 300	64 510	7.004	
6A	SF	Res.	—	X	P	\$ 18	24	23 320	144 700	168 020	7.204	
4A	I	Vac.*	—	X	PN	\$ 8	14	45 210	303 125	348 335	7.704	
4A	(Omitting the one industrial property)								27 530	11 875	39 405	1.431

\* One industrially used site and 3 dwellings in a predominantly vacant tract of industrially zoned land which is assessed at a low rate, \$8 per front foot. The low rate on land coupled with the large assessment of the new industrial

plant accounts for the high ratio of 7.704 to 1. Omitting the one industrially developed property, the ratio is 1.431 to 1, a ratio that seems to express more accurately the actual state of the development in this sample block.

APPENDIX B

Detailed Tables and Sketch Maps of Selected Sample Blocks in Burnaby

- TABLE 1. Properties in Sample Block 20B—A “Typical” Residential Block
- TABLE 2. Properties in the West Part of Sample Block 18A—A “Typical” Commercial Block
- TABLE 3. Properties in Sample Block 5A—Area of Peak Land Values on Kingsway
- TABLE 4. Properties in North Part of Sample Industrial Block 12E
- TABLE 5. Tax Burdens on Properties in Sample Block 18B—A Patchy Commercial Strip—Contrasted
- TABLE 6. Properties in Sample Block 2B—A Poor Semi-Rural Area
- TABLE 7. Properties in Sample Block 12B—Land Use in a “Problem” Area
- TABLE 8. Properties in Sample Block 5C—An Area of Changing Use
- TABLE 9. Properties in Sample Block 6A—A Typical Block in a New Designed Subdivision

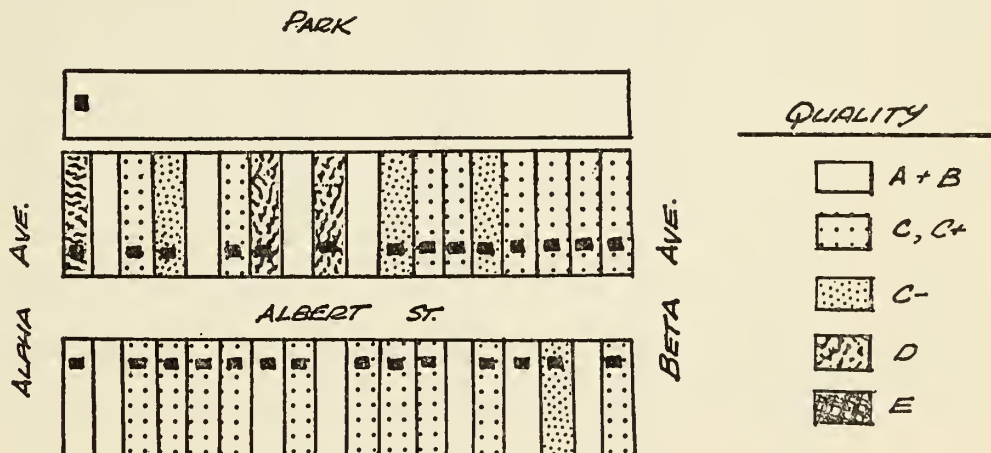
TABLE 1

SAMPLE BLOCK 20B—A “TYPICAL” RESIDENTIAL BLOCK

Average block ratio 4.402:1; Zoned two-family residential; Served by water, sewer and paved road; Basic lot size 33' x 122'; Front foot rate \$17; Close to shopping.

This block is in an area of rather small poor houses, with some better infill. There are a few vacant lots most of

which are owned by a resident occupying an adjoining lot. Only one of the properties in this sample block is registered in the name of a non-resident of Burnaby. Of the 29 dwellings in the block, 22 are considered to be in average (C) or above average condition.



PROPERTY TAXATION AND URBAN DEVELOPMENT

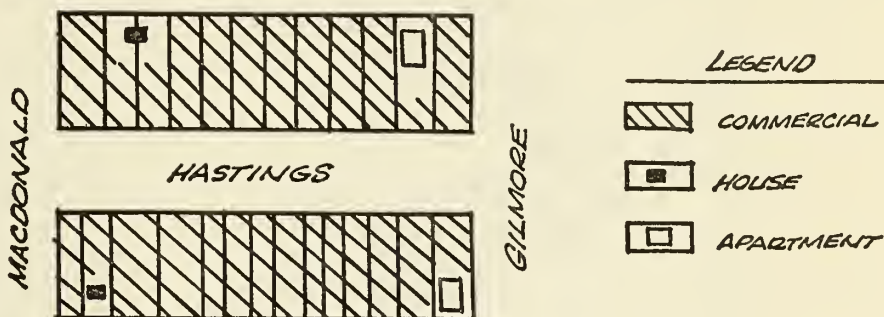
Lot No.	Area	Assessment			Ratio	Constr. Yr.	Condi- tion
		Land	Improv.	Total			
A	72x594	5615	2950	8565	1.52:1*	1929	?
1	33x122	635	2000	2635	4.14	1918	D
2	"	575	—	575	1.00*	—	—
3	"	575	3000	3575	6.21	?	C
4	"	575	1600	2175	3.78*	1927	C—
5/6	66x122	1025	2350	3375	3.29*	1926	C
7	33x122	575	1650	2225	3.80*	1938	D
8/9	66x122	1025	1550	2575	2.51*	1925	D
10	33x122	575	—	575	1.00*	—	—
11	"	575	2050	2625	4.56	1947	C—
12	"	575	5475	6050	10.52	1953	C+
13	"	575	5800	6375	11.08	1954	C+
14	"	575	2375	2950	5.10	?	C—
15	"	575	2700	3275	5.69	1946	C
16	"	575	4000	4575	7.95	1948	C
17	"	575	2800	3375	5.86	1948	C+
18	"	635	3125	3760	5.92	1948	C
1	"	635	1650	2285	3.59*	1927	?
2	"	575	50	625	1.08*	—	—
3	"	575	2325	2900	5.04	1947	C
4	"	575	2275	2850	4.95	1945	C
5	"	575	3950	4525	7.86	1951	C+
6	"	575	1850	2425	4.21	1947	C
7	"	575	4975	5550	9.65:1	1957	B
8	"	575	3650	4225	7.34	?	C
9	"	575	—	575	1.00*	—	—
10	"	575	3950	4525	7.86	1926	C
11	"	575	3525	4100	7.13	1920	C+
12	"	575	2500	3075	5.34	?	C+
13	"	575	—	575	1.00*	—	—
14	"	575	3500	4075	7.08	1928	C
15	"	575	6300	6875	11.95	1957	B
16/17	66x122	1025	2200	3225	3.14*	1925	C—
18	33x122	635	2950	3585	5.64	?	C
Total Values		26180	89075	115255	4.402:1	(Average block ratio)	

Properties marked \*, being below the average ratio for the city as a whole would pay higher taxes under a system of taxing land only.

TABLE 2  
WEST BLOCK OF SAMPLE BLOCK 18A—A "TYPICAL"  
COMMERCIAL BLOCK

Average block ratio 3.433:1, Zoned commercial; Served by water, sewer and paved road; Front foot rate \$85 to \$95. All lots in this block are in commercial use. This block

exhibits a high proportion of absentee ownership, only 10 of the 22 properties being registered in the name either of the occupant or of a person resident elsewhere in Burnaby.



Lot No.	Owner	Use	Assessed Values			Ratio
			Land	Improvements	Total	
10	A	C	6300	34350	40650	6.45:1
11	R	C&MF	4200	12100	16300	3.88
12pt.	A	C	3570	3500	7070	1.98*
12pt/13/14pt.	A	C	10500	22125	32625	3.10*
14pt/15pt.	R	C	3465	5150	8615	2.48*
15pt.	R	C	3465	24575	28040	8.00
16pt.	R	C	3465	2400	5865	1.69*
16pt/17pt.	A	C&R	3465	16300	19765	5.70
17pt.	R	C	3570	1950	5520	1.54*
18	A	C	7350	13400	20750	2.82*
1pt.	R	C&R	2900	5650	8550	2.94*
1pt.	R	C	4200	4350	8550	2.03*
2	A	C	5800	29650	35450	6.11
3	A	C	5800	7475	13275	2.28*
4/5pt.	A	C	8700	29775	38475	4.42
5pt.	R	C	2900	3500	6400	2.20*
6pt.	A	C	2900	2700	5600	1.93*
6pt.	A	C	2900	4350	7250	2.50*
7pt.	A	C	2900	7700	10600	3.65*
7pt.	A	C	2900	2550	5450	1.87*
8	R	C	4640	6950	11590	2.49*
9	R	C&MF	6960	9800	16760	2.408*
Total Values			102850	250300	353150	
Average block ratio						3.433:1

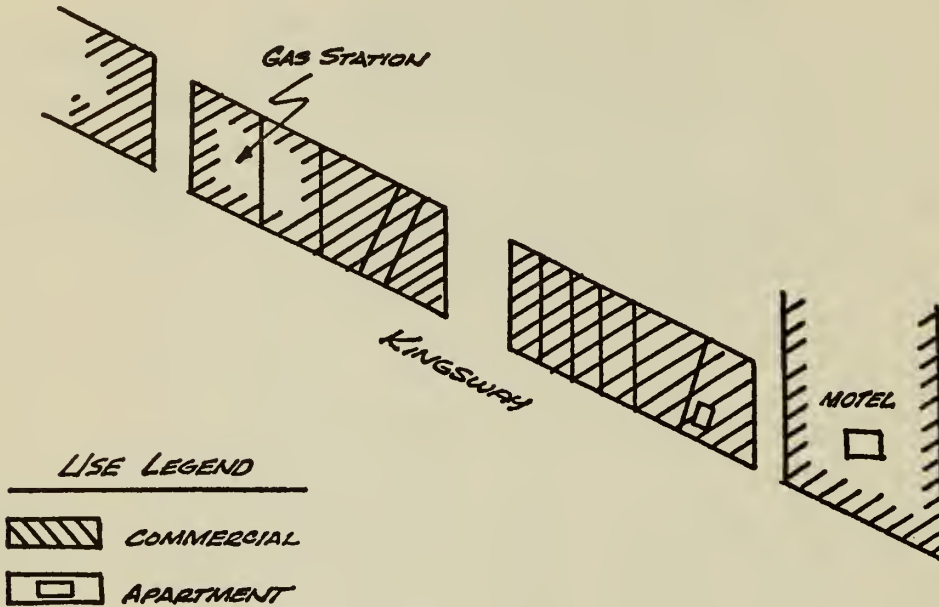
Properties marked \*, being below the average ratio for the city as a whole (3.888), would pay higher taxes under a system of taxing land only.

TABLE 3

SAMPLE BLOCK 5A—AREA OF PEAK LAND VALUES ON KINGSWAY

Average block ratio 2.477:1; Zoned commercial; Paved Road, sewer and water; Front foot rate \$185 to \$210. This sample block is on the north side of Kingsway near

the area of peak land values in Burnaby. It is entirely in commercial use. A high portion of the total value (two fifths) is due to land value.



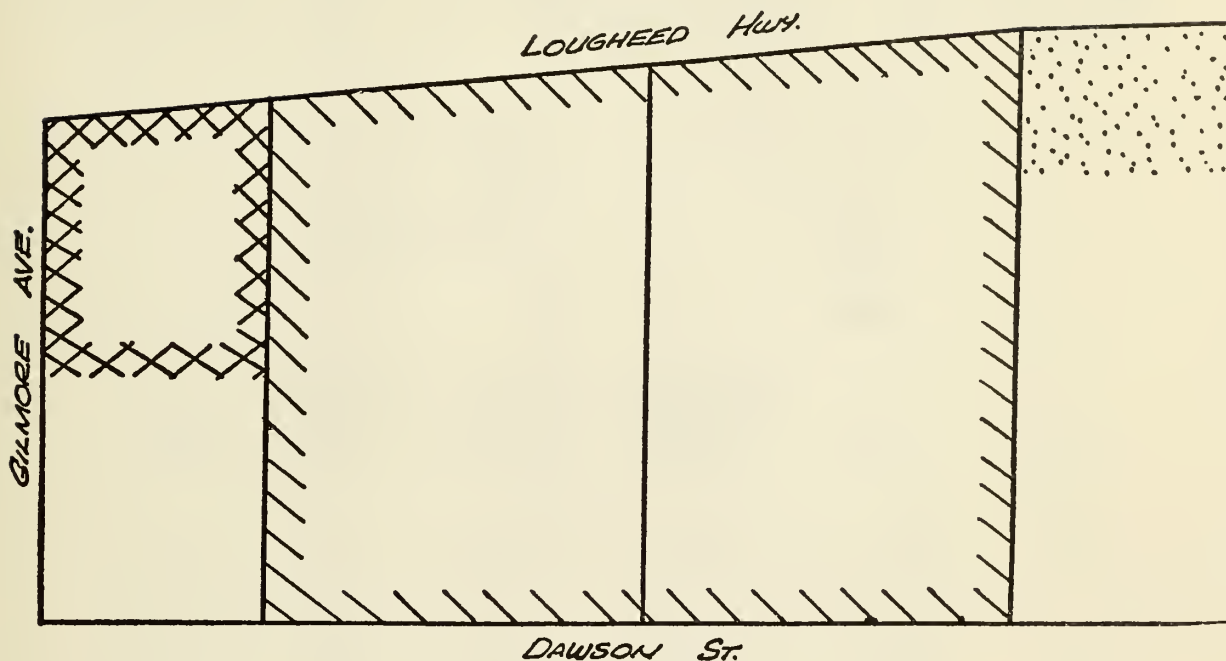
Lot No.	Assessed Values			Ratio
	Land	Improvements	Total	
Rem. 2 (motel)	73090	74100	147190	2.01:1*
1/2	37565	56075	93640	2.49*
1/2	21670	68675	90345	4.17
3/4	16035	45525	61560	3.84*
A	15870	20500	36370	2.29*
B/C	18150	48500	66650	3.67*
13/14 (gas station)	39335	14200	53535	1.36*
Total values	221715	327575	549290	

Average block ratio 2.477:1

Properties marked \*, being below the average ratio for the city as a whole (3.888), would pay higher taxes under a system of taxing land only.

TABLE 4  
 SAMPLE INDUSTRIAL BLOCK 12E

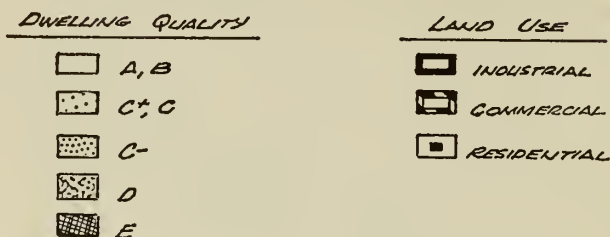
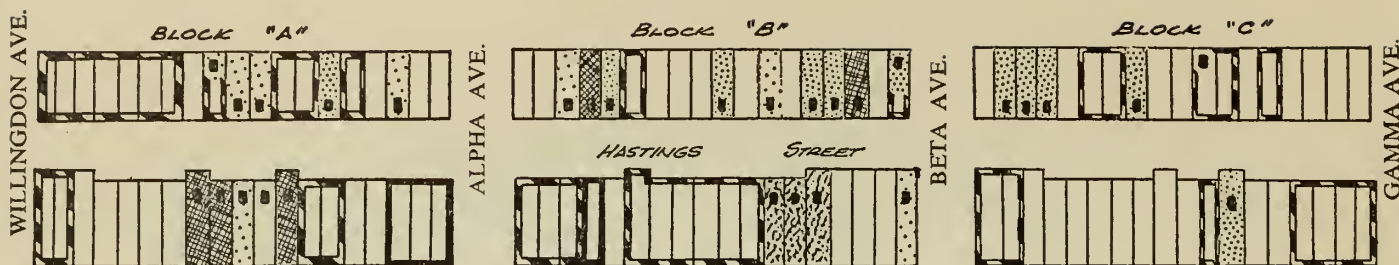
Average block ratio 1.909:1; Zoned heavy industrial;  
 Frontage on arterial highway; No trackage; Assessment  
 rate \$7575 to \$8100 per acre.



 INDUSTRIAL    
  STORAGE    
  COMMERCIAL

Lot	Area	Use	Assessed Values			Ratio
			Land	Improvements	Total	
7 pt.	3.56 ac.	Moving & Storage Depot	28540	47600	76140	2.66:1
7/8	10.3 ac.	Drive-in Theatre	78020	26900	104920	1.34
8 pt.	2.84 ac.	Fruit Preservers	22665	43000	65665	2.89
Total values			129225	117500	246725	
Average block ratio						1.909:1

TABLE 5



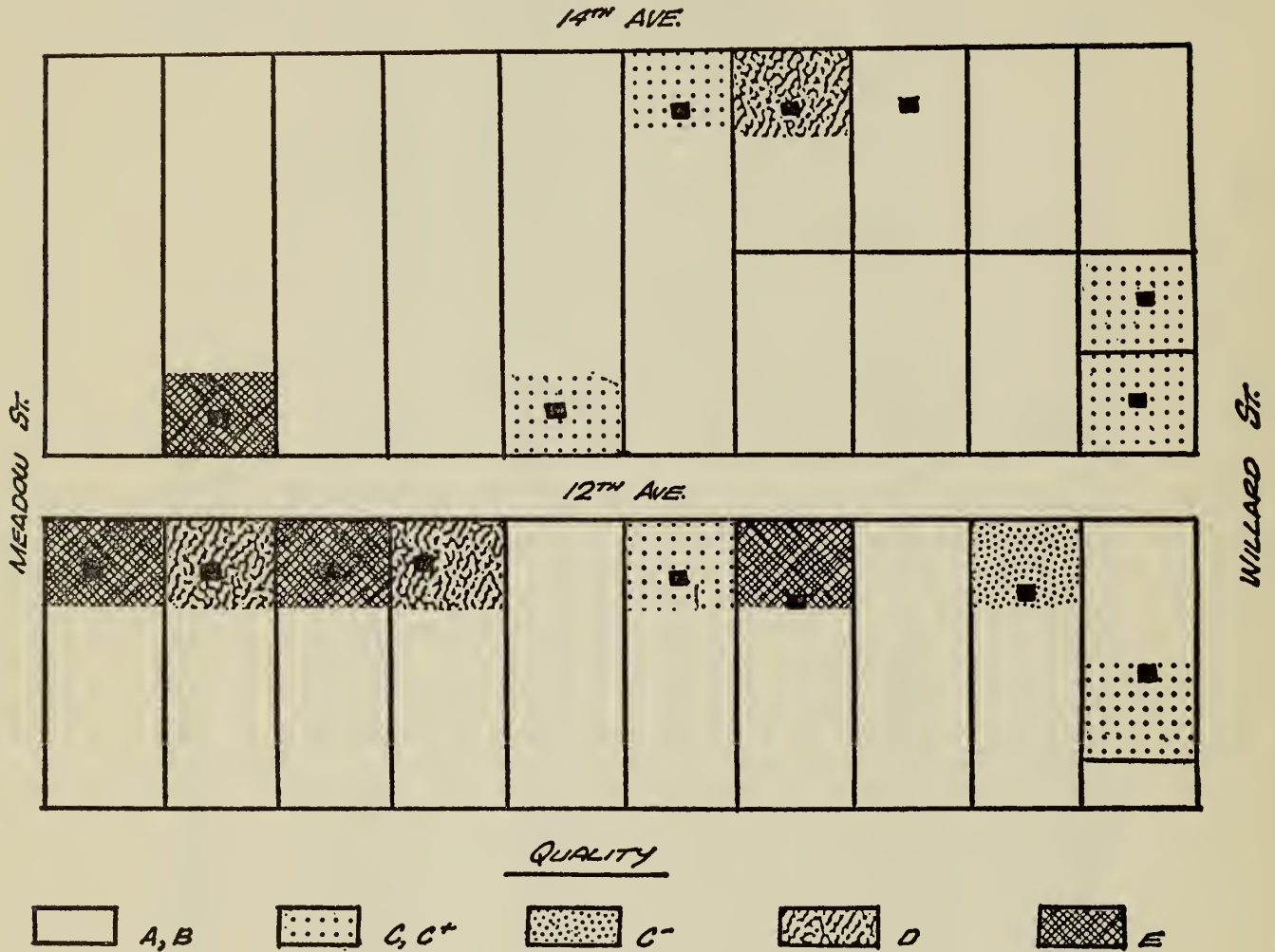
Lot. No.	Use	Taxes on Land & Improvements at 18.6 mills (in dollars)	Taxes on Land only at 72.3 mills (in dollars)	Increase or Decrease in Taxes (in dollars)	Per Cent Increase
<i>Block "A"</i>					
20/21	Vac.	67	262	195	291
22/23	Res. & Vac.	99	219	120	121
24	Comm.	85	109	24	28
25	Res.	49	109	60	122
26	Comm.	96	109	13	13
27	Comm.	42	109	67	159
28	Res.	75	109	34	45
B	Res.	257	123	134—	decrease
29	Res. & Comm.	78	109	31	39
A	Vac.	30	119	89	296
32/33	Comm.	178	243	65	36
34-38	Comm.	495	838	343	69
1/2	Comm.	523	609	86	16
3/4	Vac.	76	287	211	277
5-7	Vac.	110	430	320	290
8/9	Res.	128	271	143	111
10	Res.	74	135	61	82
11	Res.	72	135	63	87
12	Res.	65	146	81	124
13/14	Comm.	681	271	410—	decrease
15/16	Vac.	69	271	202	292
17-19	Ind.	197	509	312	158
<i>Block "B"</i>					
19	Res. & Comm.	112	116	4	3
20	Vac.	25	97	72	288
21	Res.	49	97	48	97
22	Res.	56	97	41	73

Lot No.	Use	Taxes on Land & Improvements at 18.6 mills (in dollars)	Taxes on Land only at 72.3 mills (in dollars)	Increase or Decrease in Taxes (in dollars)	Per cent Increase
23/24	Res. & Vac.	90	194	104	115
25	Res.	69	97	28	40
26/27	Vac. & Res.	84	194	110	130
28	Vac.	28	109	81	289
29	Vac.	28	109	81	289
30	Vac.	28	109	81	289
31	Comm.	85	109	24	28
32	Res.	67	109	42	62
33	Res.	66	109	43	65
34	Res.	92	109	17	18
35/36	Vac. (Billboard)	70	262	192	274
1-3	Comm.	488	489	1	.2
4	Ind.	148	117	31-	decrease
5/6	Vac. & Comm.	161	244	83	51
7/8	Comm.	93	234	141	151
9-12	Comm.	136	469	333	244
13	Res.	57	117	60	105
14	Res.	45	126	81	180
15	Res.	49	126	77	157
16-18	Vac. & Rec.	167	451	284	170
<i>Block "C"</i>					
19-22	Vac. (Billboard)	128	469	341	266
23	Comm.	94	102	8	8
24-28	Comm. & Vac.	311	511	200	64
29	Res.	66	102	36	54
30/31	Comm.	79	204	125	158
32	Vac.	26	102	76	292
33	Res.	50	102	52	104
34	Res.	51	102	51	100
35	Res.	51	102	51	100
36	Vac.	31	122	91	293
1-4	Comm. & Vac.	308	604	296	96
5	Vac.	28	109	81	289
6	Vac.	33	109	76	230
7	Vac.	28	109	81	289
8	Vac.	28	109	81	289
9	Vac.	30	118	88	293
10	Vac.	34	109	75	220
11	Comm.	43	109	66	153
12	Res.	70	118	48	68
13/14	Vac.	56	219	163	291
15	Comm.	51	109	58	113
16/17	Comm.	78	219	141	180
18	Comm.	56	131	75	133

TABLE 6

SAMPLE BLOCK 2B—POOR SEMI-RURAL AREA

Average block ratio 2.154:1; Zoned for small holdings;  
Served by gravel roads; Not sewered; Front foot rate \$9.



Lot No.	Owner	Assessed Values			Ratio
		Land	Improvements	Total	
1	A	1460	—	1460	1.00:1*
2	R	1460	650	2110	1.44*
3	R	1460	—	1460	1.00*
4	R	1460	1625	3085	2.11*
5	R	1665	4175	5840	3.51*
6	R	1665	3550	5215	3.13*
7pt.	A	970	—	970	1.00*
7pt.	R	970	1925	2895	2.98*
8pt.	A	970	—	970	1.00*
8pt.	R	970	2125	3095	3.19*
9pt.	A	970	575	1545	1.59*
9pt.	A	970	—	970	1.00*
10pt.	R	830	3025	3855	4.64
10pt.	R	755	3750	4505	5.96
10pt.	R	1345	50	1395	1.03*
1	R	1270	750	2020	1.59*
2	A	1155	1200	2355	2.04*
3	R	1155	750	1905	1.65*
4	A	1155	1425	2580	2.23*
5	R	1155	200	1355	1.17*
6	R	1155	1875	3030	2.62*
7	R	1155	2050	3205	2.77*
8	R	1155	—	1155	1.00*
9	A	1155	2700	3855	3.34*
10pt.	R	1540	2725	4265	2.77*
10pt.	A	510	50	560	1.09*
Total Values		30480	35175	65655	
				Average block ratio	2.154:1

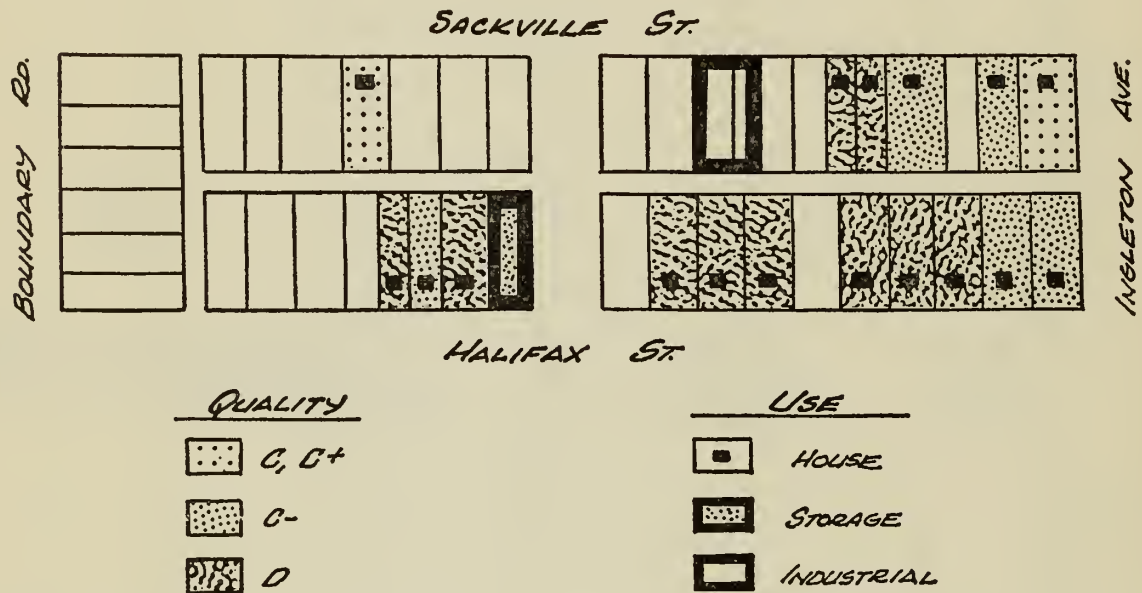
Properties marked \*, being below the average ratio for the city as a whole (3.888), would pay higher taxes under a system of taxing land only.

TABLE 7

SAMPLE BLOCK 12B—LAND USE IN A "PROBLEM" AREA

Average block ratio 2.68:1; Zoned heavy industrial; Served by water, sewer, and gravelled roads; Close to the intersection of a north-south traffic route and the new central arterial highway; Front foot rate \$14 to \$29.

The block is in an area changing from residential to industrial use. A number of old dwellings have recently been torn down and lots are being assembled for sites suitable for industrial use.



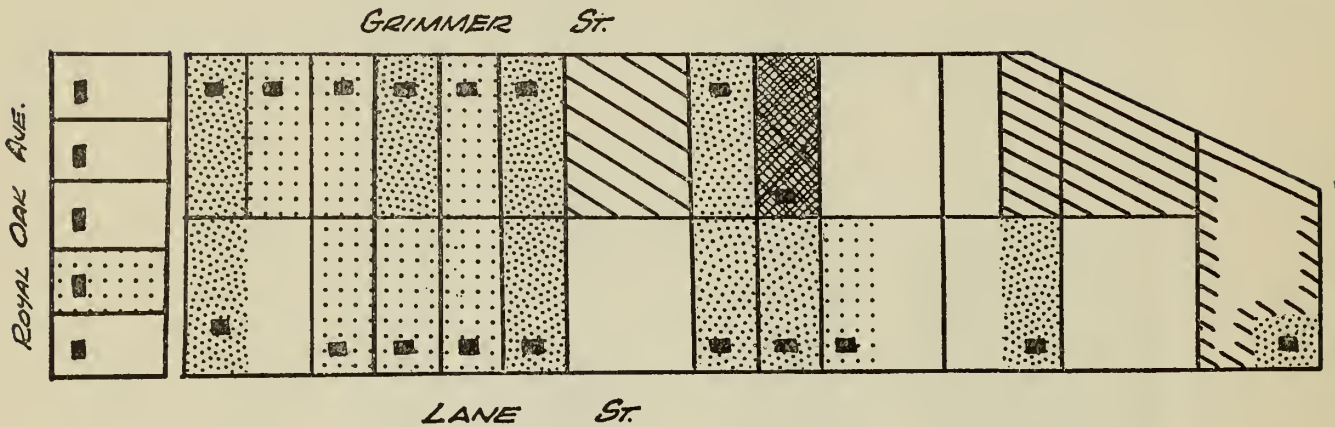
Lot No.	Use	Assessed Values			Ratio
		Land	Improvements	Total	
1/2/3/4pt.	Ind.	4200	12325	16525	3.934:1
4pt/5/6pt.	Ind.	1560	2400	3960	2.538*
6pt.	Ind.	520	2425	2945	5.663
7	Res.	785	2100	2885	3.67*
8pt.		Corporation owned and exempt			
8pt.	Vac.	555	—	555	1.00*
9pt.	Res.	555	2700	3255	5.86
9pt.	Vac.	280	—	280	1.00*
10	Res.	945	3750	4695	4.96
11	Res.	945	2300	3245	3.43*
12	Res.	840	2150	2990	3.55*
13	Res.	840	2200	3040	3.62*
14	Res.	815	2150	2965	3.63*
15	Res.	815	4050	4865	5.97
16	Vac.	815	—	815	1.00*
17	Res.	815	2000	2815	3.45*
18	Res.	790	2100	2890	3.66*
19	Res.	790	3250	4040	5.11
20	Vac.	790	—	790	1.00*
1	Vac.	1280	—	1280	1.00*
2	Vac.	1160	—	1160	1.00*
3	Vac.	870	—	870	1.00*
4		Corporation owned and exempt			
5	Vac.	705	—	705	1.00*
6	Vac.	705	—	705	1.00*
7	Res.	705	2325	3030	4.29
8	Vac.	705	—	705	1.00*
9	Vac.	705	—	705	1.00*
10	Vac.	705	—	705	1.00*
11	Ind.	1070	2925	3995	3.73*
12	Res.	765	1525	2290	2.99*
13pt.	Res.	510	1875	2385	4.68
13pt/14pt.	Res.	510	2100	2610	5.11
14pt.	Vac.	510	—	510	1.00*
15	Vac.	765	—	765	1.00*
16/17/18/ 19/20	Vac.	4225	—	4225	1.00*
Total Values		33550	56650	90200	
				Average block ratio	2.68:1

Properties marked \*, being below the average ratio of improvement for the city would pay higher taxes under a system of taxing land only.






TABLE 8

SAMPLE BLOCK 5C—AN AREA OF CHANGING USE

Average block ratio 1.96:1; Zoned light industrial; Served by paved and gravel roads; Front foot rate \$25 to \$42.



QUALITY

- |   |   |  |
|---|---|--|
|  A, B               |  C <sup>-</sup> |  E |
|  C, C <sup>+</sup> |  D             |  |

USE

- |  |
|--|
|  SINGLE FAMILY |
|  COMMERCIAL   |

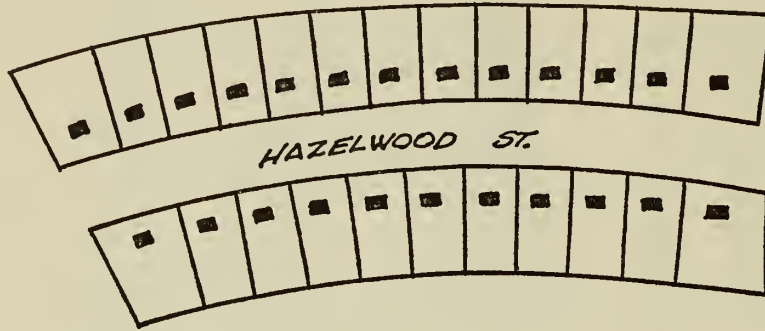
Lot No.	Use	Assessed Values			Ratio
		Land	Improvements	Total	
1	Res.	2060	6000	8060	3.91:1
2	Res.	1870	4050	5920	3.16*
3	Res.	1870	4925	6795	3.63*
4	Res.	1870	5475	7345	3.93
5	Res.	2060	6400	8460	4.11
14pt.	Res.	1930	3000	4930	2.55*
14pt.	Res.	1930	3325	5255	2.72*
15pt.	Res.	1930	2600	4530	2.35*
15pt.	Res.	1930	3225	5155	2.67*
16pt.	Res.	1930	2225	4155	2.15*
16pt.	Res.	1930	2750	4680	2.42*
17	Comm.	5400	4825	10225	1.89*
18pt.	Res.	2370	1750	4120	1.74*
18pt.	Res.	2370	1450	3820	1.61*
19	Vac.	6480	—	6480	1.00*
20pt.	Vac.	5600	—	5600	1.00*
20pt.	Comm.	7400	4200	11600	1.57*
21	Comm.	13345	11900	25245	1.89*
23	Comm.	23695	18325	42020	1.77*
24	Vac.	6195	—	6195	1.00*
25	Res.	4955	4050	9005	1.81*
26	Res.	3860	5425	9285	2.40*
27pt.	Res.	1930	2675	4605	2.39*
27pt.	Res.	1930	2525	4455	2.31*
28	Vac.	5400	—	5400	1.00*
29pt.	Res.	1930	2300	4230	2.19*
29pt.	Res.	1930	2825	4755	2.46*
30pt.	Res.	1930	4425	6355	3.29*
30pt.	Res.	1930	3825	5755	2.98*
31	Res.	3860	4500	8360	2.16*
Total Values		123820	118975	242795	
				Average block ratio	1.960:1

Properties marked \*, being below the average ratio for the city as a whole (3.888) would pay higher taxes under a system of taxing land only.

TABLE 9  
 SAMPLE BLOCK 6A—A "TYPICAL" BLOCK IN A NEW  
 DESIGNED SUBDIVISION

Average block ratio 7.204:1; Zoned single-family residential; Served with water and paved road but not sewered; Front foot rate \$18.

The list of properties illustrates the homogenous development of new subdivisions. This area was subdivided in 1953.



Lot No.	Assessed Values			Ratio
	Land	Improvements	Total	
1	1380	6150	7530	5.46:1
2	935	5800	6735	7.20
3	935	6150	7085	7.57
4	935	5900	6835	7.31
5	935	5325	6260	6.69
6	935	5675	6610	7.06
7	935	5850	6785	7.25
8	935	6400	7335	7.84
9	935	6050	6985	7.47
10	935	6000	6935	7.41
22	1275	6700	7975	6.25
16	890	6100	6990	7.85
17	890	5575	6465	7.26
18	890	6450	7340	8.25
19	890	6150	7040	7.91
20	890	6400	7290	8.19
21	890	6100	6990	7.85
22	890	6050	6940	7.79
23	890	6000	6890	7.74
24	890	5325	6215	6.98
25	890	6250	7140	8.02
26	1230	6200	7430	6.04
27	890	5400	6290	7.07
28	1230	6700	7930	6.45
Total Values	23320	144700	168020	
		Average block ratio		7.204:1

## APPENDIX C

Major Wholesaling and Industrial Properties in Burnaby\*  
1959 Assessed Values

Company	Assessed Values			Ratio
	Land	Improvements	Total	
1. Great Northern Railway	206475	—	206475	1.00:1
2. Canadian National Railway	264060	—	264060	1.00
3. Canadian Pacific Railway	233530	1450	234980	1.00
4. B. C. Telephone Co.	8475	—	8475	1.00
5. Lake City Industrial Corp. (Webb & Knapp)	997045	327250	1324295	1.32
6. Kapoor Sawmills Ltd.	190725	97650	288375	1.51
7. Link-Belt Ltd.	61480	51425	112905	1.83
8. Sarnia Scaffolds Ltd.	15475	20725	36200	2.33
9. Timber Preservers Ltd.	172775	237200	409975	2.37
10. Dominion Glass Co. Ltd.	77895	108300	186195	2.39
11. McColl-Frontenac Oil Co. Ltd.	124565	188050	312615	2.50
12. Williams Moving & Storage Ltd.	28540	47600	76140	2.66
13. Imperial Oil Co. Ltd. Marketing Terminal	151080	254100	405180	2.68
14. B. C. Electric Co. Ltd.	786835	1363192	2150027	2.73
15. Robinson Fruit Preservers	22665	43000	65665	2.89
16. United Terminals Ltd.	67650	143575	211225	3.12
17. Trans Mountain Oil Pipeline Co.	603320	1372500	1975820	3.27
18. MacMillan & Bloedel Ltd.	180525	416025	596550	3.30
19. Vancouver Steel Co.	26180	60625	86805	3.31
20. Lenkurt Electric Co. of Canada Ltd.	104595	272075	376670	3.60
21. Canada Safeway Ltd. Warehouse	159750	466600	626350	3.92
22. Royalite Oil Co. Ltd. Marketing Terminal	18390	72850	91240	3.96
23. Kenworth Trucks	93680	291700	385380	4.11
24. Nichols Chemical Co. Ltd.	41780	132375	174155	4.16
25. Standard Oil Co. of B. C. Ltd.	558655	1806425	2365080	4.23
26. Ford Motor Co. of Canada Ltd.	139125	483650	622775	4.47
27. Shell Oil Co. of Canada Ltd. (Refinery)	938560	3305740	4244300	4.52
28. Wosks Ltd.	38100	157250	195350	5.12
29. Bestwood Shingles Co. Ltd.	11850	49050	60900	5.13
30. Nabob Holdings	399330	1744900	2144230	5.36
32. MacDonnell Metal Mfg. Co.	18000	88900	106900	5.93
32. British American Oil Co. Ltd.	70425	359950	430375	6.11
33. Continental Can Co. of Canada Ltd.	75025	455650	530675	7.07
34. Mainland Clay Products Ltd.	5275	32125	37400	7.09
35. Simpson-Sears Ltd.	510330	3704650	4214980	8.25
36. Dominion Bridge Co. Ltd.	364195	2869300	3233495	8.87
37. Sidney Roofing Co. Ltd.	127150	1441400	1568550	12.33
38. Weiser Lock Co. Ltd.	8680	119675	128355	14.78
Total Values	7902190	22586932	30489122	
	Average ratio of improvement**			3.85:1

\* List of properties and values taken from *Burnaby Call for Tenders*, p. 21, re-arranged in order of ascending ratio of improvement.

\*\* The average ratio for industrial properties as a whole in the municipality is 2.98:1.

APPENDIX D

Effective Rates of Land Taxation in Burnaby

1. Front foot values of residential land sales in Burnaby subdivisions show increases of from 110% to 140% between 1954 and 1958. Values on commercial land increased by about 100% in the same period, while values in most industrial districts rose from 100% to 200%. These price trends continued in 1959.<sup>1</sup>

2. Using the sales values of a subdivision with the lowest increase (110%), the values recorded for 1954 were \$38 a front foot and for 1958, \$80 a front foot. This amounts to a rate of 22% per annum compounded. By interpolation, the yearly sales values in this subdivision from 1953 to 1958 would be:

1953	1954	1955	1956	1957	1958
\$31	\$38	\$45	\$55	\$67	\$80

3. Burnaby's 1958 assessments on residential vacant land were 69% of 1953-1956 sales, according to the assessor's reckoning.<sup>2</sup> That is: 69 percent of  $\frac{(31+38+45+55)}{4}$ ,

equals 69% of 42, equals \$30. Then \$30 would be the probable assessed value of a lot in the above subdivision at a time when the lot would sell for \$80. Burnaby's residential land assessments, in 1958 were therefore  $\frac{30}{80} \times 100 = 37\frac{1}{2}\%$  of market prices.

4. Present effective rate of land taxation:

The present mill rate on assessed land value is 18.7 mills for general purposes, 15 mills for school purposes and 3.6 mills for debt retirement. For simplicity's sake, say 40 mills in total.

If the current market value of a lot is \$4000, then the assessed value will be not more than \$1600. Forty mills on \$1600 yields \$64 tax revenue. A tax of \$64 on a market price of \$4000 amounts to an annual levy of 1.6% of market price.

5. Proposed effective rate of land taxation:

In the analysis presented in this paper it was proposed to shift the entire burden of tax for general purposes onto land. School and debt taxes were not considered. The resulting total tax levy would be 72.3 mills for general purposes, plus 18.6 mills for school and debt purposes (only partially on land), or 90.9 mills on assessed land value.

On \$1600, 90.9 mills yields \$145. This is, on a market price of \$4000, an effective annual levy of 3.6%.

<sup>1</sup> *Real Estate and Business Trends in Metropolitan Vancouver and British Columbia*, Vancouver Real Estate Board, Vols. 1 and 2, 1959 and 1960.

<sup>2</sup> See figure 4 on page 15.

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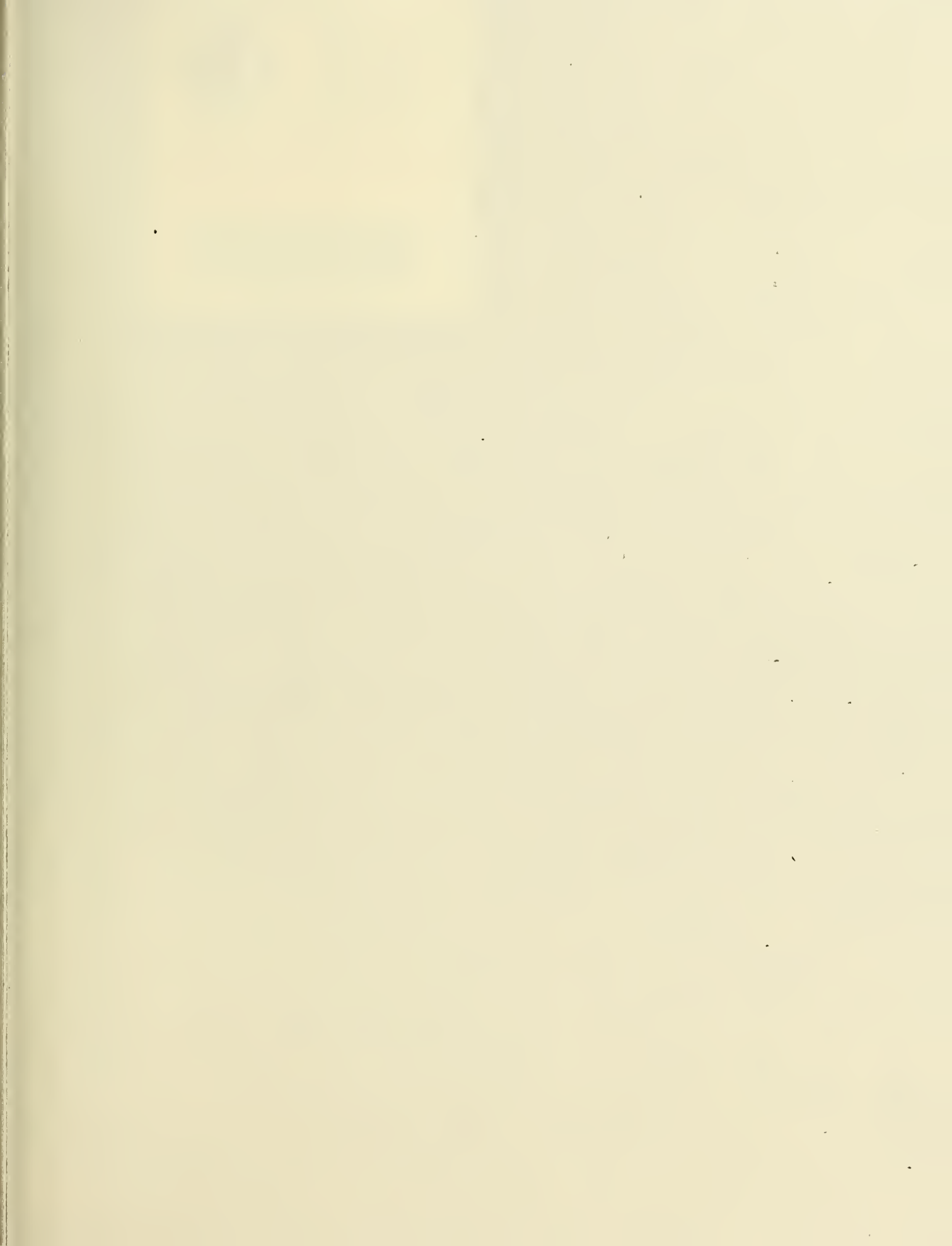
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