

ECONOMIC BACKGROUND AND POPULATION GROWTH



VANCOUVER TOWN PLANNING COMMISSION
OCTOBER, 1945

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A PRELIMINARY REPORT UPON ECONOMIC BACKGROUND AND POPULATION

This is the Initial Report of a Series to be published by
VANCOUVER TOWN PLANNING COMMISSION



Prepared as a Revision of the Commission's 1930 Report, under the direction of
HARLAND BARTHOLOMEW AND ASSOCIATES
TOWN PLANNING CONSULTANTS
ST. LOUIS, MISSOURI

31st October, 1944

Price: \$0.50



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317 NORTH ELEVENTH STREET
SAINT LOUIS, MISSOURI, U.S.A.

31st October, 1944.

Town Planning Commission,
Vancouver, British Columbia.

Gentlemen:

In accordance with our agreement we are pleased to submit herewith the first of a series of reports that will comprise the revised Comprehensive Plan for your City.

This report is concerned with the factors that have influenced the City's growth, with past trends in the amount and distribution of population and with the probable future population trends. The findings of this report regarding the amount and distribution of future population, will be most helpful in determining the location and extent of necessary future improvements such as schools, parks, transit lines and the like.

During the preparation of this report we have received the most helpful co-operation and assistance from various officials and citizens all of which is gratefully acknowledged.

Respectfully submitted,

HARLAND BARTHOLOMEW & ASSOCIATES

By RUSSELL H. RILEY.

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FOREWORD BY THE TOWN PLANNING COMMISSION

In many parts of the world attention has been directed as never before upon the advantages of planning the great and vital combinations of human enterprises that characterize the individual enterprises themselves if they are to prosper. Notable advances have been made in the technique and in the scope and purposes of the art of City Planning.

The fifteen-year interval since the publication in 1930 of the Commission's Report "A Plan for the City of Vancouver" has provided additional material for a critical review by the Commission's Consultants of the position the City has attained in that wide and important field of endeavour.

Throughout the next year or two some seven or eight studies will be completed by the Consultants on the essential factors for our development and improvement.

The Commission has pleasure in presenting here detailed population studies and the initial and obviously fundamental study of the regional resources that form the City's economic background, and of the still more general factors that constitute the basis for its prosperity and anticipated growth.

INTRODUCTION

WHY THE TOWN PLAN IS BEING REVISED.

The first Report issued by the Vancouver Town Planning Commission, "A Plan for the City of Vancouver", was published in 1928 and covered the municipalities of Point Grey and Vancouver. After amalgamation, effected 1st January, 1929, the Plan was extended to the South Vancouver Area and in 1930, a new edition was published. This has been Vancouver's Plan since that time. Many cities, wherein a Plan has been prepared, have officially approved and adopted their Plan, yet made only partial progress in carrying it out. Vancouver is unique in that its Plan has not been officially approved nor adopted by the City Council, but it has been faithfully followed with but very few exceptions.

However, in the light of fifteen years of changing conditions, of improvement in planning technique and of Vancouver's progress, and in view of the City's inevitable expansion and growth and the number of post-war projects anticipated, the Commission deemed it advisable to have the Plan reviewed and brought up-to-date. In this the City Council concurred and the revision is now in progress.

SCOPE AND OBJECTIVE OF THE REPORT.

Basically, the new Plan will have marked improvement over the last, as it will treat the city as a whole and it will be, therefore, a unified Plan. The unsatisfactory condition of the Plan, heretofore in three parts, will be corrected. The time for the publication of a revised Plan is extremely propitious as the welter of conflicting opinions and contentious ideas upon many topics is clarified. The Commission, along with its Consultants, will give its earnest consideration to the many problems involved, and it is believed the best solutions for them will be presented. Thus Vancouver has put its house in order and is in a splendid position to take its rightful place in the post-war world.

The new Plan contains suggested revision in some of the proposals of the original plan but will also contain studies and recommendations upon additional subjects. For example, all proposed improvements must be related to the probable future requirements of the citizens. Thus there will be a study analysing how many persons may live in the Vancouver area by 1971 and where they will be located. This is the very basis of planning since the major objective of the planning programme is to provide adequate facilities for the population at the lowest feasible expenditure.

A separate report will deal with conditions affecting the growth and development of the general business district of Vancouver's "downtown" section. This will also contain recommendations for improving this area so that it can serve its proper function and continue to be the most valuable portion of the city. A large proportion of the city's revenue—land and improvement taxes and business licences—is obtained from this district, and it is but fitting that it should receive special attention.

Air transportation will have an important influence upon future cities and the new programme will contain recommendations regarding the location of airports and air terminals.

Thus the revised Plan will deal with all major problems regarding physical improvements now confronting or which may confront the area during the next two or three decades. It will contain a coordinated general scheme for dealing with these problems in the manner that now appears most desirable. Certain minor revisions and readjustments in the Plan may be necessary from time to time but the framework will be fundamental.

PART I

ECONOMIC AND SOCIAL BACKGROUND

GEOPHYSICAL BACKGROUND

GEOGRAPHICAL LOCATION

Vancouver, approximately 49 degrees 17 minutes North Latitude, 123 degrees 10 minutes West Longitude, is located at the southwest corner of British Columbia's Mainland and it lies north of the Fraser River delta lands. It is well protected from the elements—floods and strong tides of the Pacific Ocean—by Vancouver Island.

GEOLOGICAL FORMATION

A brief review of the geology of Vancouver will disclose many conditions of interest to those engaged in the building of a city.

Insofar as Vancouver proper is concerned, there are two distinct parts, differing in physical characteristics:

1. **THE RECENT DELTA OF THE FRASER.** This is underlain by recently deposited sand, silt and clay with a local veneer of peat. Its surface is less than 40 feet above sea level and its rich soil produces fine garden products. It constitutes a narrow lowland, never more than a mile wide, on the north bank of the North Arm of the Fraser River between Burnaby and Musqueam Indian Reserve. The unconsolidated formations are not the best for foundations but industrial structures of some magnitude have been erected.

2. **THE HIGHLAND AREA.** This area extends north from Fraser River delta to Burrard Inlet. In it there are two principal bedrock formations, separated approximately by a line extending from the mouth of False Creek to the Second Narrows. The Kitsilano formation is exposed south of this line and the underlying Burrard formation to the north of it. Both are of Eocene age and consist of sandstone, shale and conglomerate with a few thin seams of lignitic coal. The general dip of the beds is about ten degrees to the south. Here and there the Eocene formations are cut by dykes and irregular bodies of basalt, termed the Prospect Point Eruptives. Exposures of the basalt may be seen at Little Mountain, on the southeast side of the False Creek Fill, and between Siwash Rock and Prospect Point. At the latter place a dyke, 50 feet wide, forms the prominent cliff that rises 200 feet above First Narrows. Several small dykes are exposed at low tide on the western part of Kitsilano Beach.

Throughout much of the Highland Area, the bedrock formations are obscured by a cover of glacial till with associated gravel, sand and clay. The thickness of this surface veneer is quite variable, but in places it reaches 200 feet and more. Locally

these materials are in turn covered by recent alluvial deposits of gravel, sand or clay, as, for example, at Trout Lake, Killarney Park, and in the raised valley running from Jericho Beach to Quilchena. In the first two localities and at a few other places there are relatively small peat bogs.

The geological formations on the whole are very satisfactory for the construction of the many buildings and utilities that make up a city.

TOPOGRAPHY

Vancouver is situated on the peninsula of land lying between the North Arm of the Fraser River on the south and Burrard Inlet and English Bay on the north. The city proper contains approximately 44 square miles and lies on a rolling terrain admirably suited for the site of a great city. The natural harbour is unique among the world's harbours, and there are a considerable number of adjacent areas of level land for port and industrial use. As is common with all port cities on a seacoast or wide river, Vancouver has grown in a characteristic semi-circle. Its growth, however, while not checked by, has been influenced greatly by the position of False Creek. Although this waterway has been costly to bridge, and still more bridges will be required to prevent traffic "bottlenecks", its value as a waterway transcends these considerations. Before the automobile era and long before the present number of bridges were in existence, False Creek was the cause of a heavy concentration of population in the central portion of the city and in the West and East Ends. This was not an unmixed blessing, as the citizens were content with their environment. However, with the advent of the automobile, the False Creek barrier to southward and westward expansion disappeared.

The first and most important element in the growth of Vancouver is the fact that it is a seaport. Upon a study of a contour map or relief model of the south-westerly portion of British Columbia, Plate Number 1, and the location of Vancouver thereon, one is at first astounded at the very possibility of Vancouver being anything but a transfer point between rail and ship, with such a mass of mountains as a hinterland. However, the Lower Fraser Valley, though not extensive comparatively, is a convenient, splendid agricultural area for dairying, mixed farming, fruits, and vegetables. Other areas in British Columbia—in portions of the eastern shore of Vancouver Island and the Okanagan and Kootenay Valleys—are also very productive, agriculturally and horticulturally, and the ranges of the Cariboo for cattle, horse, hog and sheep raising, are also comparatively convenient.

CLIMATE

British Columbia is unique among Canadian Provinces in that it has the greatest variation of temperatures, humidity and precipitation.

The Lower Mainland and the southerly portion of Vancouver Island have the most salubrious climate in Canada. Here is seen the least fluctuation of temperatures. The mild winters and cool summers are conducive to health and energy. This condition is due to the influence of the mountains along the Coastal region and to the warm Pacific Ocean currents flowing directly to these shores. This combination produces equable climatic conditions unrivalled in Canada.

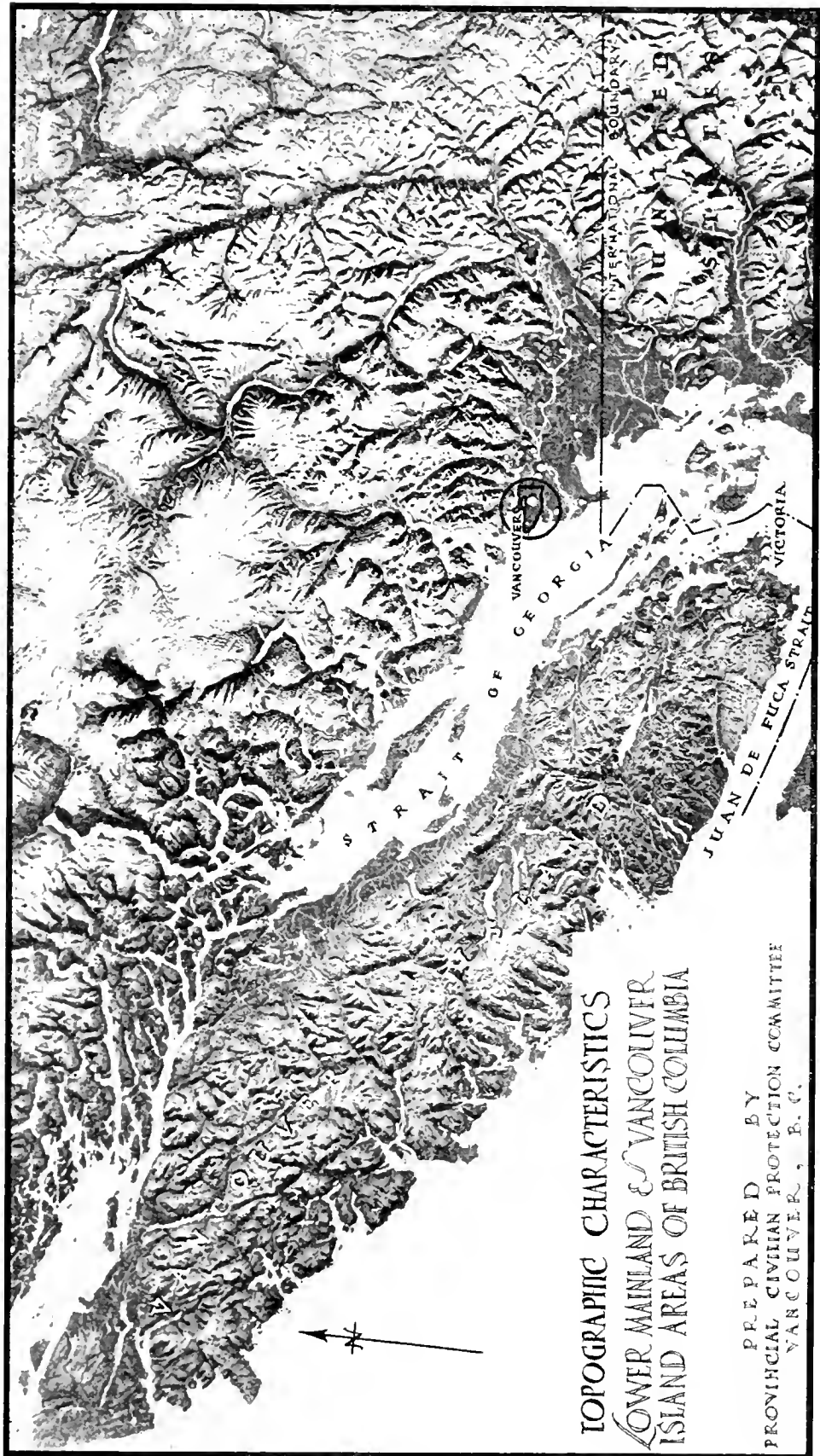
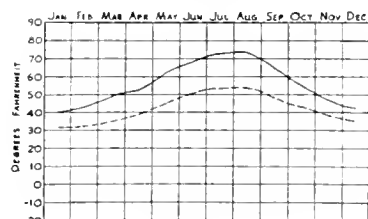


Plate 1

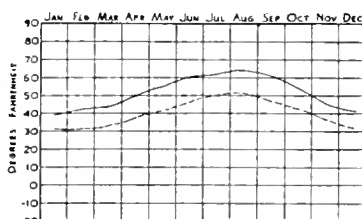
The accompanying graphs, (Plate Number 2), show the Normal Daily Maximum and Minimum Temperatures, shown month by month, of typical British Columbia points and prominent Canadian cities. These graphically illustrate the wide divergence of temperature both within and without the province.

The highest temperature recorded in Vancouver was 92.4 degrees—June, 1923—and the lowest 2.3 degrees, in January, 1907. In January of both 1935 and 1943, the temperature dropped to almost the low record.

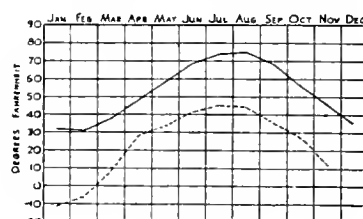
PRECIPITATION. The average annual precipitation in Vancouver, taken over a period of 39 years, and taking 10 inches of snow equal to 1 inch of rain, is 56.22



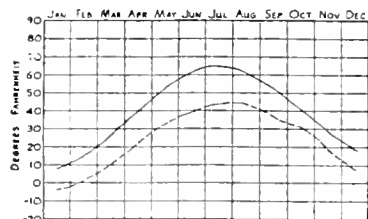
VANCOUVER, B.C.



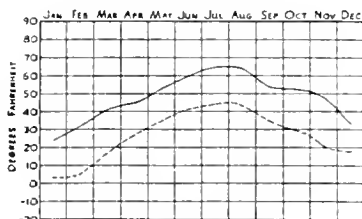
PRINCE RUPERT, B.C.



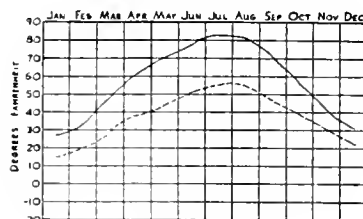
FORT ST. JOHN, B.C.



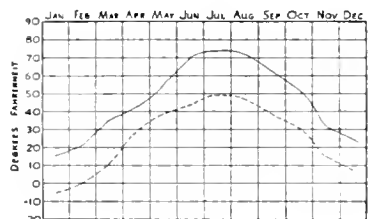
ATLIN, B.C.



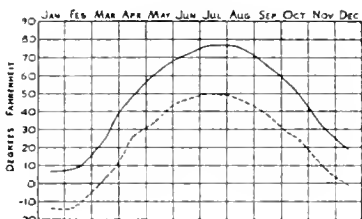
PRINCE GEORGE, B.C.



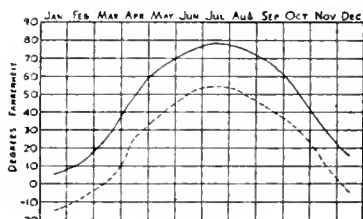
KAMLOOPS, B.C.



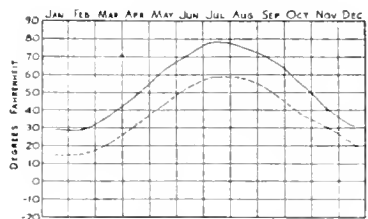
EDMONTON, ALTA.



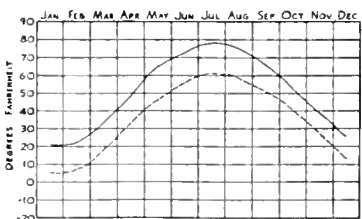
REGINA, SASK.



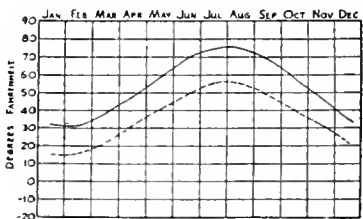
WINNIPEG, MAN.



TORONTO, ONT.



MONTREAL, QUE.



HALIFAX, N.S.

NORMAL DAILY MAXIMUM & MINIMUM TEMPERATURES - MONTHLY AVERAGE

Plate 2

inches. The maximum precipitation occurred in 1937 when 66.97 inches were recorded, and the minimum, 37.83 inches, fell in 1929.

The accompanying Table Number 1 shows the great variation in precipitation at representative localities in British Columbia during 1944. The average precipitation over the years indicated is also shown. The Meteorological Stations are given in the order of their average precipitation.

TABLE NUMBER 1
BRITISH COLUMBIA PRECIPITATION DATA

<i>Station</i>	<i>District</i>	<i>Total Inches of Rainfall</i>		<i>Years</i>
		<i>1944</i>	<i>Average</i>	<i>Recorded</i>
Swanson Bay.....	North Coast.....	—	190.50	(23)
Ocean Falls.....	Middle Coast.....	169.07	165.70	(30)
Port Alice.....	West Coast, V. I.....	107.03	109.40	(21)
Prince Rupert.....	North Coast.....	73.20	95.47	(36)
VANCOUVER.....	South Coast.....	47.76	58.07	(43)
Masset.....	North Queen Charlotte Islands.....	57.44	55.62	(47)
Powell River.....	South Coast.....	26.36	35.33	(29)
Nelson.....	West Kootenay.....	19.58	27.83	(43)
Victoria.....	South Vancouver Island.....	18.69	26.67	(59)
Prince George.....	Central Interior.....	24.55	21.00	(31)
Cranbrook.....	East Kootenay.....	8.02	14.03	(39)
Fort St. John.....	Peace River.....	16.44	—	—
Kelowna.....	Central Okanagan.....	18.03	12.09	(30)
Atlin.....	North Boundary, B. C.....	9.84	11.08	(39)
Kamloops.....	Lower Thompson.....	9.97	10.16	(53)
Ashcroft.....	Middle Fraser River.....	9.90	7.01	(29)

ECONOMIC DEVELOPMENT OF THE CITY

The average modern city on this continent has had a rather rapid evolution from the comparative simple life and structure of the horse-and-buggy community to the complex organism of the present day. In the transition from commercial and shipping to an industrial economy many forces, historic, economic and social, have acted to direct the growth and mould the character of the new community. In order to guide intelligent planning some understanding of these forces is necessary—their place in the past development and their probable influence on future growth.

Any sound improvement programme for the city must take cognizance not only of the requirements of its inhabitants, for a satisfactory standard of civic life, but also of the financial ability of the community to meet past obligations and to assume new debts. The scale and extent of these physical needs are conditioned not only by the city's general growth but also by the cultural interests and social relationships of its inhabitants, and these factors in turn are dependent in large measure on the economic well-being of the entire city. The community's ability to finance the programme is ultimately measured by the aggregate income of its citizens.

These numerous economic and social factors will be considered, and in the light of their performance and experience in guiding the city's past development, it is proposed to attempt from such analysis to forecast something of the nature of the future city.

ECONOMIC BACKGROUND. Vancouver has grown mainly by virtue of being the first seaport on the Pacific Coast of Canada having rail connection with the rest of the continent. While it has taken advantage of its location for the distribution and transshipment of supplies, new fields of endeavour must not be overlooked. As depicted in Part III of this Report, its hinterland in the main, consists of a rugged mountainous country, but nearby are extremely fertile valleys. Furthermore, in addition to British Columbia's Peace River plains, there is an opportunity of economic trade with Alberta and Yukon and parts of Saskatchewan and Mackenzie.

The diversity of natural resources, some of which have been and are being developed in the southern part of British Columbia, have been of great benefit to the City of Vancouver. With the opening of the northern portion, having in mind the contemplated construction of railways and highways to and within this vast area, trade and commerce, both domestic and foreign, will be greatly increased in this city.

Vancouver has afforded many opportunities for gainful employment. With regard to industry as a whole, two factors are outstanding; firstly, the mild climate makes for cheaper building (factory) construction, and secondly, cheap power, originally from the favourable low cost fuel—wood and coal—and latterly, from hydro-electric sources.

The initial industry was the sawmills and through the years other industries, chiefly the processing of our diversified natural resources, gradually were established. An unusually rapid expansion, during the present war has resulted from employment made available in aircraft and ship, including marine engine, construction.

EMPLOYMENT OF THE POPULATION. The possibilities of obtaining gainful employment is one of the most important influences upon the growth of any community. This is strikingly true at the moment—the employment afforded by war industries has reached a very high figure. This has changed some of the former efforts to provide employment, for example, the city formerly spent substantial funds in advertising its tourist attractions and is now advising the outside world that no accommodation is available.

The past trends in the various classifications of employment will afford some indication of the possibilities of future employment in Vancouver. While it is likely that such trends will be affected in the change over in industry from the war to peacetime tempo, they will give a reasonable picture over the long period covered by the city's Plan.

TABLE 2

PERCENTAGE OF GAINFULLY EMPLOYED BY MAJOR OCCUPATIONAL CLASSIFICATION

	<i>Primary Manufacturing Construction Mechanical</i>		<i>Transportation</i>		<i>Trade and Finance</i>		<i>Professional Services</i>		<i>Domestic and Personal Serv.</i>		<i>Clerical and Others</i>	
	1921	1941	1921	1941	1921	1941	1921	1941	1921	1941	1921	1941
VANCOUVER.....	26	30	10	10	17	16	8	7	15	17	24	20
Montreal.....	33	37	9	10	15	12	7	7	11	14	25	20
Toronto.....	32	33	9	8	18	14	7	8	10	15	24	22
Winnipeg.....	23	28	12	10	19	15	7	7	12	17	27	23
Hamilton.....	40	47	7	8	12	10	6	6	8	10	27	19
	1920	1940	1920	1940	1920	1940	1920	1940	1920	1940	1920	1940
Seattle.....	37	25	11	11	17	26	8	16	11	9	24	13
Rochester.....	54	30	6	13	12	16	6	11	7	6	15	24
Louisville.....	40	36	10	12	15	22	6	8	15	12	14	10
Atlanta.....	28	26	11	10	17	23	6	13	22	21	16	7
Houston.....	30	29	12	11	16	24	6	7	18	17	18	12

NOTE: Percentage of Total, 10 years and older, for United States cities.

Percentage of Total, 14 years and older, for Canadian cities.

For the purpose of comparison, the major occupations are classified and the percentage of the gainfully employed workers, in each classification, is shown on Table 2. The figures in this Table are taken from the records of the Dominion Bureau of Statistics for the Canadian cities. Owing to the fact that the amalga-

mation of Vancouver, Point Grey and South Vancouver took place on 1st January, 1929, the figures for 1921, include the then three municipalities. Vancouver is compared with the other four largest Canadian cities. Obviously this comparison must be on a percentage basis, owing to differences in the population. Again for comparison five American cities, Seattle, Washington; Rochester, New York; Louisville, Kentucky; Atlanta, Georgia; and Houston, Texas, are listed. All these cities, with the exception of Seattle, have populations close to that of Vancouver. Seattle, although considerably larger, has been included as, in regard to location (a Pacific seaport), climate and general environment, it is closely allied with Vancouver. Of particular importance is the fact that, while industrial employment does not represent as large a percentage of employment in Vancouver as in the other cities, this type of employment is increasing whereas it decreased in all of the American cities shown. With the city's excellent location and abundant resources, it should develop into a very important industrial centre.

TABLE 3

NUMBER OF INDUSTRIES, INDUSTRIAL EMPLOYEES AND VALUE OF
MANUFACTURED PRODUCTS PER 1000 PERSONS

1929 AND 1939

<i>City</i>	<i>Industries Per 1000</i>		<i>Industrial Employees Per 1000</i>		<i>Value of Manufactured Products Per 1000</i>	
	<i>1929</i>	<i>1939</i>	<i>1929</i>	<i>1939</i>	<i>1929</i>	<i>1939</i>
VANCOUVER	2.8	3.1	72	67	433,000	377,000
Montreal	2.3	2.8	134	119	768,000	545,000
Toronto	3.7	4.4	168	149	973,000	730,000
Winnipeg	2.4	2.9	91	80	519,000	366,000
Hamilton	2.8	2.8	240	192	1,342,000	929,000
Seattle	3.3	2.9	63	55	546,000	415,000
Rochester	2.8	2.2	159	147	1,161,000	938,000
Louisville	2.2	1.7	113	94	880,000	899,000
Atlanta	1.9	1.7	68	69	506,000	549,000
Houston	1.4	1.6	54	39	500,000	368,000

INDUSTRIAL DEVELOPMENT. With respect to industry as a whole, it will be of interest to note that manufacturing in Vancouver has increased more than any other branch of industry in any Canadian city during the war years.

Taking the year 1926 at 100, the following, supplied by the Dominion Bureau of Statistics, shows the comparative manufacturing progress, with the corresponding index, in other Canadian cities:

<i>City</i>	<i>1926 Index</i>	<i>1944 Index</i>
Vancouver	100	433.2
Vancouver (including Lumber Products)	100	594.2
Quebec	100	361.4
Windsor	100	327.6
Montreal	100	235.1
Toronto	100	230.1
Hamilton	100	189.7
Winnipeg	100	183.2
Ottawa	100	169.2

For all Canadian Industries, and taking the Dominion General Employment Index as 178.2, the following is of interest:

Employment Index Number of Windsor	288.4
Employment Index Number of Quebec	269.1
Employment Index Number of Vancouver	242.9

WHOLESALE TRADE. Vancouver is not only an important wholesale market for British Columbia but it is also the distributing centre of many commodities of practically all types destined for Yukon Territory, Alberta and to a lesser degree Saskatchewan. It has held the leading position on the West Coast of Canada in wholesale trade since shortly after the turn of the century, and as its territory expands in development, its trade will increase correspondingly.

RETAIL TRADE. By virtue of being the only large shopping centre in Canada west of Calgary, Vancouver enjoys an unusual position with respect to retail trade.

The depression naturally affected the volume but even for two or three years before the war, conditions improved considerably. Due to the general increase in war activities and the resulting higher incomes, the volume of retail trade has increased to a very considerable extent. Of recent years this increase has been accentuated by restrictions imposed by war conditions which precluded the shopping previously done in neighbouring American cities.

The number of retail stores per 1000 population in Vancouver increased from 15 in 1930 to 16 in 1941 and the sales per capita, from \$498.00 to \$527.00 (6 per cent) in the same period. With the exception of two, all the larger eastern Canadian cities showed increases; one of the largest showed a decline and another remained the same.

TOURIST BUSINESS. The value and importance of the Tourist Business was considered so favourably by the Provincial Government that it created a Tourist Department under the Ministry of Trade and Industry. For many years the Vancouver Tourist Association, composed of local business men and representatives of the City Council, has operated a tourist service and it has not only been instrumental in advertising British Columbia but it has kept tourist records that are invaluable. It is a member of the International Evergreen Playground Association and

the Canadian Association of Tourist and Publicity Bureaux. It will be realized from these affiliations that this community received very wide publicity which has attracted and will attract many millions of visitors.

The tourist business is now considered to be a "basic industry". In pre-war and pre-depression days it ranked as the third industry in British Columbia. Steps are now being taken, looking forward to post-war days, that will place the tourist industry among the greatest in British Columbia.

Money spent in British Columbia in pre-war years by tourists amounted to as high as \$32,000,000 annually. During the war years, the Tourist Business has dropped to a mere trickle compared with former years. However, as an indication of the upward trend, there was an increase of 41 percent in the number of American visitors to Vancouver in the first 9 months of 1945 over the same period of 1944.

This province is a tourist's paradise; nature has endowed it with everything a tourist desires—a perfect summer climate, unparalleled mountain scenery, the sheltered coastline with fjords surpassing those of Norway, and the finest trout and salmon fishing in sheltered waters.

However, the benefit of this activity requires that some local responsibility be assumed. The accommodation and facilities that are essential for the proper reception of the tourists must be provided.

Better dust proof highways to the scenic wonders are needed; highways to and through the national and provincial parks are wanting, and hotel and camp accommodations are a pressing necessity. When these are provided the annual tourist harvest should rank first in British Columbia and probably in Canada. To attain this abundant harvest, it is not necessary to "seed" or renew each spring, the scenery never wears out and the "supply" is inexhaustible.

FUTURE POSSIBILITIES. The key to the growth and stability of British Columbia's business conditions lies in this Province's diversified production—forestry, fisheries, agriculture, horticulture, mining, fur trapping and farming, and manufacturing. British Columbia is known to be a vast storehouse of natural resources.

Approximately one-half of British Columbia's population is concentrated in and around the metropolitan area of Vancouver. In spite of its mountainous terrain there is plenty of room in the province for at least ten times the present population.

Switzerland, much more mountainous than British Columbia, supports 267 persons per square mile and Scotland 165. Washington, British Columbia's neighbour and the nearest in character, supports 25 persons per square mile to British Columbia's two. Table 4 will serve to indicate that, of all the mountainous countries of the World and of the mountainous States of our neighbouring nation, British Columbia has the lowest population density; and due to its climate and resources it could well be among those of the higher densities. Even after much of its expendable resources are used up, its recurring resources and its scenic attractions for tourists could support a large population.

TABLE 4

COMPARATIVE POPULATION DENSITIES, BRITISH COLUMBIA
AND OTHER REGIONS

<i>Area</i>	<i>Persons Per Square Mile</i>
BRITISH COLUMBIA.....	2.2
Canada.....	3.1
Manitoba.....	2.9
Alberta.....	3.1
Saskatchewan.....	3.6
Quebec.....	4.7
Ontario.....	9.3
New Brunswick.....	16.3
Nova Scotia.....	27.0
Prince Edward Island.....	43.5
United States.....	43.5
Alaska.....	0.1
Wyoming.....	2.6
Montana.....	3.8
Idaho.....	6.2
Colorado.....	10.8
Oregon.....	11.3
Texas.....	24.1
Washington.....	25.1
Iceland.....	3.1
Peru.....	9.9
Norway.....	23.6
Finland.....	24.5
Mexico.....	25.4
Sweden.....	36.8
Scotland.....	165.4
Switzerland.....	267.0

MUNICIPAL FINANCE. Every city, especially a rapidly expanding one, must be continually making improvements. It is important that these improvements are of the greatest value to the community as a whole and are appropriate in design and wisely located. In this connection, the city's Plan will be of inestimable value as the civic authorities will be assured that all the new projects will be constructed in accordance with the preconceived Plan of the city, i.e. that all the new improvements will be properly integrated.

However, the sound financial condition of the city is of the utmost importance in order to insure the successful execution of a capital expenditure programme.

ASSESSED VALUATION. The assessed valuation of all property, land and improvements, is of the greatest consequence to the community as it is the basis of its principal source of revenue.

Property values fluctuate considerably with general business conditions. Prolonged periods of depression or of prosperity are eventually reflected in assessments for tax purposes. The demand for lowered assessments was prevalent during the recent depression when there was a general collapse in prices and depreciation in the values of property and improvements. Prior to the depression there was a general rise in assessment values.

The following shows the revisions that have been made in five-year periods since amalgamation in 1929 and also the mill rate. The amounts given are the rateable assessments only and do not include the valuations of Crown property, city-owned, tax sale or miscellaneous property. Among the latter are properties which are used exclusively for church purposes. Taxes are paid only on half the assessed value of the improvements.

	<i>Improvements</i>	<i>Land</i>	<i>Totals</i>	<i>Millage</i>
1929	\$171,567,984	\$161,701,641	\$333,269,625	37.50
1934	194,484,457	157,729,425	352,213,882	39.88
1939	183,962,043	117,872,620	301,834,663	47.65
1944	206,760,245	111,197,145	317,957,390	50.40

The increased building activity in the city since 1939 is reflected in the substantial increase in the assessed value of improvements. The assessed value of land has decreased progressively since amalgamation.

TAX RATES. Of recent years there has been a generally enlarged compass of governmental operations in response to the increasing public demands for better streets and traffic conditions, better educational services, additional park and recreational facilities, greater health protection and extended welfare services have resulted in a decided increase in governmental costs. Most of the revenue must be produced from taxes levied on the assessed valuation of real property. It usually follows, therefore, that if the valuation level is low, the tax rate is inevitably high, while a low tax rate may accompany a high valuation. Due to the governmental costs becoming so high, quite frequently there has been a general increase in the rate concurrent with the rise in assessments.

The fluctuations of assessment and tax rates which were discussed is seen in the above statement.

BONDED INDEBTEDNESS. The ordinary municipal tax revenues are usually insufficient to supply all the funds that are necessary to carry out the varied types of permanent improvement and the city must resort therefore, to the sale of long term bonds. These securities are paid off over a period of years from revenues derived either from taxes or other incidental sources of revenue. When the life of the improvement exceeds the period of amortization this method is sound, and it has the advantage not only of securing the immediate funds needed but it also allocates a share of the cost on the future users of the improvements.

Insofar as Vancouver is concerned, with respect to raising funds by bond issue, the charter provides that it cannot exceed 20 percent of the assessed value of the real estate, which includes buildings, computed on an average taken from the assessment rolls for the two years antecedent to the creation of the debt.

The following shows the Bonded Indebtedness of the city, at five-year intervals since amalgamation:

1929	\$55,712,849.34
1934	66,448,892.94
1939	67,717,042.18
1944	61,509,160.06

This indicates that due to the lowering of the assessed valuations, the city has about reached the limit of its borrowing power. However, there is every reason to anticipate that assessments will logically increase in total volume on account of the expected development and increased population.

SOCIAL BACKGROUND. The social background of a community must be taken into consideration in the preparation of its Town Plan so that appropriate and convincing interpretation may be given to its needs. The proper evaluation of the social development of a community is nearly always difficult owing to the meagreness and inadequacy of the statistics usually available.

However, the extent of the various public improvements; park and recreational facilities; general housing conditions; the characteristics of the population, including the number of families, racial groups and the age groups, its economic status, and the educational status of the people are all given consideration.

The social progress of Vancouver will be reviewed through the medium of these general criteria.

POPULATION GROWTH. Population has too often been used as a gauge of general prosperity. In many instances this is not necessarily true. It is quite possible for a city to be very prosperous and have a stable population. Conditions during the depression years caused abnormal fluctuations of population in many, especially the larger, cities.

A growth that is too rapid makes difficult the adequate provision of the essential urban facilities and services. Consequently a rapid growth is all too frequently haphazard and unplanned and it very easily can have a deleterious effect on the city. A steady growth for Vancouver would be much better in all respects. The various periods of rapid growth in the past are still reflected in the many troubles with which the civic authorities are confronted. Vancouver has grown very rapidly, its rate of growth comparing very favourably with any Canadian city and being far more rapid than is found in practically any large American city.

NUMBER OF FAMILIES. As each family in a community requires a living unit which in turn requires certain public services, therefore, in planning, the number of families is even more important than the number of persons in the community.

RACIAL CHARACTERISTICS. Table 5 shows the trend in racial characteristics of Vancouver's population and also the comparison with other Canadian and American cities, for the last two census years of the respective countries. It will be noted that the white race predominates in the Canadian and Northern United States cities. The Southern cities, as would be expected, have a large percentage of negroes. Seattle and Vancouver have a larger percentage of orientals as they are on the Pacific Coast. Since the last census, the percentage of orientals has dropped in these two cities owing to the exclusion of the Japanese from the Coast as a defence measure. It is estimated that the oriental population of Vancouver, predominately Chinese, was approximately 2.2 percent in 1944.

TABLE 5
RACIAL COMPOSITION OF THE POPULATION

City	<i>Present White</i>		<i>Present Negro</i>		<i>Present Oriental</i>	
	1931	1941	1931	1941	1931	1941
VANCOUVER	91.1	92.9	0.1	0.2	8.8	5.9
Montreal.....	99.7	99.6	0.1	0.2	0.2	0.2
Toronto.....	99.5	99.3	0.1	0.3	0.4	0.4
Winnipeg	99.4	99.5	0.1	0.2	0.5	0.3
Hamilton	99.6	99.7	0.2	0.2	0.2	0.1
	1930	1940	1930	1940	1930	1940
Seattle.....	95.9	96.1	0.9	1.0	3.2	2.8
Rochester	99.1	99.0	0.8	1.0	—	—
Louisville	84.6	85.2	15.4	14.8	—	—
Atlanta	66.7	65.4	33.3	34.6	—	—
Houston	78.2	77.5	21.7	22.4	0.1	0.1

—Less than 1/10 of One percent.

Data from Dominion Bureau of Statistics and United States Bureau of the Census.

AGE OF THE POPULATION. In the early days of Vancouver and British Columbia, youth predominated. With the passage of time, the population has gradually become older and furthermore, owing to the kindly climate, many elderly folk migrated to the Coastal communities to pass their declining years. Table 6 shows the percentage of population in the major age groups in Canadian and United States cities in 1941 and 1940 respectively.

TABLE 6
PERCENTAGE OF POPULATION IN MAJOR AGE GROUPS

City	Percentage of Total in Various Age Groups			
	0 - 14	15 - 19	20 - 44	45 and over
1941 VANCOUVER	17	8	40	35
" Montreal.....	25	9	42	24
" Toronto.....	19	8	41	32
" Winnipeg.....	18	9	43	30
" Hamilton.....	22	9	40	29
1940 Seattle.....	16	7	41	36
" Rochester	19	9	40	33
" Louisville	21	8	42	29
" Atlanta	21	9	47	23
" Houston	21	8	50	21

It will be noted that Seattle and Vancouver lead in the oldest group. It is evident that Winnipeg and Toronto have many elderly people living in retirement from rural districts. It is somewhat remarkable that 1 percent of Vancouver's population is over 80 years of age. (Plate Number 3.)

The age of the population is a fundamental factor in the planning of recreational areas and schools. The age basis is not so material in estimating future population as no community grows solely by its natural increase, but primarily by migration.

INCOME. There is a relationship between the annual family income and the value of a home a family owns, and a similar relationship between the rental paid and income. These figures shown on Tables 7 and 8 were obtained from the Dominion Bureau of Statistics. Some impression of the economic status of the families within Vancouver can be obtained by an analysis of the occupations and incomes.

TABLE 7
OCCUPATIONAL STATUS OF HOUSEHOLD HEADS
CITY OF VANCOUVER—1941

Status	Percentage of Total
Wage Earner	59.2
Own Account*.....	14.4
Employer.....	2.4
Retired.....	11.4
No Pay.....	0.1
Other Income.....	1.1
Home Maker.....	11.4
	100.0

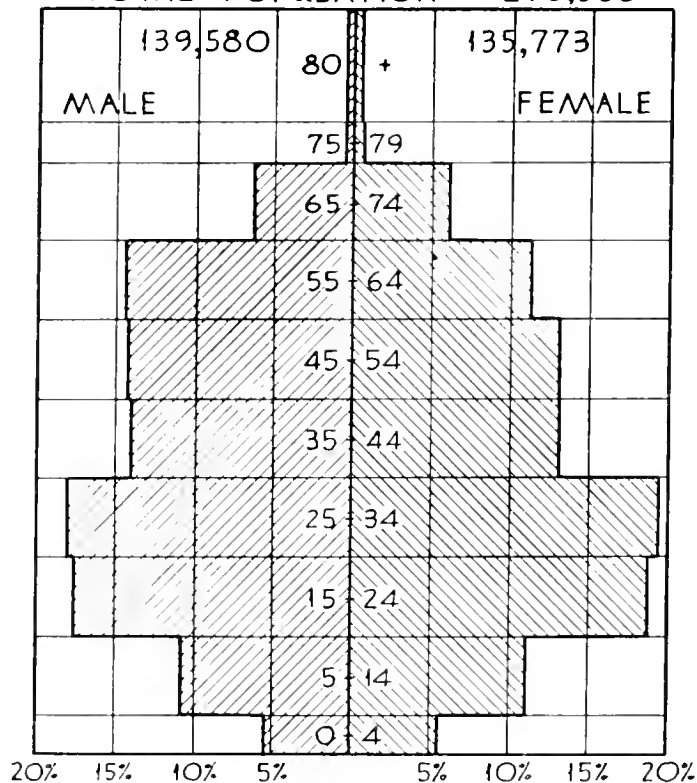
*In business for one's self.

AGE AND SEX GROUPS

PERCENTAGES FROM 1941 CENSUS

CITY OF VANCOUVER, B.C.

TOTAL POPULATION 275,353



VANCOUVER
TOWN PLANNING
COMMISSION

1944

HARLAND BARTHOLOMEW
& ASSOCIATES
TOWN PLANNERS

Plate 3

TABLE 8
ANNUAL EARNINGS OF WAGE EARNER FAMILY HEADS
CITY OF VANCOUVER — 1941

<i>Annual Earnings</i>	<i>Percentage of Total</i>
0 — \$ 500	11.8
\$ 500 — 1000	18.3
1000 — 1500	32.5
1500 — 2000	21.5
2000 — 3000	10.9
3000 — 4000	3.2
4000 — 5000	0.8
5000 or more	1.0
	100.0

From Table 8 it will be noted that over 30 percent of the families earn less than \$1,000 per annum. This covers almost a third of the wage-earners and results in certain economic and planning problems. From the standpoint of the latter, it will be realized that there is a problem of providing housing facilities of minimum desirable standards. Also, if and when the facilities are provided, they will not return enough municipal taxes to pay for the public services and facilities needed in the areas. This in turn merely results in increasing the tax upon other sections of the city.

HOUSING CHARACTERISTICS. It is largely a matter of personal inclination, although this is governed considerably by economic conditions, as to whether a family lives in a single-family dwelling, a two-family dwelling or a multiple-family dwelling (apartment). On the other hand it is quite possible that the type of housing found in a city is that which has been offered to the population by the speculative builder rather than the type the people actually want.

Information on the types of dwellings used in Vancouver and in Canadian and American cities is given in Table 9. The very high percentage of families who live in single-family houses in Vancouver is particularly striking. One Canadian city only, Hamilton, equals it. Over three times the number of families live in apartments as compared with those living in two-family dwellings. This phenomenon is very important and must be considered in planning a city. Two-family dwellings and multiple dwellings are obviously rental in character and therefore, depreciate much faster than the single-family home that is owner-occupied. The proportion of families living in multiple dwellings in Vancouver is increasing and careful planning and control is necessary to prevent early depreciation of the neighbourhood — the first stage of permanent blight.

TABLE 9
PERCENT OF FAMILIES LIVING IN DIFFERENT TYPES OF DWELLINGS
— 1941 —

<i>City</i>	<i>Single-Family</i>	<i>Two-Family</i>	<i>Multiple Dwellings</i>
VANCOUVER	75	6	19
Montreal.....	8	21	71
Toronto	39	36	25
Winnipeg	67	8	25
Hamilton	75	11	14
— 1940 —			
Seattle.....	57	5	38
Rochester	55	21	24
Louisville	51	19	30
Atlanta	37	31	32
Houston	58	19	23

Table 10 shows the trend in owner-occupied and rented dwellings in the ten years between the last two census years, in Canadian and American cities. Vancouver not only ranks high in home ownership but it has also maintained its status through the decade. Every other city listed has lost ground in this regard. This factor indicates that Vancouver is a city having a large percentage of home-owners and it also would imply that single-family neighbourhoods, with such a high percentage of home ownership, will be maintained successfully in value and appearance over a long period.

TABLE 10
PERCENTAGE OF OWNER OCCUPIED AND RENTED DWELLINGS
1931 AND 1941

<i>City</i>	<i>Percent Owner Occupied</i>		<i>Percent Rented</i>	
	<i>1931</i>	<i>1941</i>	<i>1931</i>	<i>1941</i>
VANCOUVER	51	51	49	49
Montreal.....	15	11	85	89
Toronto	47	42	53	58
Winnipeg	48	44	52	56
Hamilton	48	45	52	55
	<i>1930</i>	<i>1940</i>	<i>1930</i>	<i>1940</i>
Seattle.....	51	44	49	56
Rochester	51	40	49	60
Louisville	42	36	58	64
Atlanta	29	25	71	75
Houston	40	34	60	66

TABLE 11
CONDITION OF HOUSING

City	Percent					
	<i>*In Bad Condition</i>	<i>With No Running Water</i>	<i>With No Gas or Electric Lighting</i>	<i>With No Gas or Electric Stoves</i>	<i>With No Inside Toilet</i>	<i>With No Bath</i>
(1941)						
VANCOUVER	18	1	1	48	2	6
Montreal.....	13	x	x	19	x	13
Toronto	13	0	x	4	x	2
Winnipeg	22	1	x	23	1	12
Hamilton	18	x	x	1	1	6
(1940)						
Seattle	5	4	1	30	2	4
Rochester	10	x	x	10	x	x
Louisville	12	9	5	15	16	36
Atlanta	23	13	19	41	13	23
Houston	12	18	6	15	18	25

* "Needing External Repairs" for Canadian Cities.

x Less than one-half of one percent.

The condition of the existing housing as determined in the last census, Table II, indicates that Vancouver's housing is somewhat impaired and requires rehabilitation. The city's homes are not particularly deficient in the matter of home conveniences with the exception of gas and electric stoves, as compared with other cities. The reason for this is no doubt due to the influence of the abundant supply of wood and coal and the popularity of oil burning stoves.

SUMMARY OF FINDINGS AND CONCLUSIONS. Compared with most other large cities, Vancouver is a young city. It is a city of single-family homes and there is an unusually large percentage of home ownership. It also covers a comparatively large area and this means that, apart from the areas north of False Creek, the density of population is rather low. This condition makes for the soundest type of urban development with respect to living conditions. There is the responsibility of the civic government, however, to supply with and to plan for park and school facilities and public utilities for a more widespread area.

With the vast resources contiguous to Vancouver, there is every indication that it will continue to grow. Its commercial and transportation pursuits which have expanded since its early beginning, will continue in increasing volume. Its manufacturing industry which has grown in latter years may be expected to expand. If Vancouver is to become a very large manufacturing centre, it will most probably be by the processing and refining of the varied natural resources of the province.

Facilities for the attraction and accommodation of tourists should be provided more abundantly if full advantage is to be taken of the possibilities of the tourist industry.

It will be realized from the foregoing that considerable expansion of the city is inevitable. Financial and business interests must take advantage of the resources by encouraging industrial and commercial development to locate here. The Plan must provide for the physical improvements necessary for a sound urban area and at an expenditure that will not result in an undue tax burden.

PART II

POPULATION

PAST, PRESENT AND PROBABLE FUTURE

THE IMPORTANCE AND PROBLEMS OF POPULATION GROWTH

The amount and distribution of population has an important influence upon all phases of a community's development. The relationship that should exist between the physical improvements and the population which they serve is of primary importance. The location of the population will determine the areas in which the physical improvements should be undertaken, and the amount or density of population in each area will determine largely the size and extent of the needed facilities. The recommendations embodied in the Town Plan therefore, must be based upon careful studies of the future population.

RESULT OF HAPHAZARD GROWTH—BLIGHT. One of the most outstanding characteristics of the average North American city is that most of its development has been at cross purposes with orderly and logical urban growth. Vancouver is no exception but since it is a young city, this characteristic has not had the pronounced effect it will have during the next twenty to thirty years. Population has been continually shifting, moving from the older central areas to the suburbs. Long before the buildings, streets and other public facilities have served their normal period of usefulness, residential neighbourhoods have lost their attractiveness, and much of the population has scattered to the periphery where new facilities must be provided. Public expenditures are unnecessarily high, and tax rates are increased both to provide additional revenue and to offset decreased assessments in the abandoned sections. Individual property investments are jeopardized by the general instability and depreciation of surrounding development.

As a result of this uncontrolled and unsound growth, the modern city is characterized by at least three broad classes of residential development, which, collectively, compose the population pattern of the community. In the older central sections of the city immediately surrounding the commercial and business centre are the areas of inferior and substandard housing which constitute the slums and badly blighted sections of the city. Surrounding these slums lie areas of old, though somewhat better residential sections, extending out from fairly compact neighbourhoods to sporadic suburban development.

It is obviously impossible to accurately prophesy exactly what is going to happen after the war, but as previously mentioned it is essential at this time to determine what influences have brought about the past growth, and to what extent these will be available in the future.

In the United States of America a general stabilization of population within the next two or three decades is anticipated. This, unless there is a pronounced change in birth rate, may be a factor in the slowing down of urban growth if the population continues to migrate from both rural and other urban areas.

In the Dominion of Canada, however, a large influx of population is looked for and it is expected that British Columbia will receive as large or a larger proportion than other provinces. For the same reasons that have attracted population in the past and for many other reasons including the new post-war conditions, it is anticipated that Vancouver will continue to grow, not at the same rate, but in substantially large numbers each year.

Nevertheless, in spite of Vancouver's phenomenal growth in the past, it has been impossible for commerce and industry to absorb all the large blighted areas in the south portions of the main business district which have been abandoned by a shifting population nor can commerce and industry, which will expand by reason of the anticipated influx of new population, absorb all the blighted districts. Therefore, ways and means must be found and adopted for bringing about more rational methods of urban development.

CITY'S GROWTH MUST BE CONTROLLED. Whether or not it is desired, Vancouver is faced with an inevitable invasion of new population by reason of its geophysical environment, and the civic authorities, therefore, must recognize this fact in any realistic plan looking toward the ultimate economic and social welfare of the community. Future progress does not lie in the direction of the continued rapid expansion of the present city, long associated in both Canadian and American psychology with community progress, but rather in the readjustment and improvement of present urban facilities, in relation to the city's population, looking toward better schools and parks, streets and transportation, and pleasant attractive home neighbourhoods.

The first step toward realization of this desirable pattern of urban growth is the determination of how much population the city will probably have and where it should be distributed. This information will serve as a guide in determining policies and practices for the future activities of both officials and citizens. Next, steps must be taken to bring about the most desirable population pattern through controls and administrative policies such as the following:

1. Strict control over new development so that it will be confined to the area allotted to future growth rather than scattered over unnecessarily large areas which cannot be economically serviced.
2. Adequate protection of these new residential areas so that they will continue to be desirable places in which to live and thus prevent further shifting of their population.
3. Rehabilitation of the older districts to arrest incipient blight and to restore the residential amenities essential to desirable community life. The economic welfare of the Canadian city is dependent to a very great degree on the conservation of these large areas of aging homes both from the standpoint of the city and that of the individual property owner. Without

attention, these areas will continue to depreciate until eventually slums are created. There is no reason why homes in well serviced neighbourhoods should not continue to serve satisfactorily year after year with the proper maintenance and modernization. As they become obsolete and too old for economical repair, they can be torn down and replaced with new and modern structures without disturbing the general neighbourhood character.

4. Gradual rebuilding and reclaiming through large-scale methods, of the older blighted districts and slums for their most appropriate use.

These policies may seem a radical departure in urban development and growth. Nevertheless, these principles merely provide a rational approach to the numerous problems incidental to unplanned and haphazard conditions and substitute a definite programme for the present uncoordinated activity. In any event, by making provision for the regeneration of large areas of its blighted districts and by having plans for its immediate needs and future growth, Vancouver will be in a very favourable position in relation to any portion or all of the Federal programme of post-war reconstruction.

BASIS OF POPULATION FORECASTS. A study of the population trends in the City of Vancouver, past and present, is necessary in order that an intelligent forecast of the future growth and rate thereof may be made. This forecast in turn, is essential so that it may serve as a basis for the planning of the physical improvement which would serve Vancouver's population of the future.

The metamorphosis of Vancouver from a tiny hamlet on the Pacific tidewaters to a modern metropolis has an atmosphere of romance. Even at this date there are many citizens whose memory can carry them back to the days of Port Moody, Moodyville, and the early settlements on the south shore of Burrard Inlet which are now within the downtown district of the present Vancouver.

This chapter of the Plan presents data regarding the population that can be anticipated within the city during the next twenty-five years, the amount of area necessary to accommodate this number, and the probable location or distribution of the population. The recommendations are based upon past growth and trends, as well as upon desirable standards.

PAST GROWTH

AMOUNT OF PAST POPULATION GROWTH. Table Number 12 shows the amount of population in Canada, British Columbia, Greater Vancouver and Vancouver for the census periods since 1871. Data are not available for the Vancouver area until 1901 since there were but a few hundred people living on the shores of the waterways, in the earlier periods.

TABLE 12
POPULATION GROWTH IN CANADA AND THE VANCOUVER AREA

<i>Year</i>	<i>Canada</i>	<i>Percent Increase</i>	<i>British Columbia</i>	<i>Percent Increase</i>	<i>Greater Vancouver</i>	<i>Percent Increase</i>	<i>Greater Vancouver</i>	<i>Percent Increase</i>
1871	3,689,257	—	36,247	—				
1881	4,324,810	17.2	49,459	36.5				
1891	4,833,239	11.7	98,173	9.5				
1901	5,371,315	9.0	178,657	81.9	36,296	—	29,432	
1911	7,206,643	34.2	392,480	119.7	152,242	319.0	130,847	344.4
1921	8,787,949	22.0	524,582	33.6	213,641	40.3	163,220	24.7
1931	10,376,786	18.1	694,263	32.4	324,581	51.9	246,588	51.1
1941	11,467,452	10.5	817,861	17.8	373,413	15.0	275,353	11.6

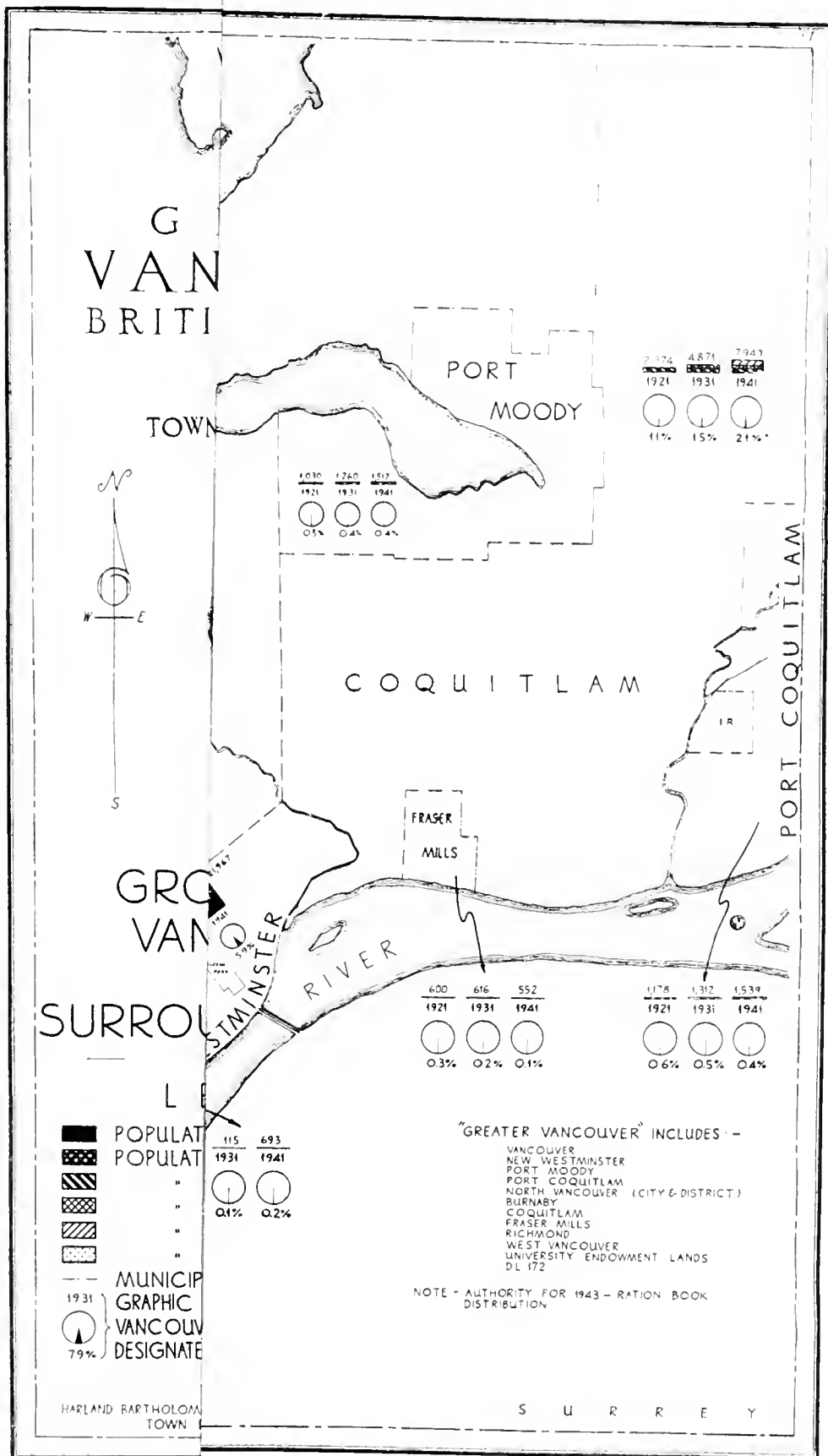
After incorporation in 1886, Vancouver grew very rapidly. Its rate of growth is characteristic of all western cities, and of western provinces and states. It will be noted that the rate of increase in the population of British Columbia, Greater Vancouver and the city is very similar. Vancouver experienced the greatest rate of increase in any single period—between 1901 and 1911, 344.4 percent, but it also experienced the smallest rate of increase—11.6 percent between 1931 and 1941. The Pacific coast states, California, Oregon and Washington, have had a correspondingly rapid growth and the growth of many of their larger cities is similar to that experienced in Vancouver. In contrast thereof, the Atlantic coast states—Massachusetts, Connecticut, New York and New Jersey—grew at a slower rate in the same period. These states were more completely developed by 1871 and did not experience the rapid growth that accompanies the opening and settlement of new areas.

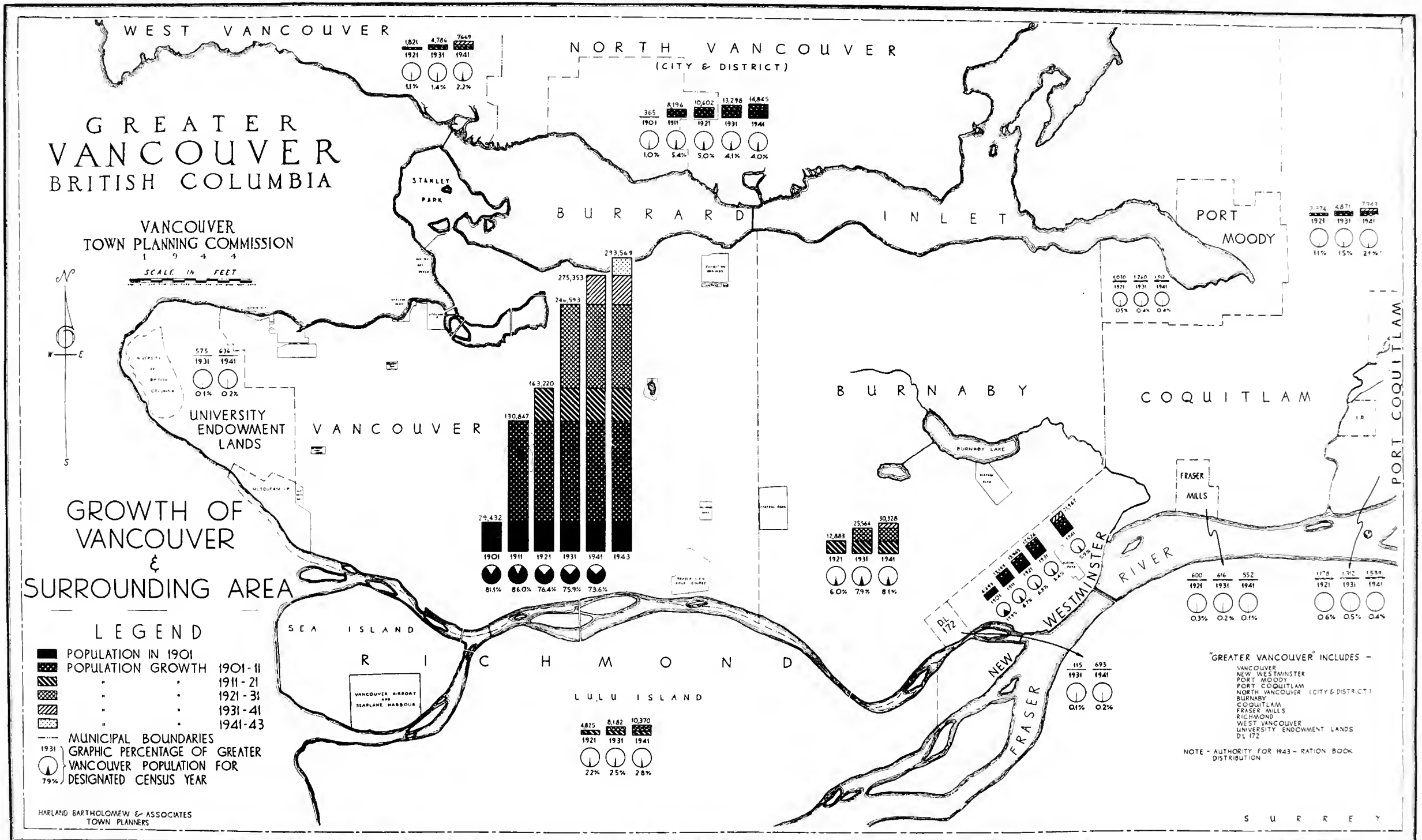
The Dominion's population has increased more slowly and with less variations in the rate of increase for each census period. The growth has, however been quite steady.

It is important to note that since 1911 the population within the City of Vancouver has represented between 31 and 35 percent of the total population in British Columbia. In two of the census periods it represented 33 percent. The growth of Vancouver is so closely allied with that of the Province that the local urban population should continue, for many years, to be at least one-third of the population in British Columbia.

GROWTH IN GREATER VANCOUVER AREA. Plate Number 4 graphically shows, by the vertical bars, the past trend of growth in each municipality of the Greater Vancouver Area. The partly filled circles below the bars indicate the proportion of the total population contained in each component part for each census.

The Plate clearly shows the concentration of population within the City of Vancouver. None of the surrounding communities even approach the central city in the amount of population. Burnaby has the largest population of the surrounding municipalities yet in 1941 it contained only about one-ninth as many persons as Vancouver.





The Plate also reveals that Vancouver received a far larger amount of new growth during each census period than any of the other surrounding areas. For example, the increase in Vancouver between 1931 and 1941 was 28,760 while the total increase in all of the other surrounding areas was only 19,957.

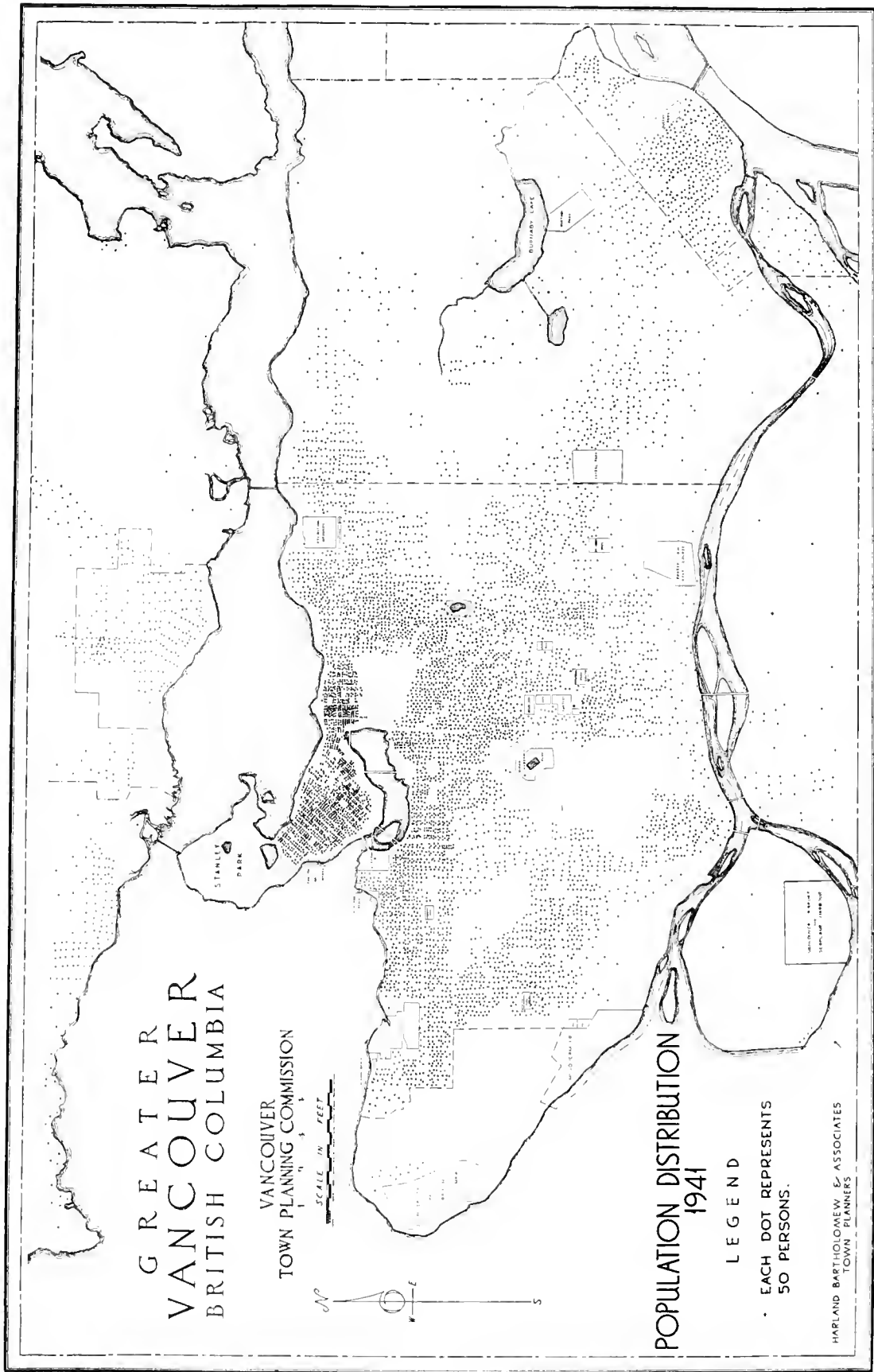
One very important trend is indicated upon the Plate, namely, that since 1911, the population within Vancouver has represented a decreasing proportion of the total population in the Greater Vancouver Area. Although the city is growing and has area to accommodate much additional growth, the surrounding areas are also growing rapidly. The city is beginning to experience the trends of growth that have prevailed for several decades in the older and larger metropolitan areas of the United States.

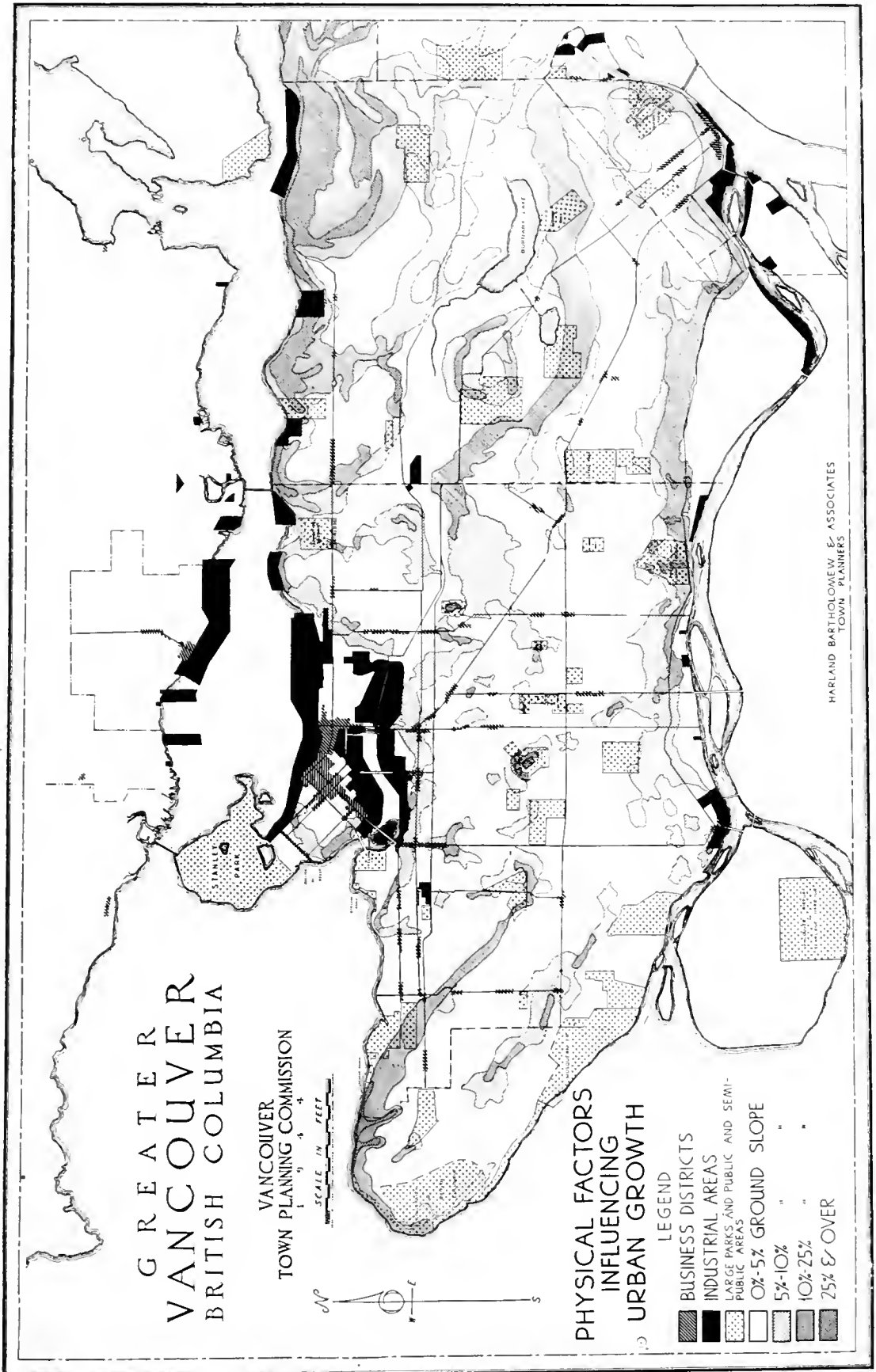
The local growth of suburban communities is not an objectionable condition. However, the trend does indicate the necessity for Vancouver to provide adequate public facilities and services as well as to protect the desirable residential areas so that persons will be encouraged to live in the cities rather than move to the suburbs. Likewise, it indicates the necessity of the suburban towns making plans to properly accommodate their future growth and to coordinate these plans with the central city. The preparation and adherence to properly conceived plans can prevent many costly mistakes in the Greater Vancouver area of the future. Plate Number 5 shows the distribution of the population of the Greater Vancouver area according to the 1941 census.

PHYSICAL FACTORS INFLUENCING URBAN GROWTH. Many factors influence the location of population within an urban area. Among the more important are physical conditions, such as topography, large public areas, industrial and commercial development. The location and character of new subdivisions affording home sites are also important factors. Likewise the location of streets, transit routes and other urban facilities such as sewers and schools play an important part.

Plate Number 6 shows the location and extent of the major physical factors affecting urban growth in the Vancouver Area. Population first located near the water and here were the early trading centres. As the population increased the retail business expanded and is now the focal centre of the area. Industries developed around this business centre especially along the harbour, and in the nearby valleys such as False Creek. These in turn attracted residential developments and as both the commercial and industrial areas grew the residential sections extended outward as will be seen in later plans, following main lines of growth especially along transit routes and well improved streets.

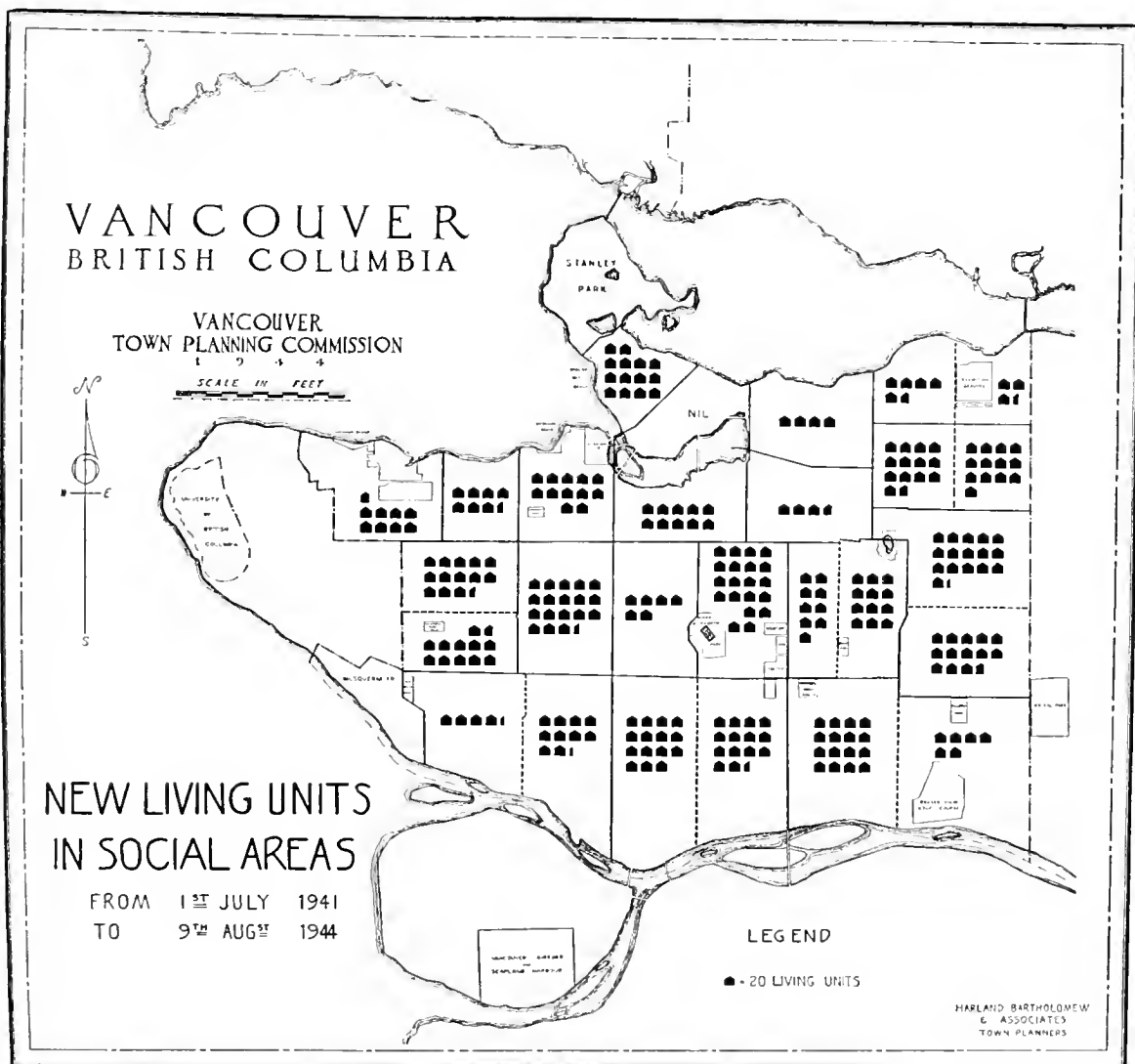
The plan reveals the location of the more rugged portions of the urban area. Portions of the city, especially in the west, southeast and eastern sections have grades of from 10 to 25 percent and substantial portions have grades of from 5 to 10 percent. The latter are desirable for residential development in that they provide variety and interest and the steeper grades are not always objectionable although they usually result in a lower density of population. The area east of Vancouver is comparatively rugged and in general, will have a low density of population. In the main the topography of the area is most desirable for developing a large metropolis.





There are a large number of public open areas within and near the city. While they will affect the population pattern by not being available for homes, they will also have beneficial influences by providing permanent open spaces that are so essential in residential sections.

A study of the street, sewer and water improvements made since 1928 reveal that these are keeping pace with new home building. (Plate Number 7). Extensive sewer improvements have been made in the areas west of Dunbar, in the area west of Granville and south of 41st Avenue, in the area south of 13th Avenue, between Ontario Street and Victoria Drive and in the northeastern part of the city. Water mains have been extended in these general sections frequently beyond the areas equipped with sewers. The extension of water mains is especially pronounced in the southeastern portion of the city. The city has made excellent progress in the provision of these essential facilities.



NEW LIVING UNITS. Plate Number 8 graphically shows the number of new living units erected in the social areas during the period of rapid growth between 1941 and 1944. The growth has been exceptionally well spread throughout the entire city. The only districts in which there was practically no growth were those containing the central business district and the industrial areas immediately east of False Creek. It is especially encouraging to note the new units that have been erected in the apartment district between the business centre and Stanley Park. While this is an older section it is continuing to grow and should eventually be a heavily populated and valuable portion of the city.

Much new growth has located in the northeastern portion of the city. This has undoubtedly been partly influenced by the location of the water services previously discussed.

It is gratifying to note that many of these new living units have been erected upon many of the isolated vacant lots, that have been serviced with public utilities for many years. The building up of these vacancies have made a great improvement in the blocks in which they were located.

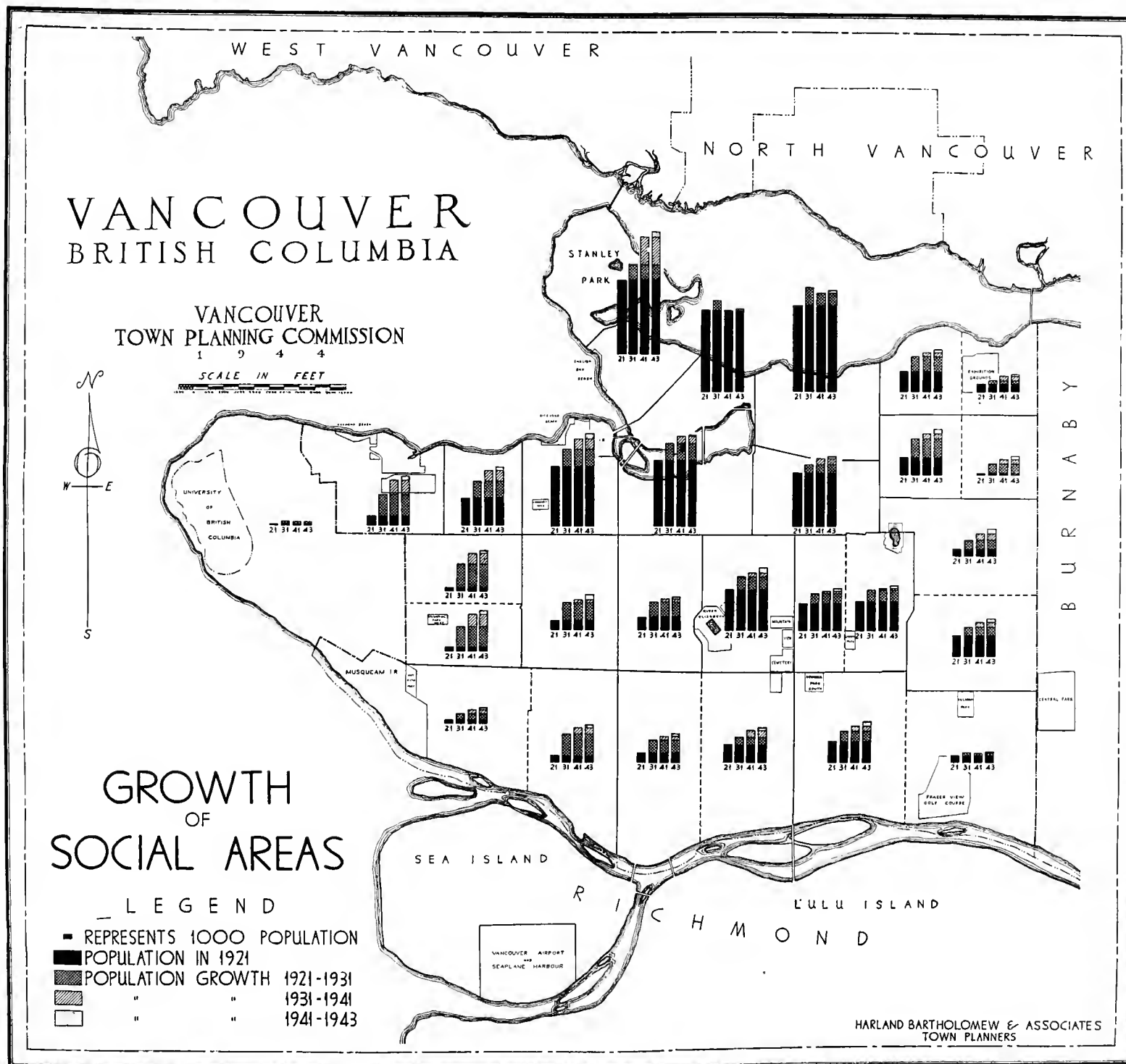
POPULATION GROWTH IN SOCIAL AREAS, 1921-1943. In the United States Census of 1940, the population of fifty-two American cities was enumerated by Census Tracts, permanent units of relatively similar population elements and land use, instead of by enumeration districts, variegated as to population and land usage, and seldom the same in area for two census years. Canadian census officials recognized similar tracts, called "Social Areas", for Vancouver and Winnipeg at the time of the census of 1941, and information was collected on this basis. The Social Areas to the scientific student of the city, is a research tool analogous to the astronomer's telescope and the botanist's microscope. The continuing collection of data by Social Areas, the sorting of these materials by Social Areas, and generalization on the basis of Social Areas, will increase our understanding of the modern city, and will provide a sound basis for guiding its future development.

The trend of growth in each of the above areas for the census years since 1921 and for the year 1943 are graphically shown on Plate Number 9. The data for 1943 were obtained from the Wartime Prices and Trade Board through the distribution of Ration Books in September, 1943.

In 1921 a large portion of the city's population was within and near the central business district, around False Creek and in the districts lying southeast of the Creek. There was very little population in the southwestern portion of the city.

Between 1921 and 1931 a substantial portion of the new growth occurred in the southwestern and northeastern portions of the city. This was a logical development of desirable residential sections that were accessible to the business centres and it was also a logical extension outward from existing development.

Between 1931 and 1941 the growth was reasonably well distributed in all sections although it was somewhat predominate in the western portions and especially in the area west of the business district. The distribution for 1943 shown on this Plate further substantiates the preceding study showing that the growth between 1941 and 1943 was also well distributed throughout the entire city.



Only two portions of the city have lost population in any decade. This is the central business section and the area immediately to the east. This is only logical since portions of these districts should logically be absorbed for commercial and industrial purposes thus displacing residential units. It will, however, be noted that some of the areas around False Creek have not evidenced any marked increase in the past few years. These are the older developments and every effort must be made to maintain or improve the residential environment so that these districts will continue to provide desirable living conditions and that the population will not move therefrom to the newer and more outlying districts.

POPULATION DENSITIES—1921, 1931 AND 1941. For the purposes of this study, population density is referred to as the average number of persons per gross acre in any section of the city. The gross area includes land occupied by streets, schools, scattered commerce and industry, as well as by residential development, but does not include large public open areas or districts occupied almost exclusively by commerce or industry.

The density of population within any urban area has an important bearing upon the economic welfare of the community. Experience has revealed that it is quite expensive to provide the necessary public improvements and services in sections containing an average of less than ten persons per acre unless the residential development is of a very high character. This is an average of only two and a half houses per acre and an excessive amount of paving, sewers, water and other similar facilities are needed to insure satisfactory standards for fewer homes. On the other hand, if the population is very dense, there are usually inadequate yards, light and air and the population eventually moves therefrom.

Plate Number 10 shows the density in the various social areas for the years 1921, 1931 and 1941.

The figure within each circle indicates the actual density within the social area for each census period.

Much of the city contained a density of less than ten persons per acre in 1921. Only six areas exceeded this density although there were several containing an average of from seven to nine persons per acre. The central business district and the areas immediately to the west and east contained the highest densities, being respectively 47, 30, and 28 persons per gross acre.

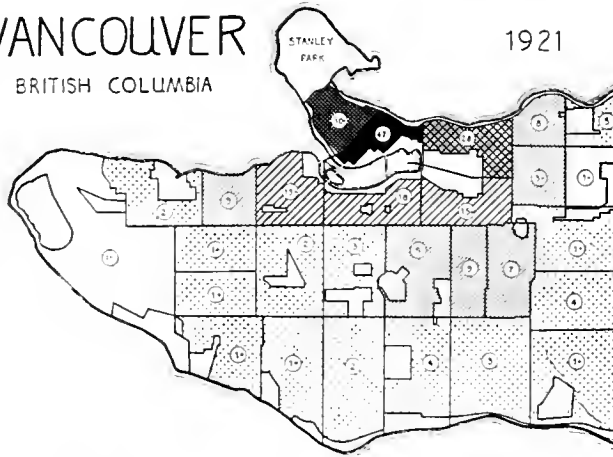
By 1931 a minority rather than the majority of the city had an average density of only five or fewer persons per acre. Likewise the densities had increased in the central business areas and in the tracts to the east and west. This Plate further indicated how the growth spread progressively outward, with an elongation along certain main routes such as Kingsway in the southeast and Granville in the south central portion.

In 1941, only five tracts had an average gross density of less than five persons per acre, and about one-half of the city had a density of ten or more persons per acre. It should be further noted that in some of the tracts then having a low density that the development was fairly compact. If only the developed portion

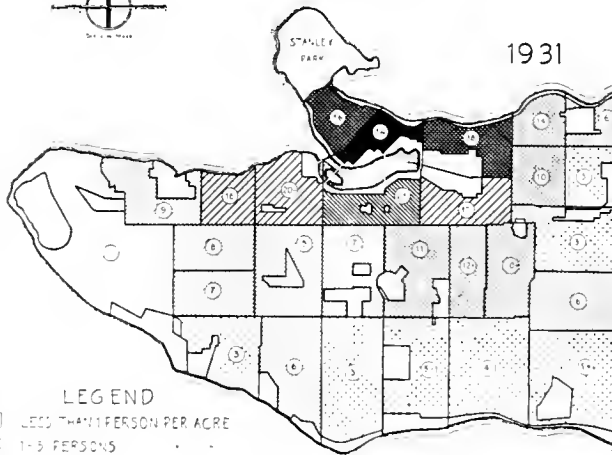
VANCOUVER

BRITISH COLUMBIA

1921



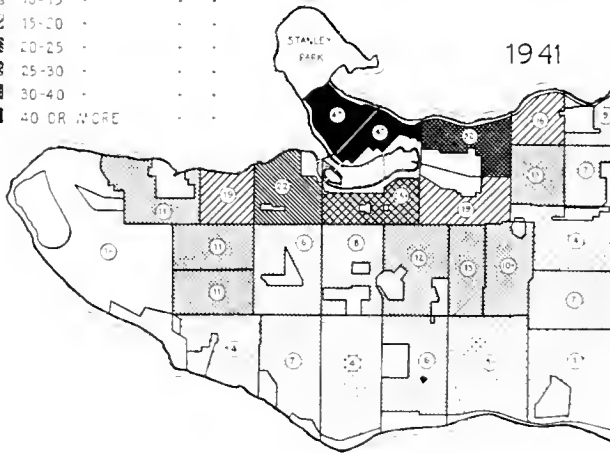
1931



LEGEND

	LESS THAN 1 PERSON PER ACRE	.	.
	1-5 PERSONS	.	.
	5-10	.	.
	10-15	.	.
	15-20	.	.
	20-25	.	.
	25-30	.	.
	30-40	.	.
	40 OR MORE	.	.

1941



POPULATION DENSITY

1921

1931

1941

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of the area were considered, the density would probably exceed ten persons per acre, but the large amount of completely vacant areas results in a lower average density.

For the first time, the year 1941 reveals a decrease in the density within the business district. However, the apartment district immediately to the west revealed a steady and substantial increase for each of the three census periods. This area is zoned to accommodate a considerably higher density than has ever been approached in the past and present trends of development.

SUMMARY. Vancouver has experienced a phenomenal population growth. There are many indications that it will have a healthy and extensive growth in the future but its rate of increase will be less rapid than in the past. Furthermore, the Greater Vancouver area rather than the central city alone should experience a large future growth.

The distribution of population has in general been sound. With the growth moving progressively outward rather than predomination in any single direction. (See Plate Number 5, Page 36).

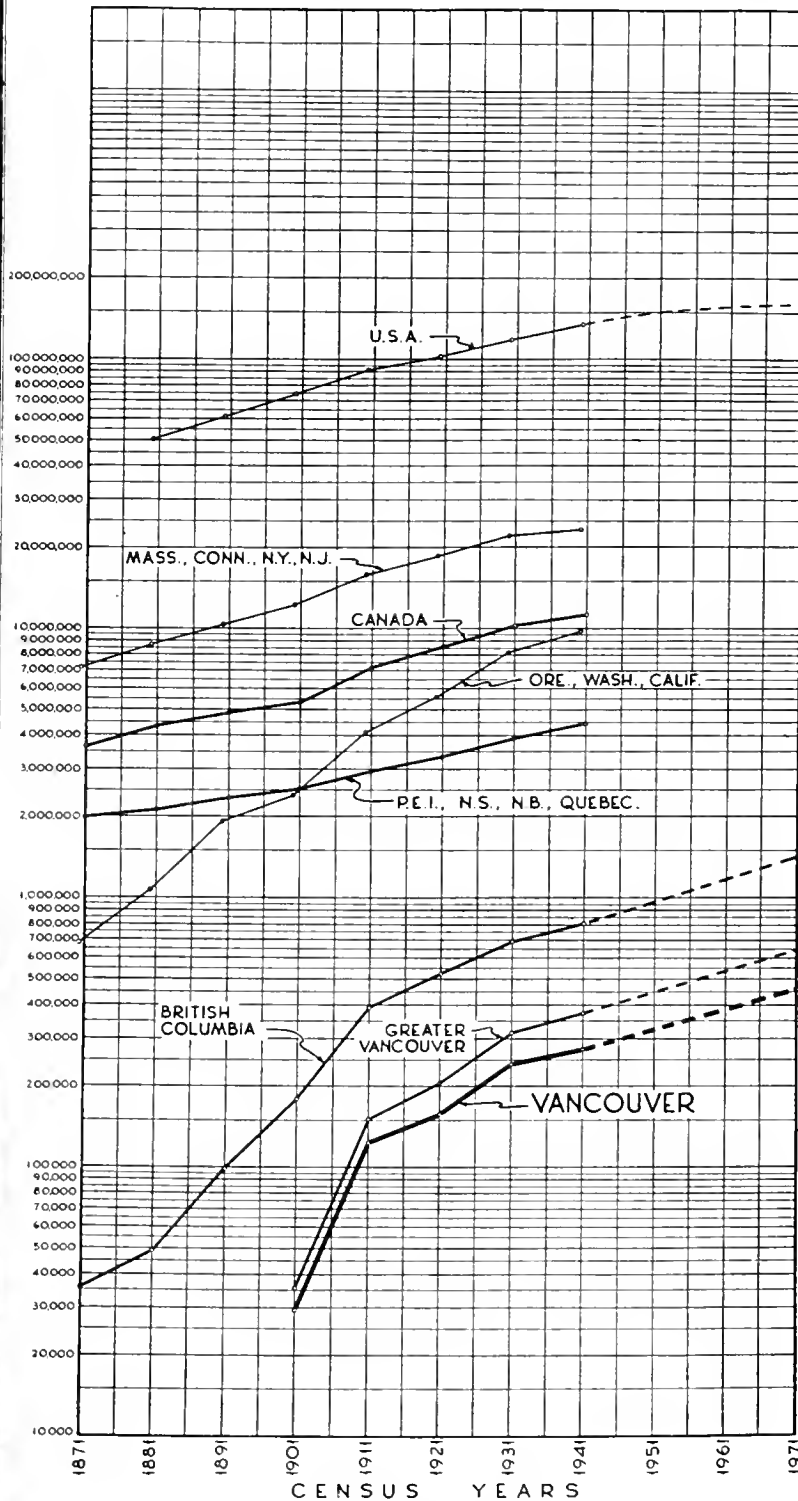
The density of population is rather low for such a large city and a comparatively low density can be expected in the future because of the topography and the dominant use of single family homes. It is thus important that development absorb vacant property before it moves to other sections. This is especially true of the vacant lots than are equipped with paved streets, sewers and water. Otherwise a very expensive population pattern will result.

AMOUNT OF PROBABLE FUTURE GROWTH. It is always difficult to make accurate forecasts of future population growths, since so many unpredictable factors affect the rate of increase. For example, the economic depression occurring between 1931 and 1941 resulted in the slowest rate of growth that Vancouver had experienced since its incorporation. In contrast, the war effort resulted in a very rapid influx of population. Reasonably close estimates may, however, be made over a period of 25 or 30 years since the periods of rapid and slow growths are generally balanced over the longer period.

Statisticians agree that the United States is approaching a stationary population. It is believed that the maximum growth will be reached about 1970 to 1975 and thereafter, there will be little, if any, gain. As a result, many of the older and larger cities will not experience much additional growth. In fact, there is little, if any, growth now in some of the older cities, and substantial improvements must be made if these cities are to retain their present populations.

British Columbia and Vancouver are comparatively new areas. The preceding section indicated that there were many reasons why they should experience much new growth. There will be many advantages, however, if this growth is steady and substantial, rather than if it is concentrated within comparatively short intervals.

Plate Number 11 graphically shows the estimated future population of British Columbia, Greater Vancouver, and Vancouver. The Plate also shows the past growth in other portions of Canada and in the United States.



POPULATION GROWTH

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P O P U L A T I O N

Plate 11

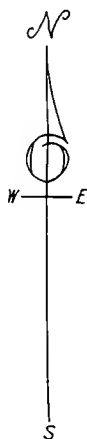


VANCOUVER BRITISH COLUMBIA

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SCALE IN FEET



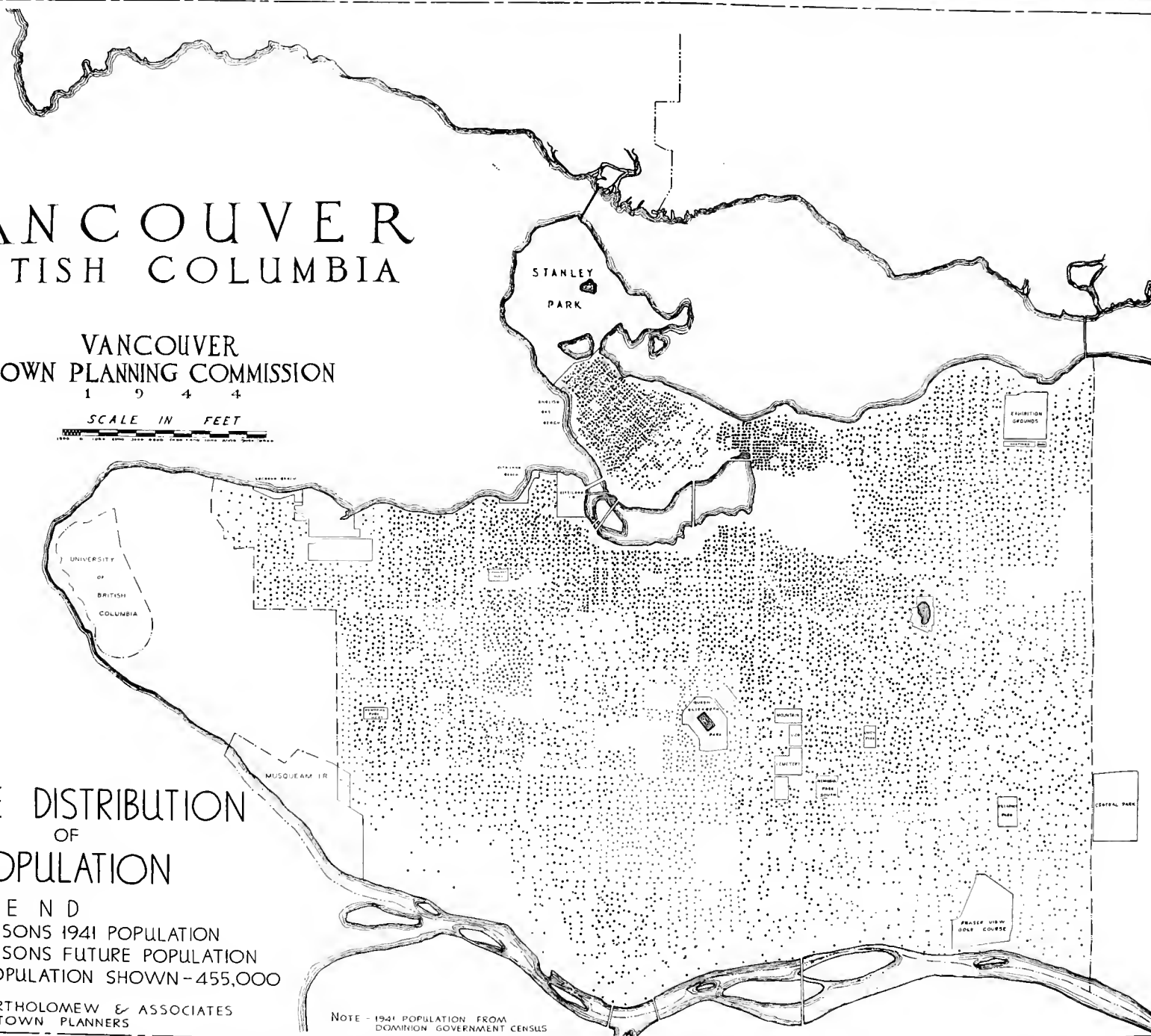
FUTURE DISTRIBUTION OF POPULATION

LEGEND

- 50 PERSONS 1941 POPULATION
- 50 PERSONS FUTURE POPULATION
- TOTAL POPULATION SHOWN-455,000

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NOTE - 1941 POPULATION FROM
DOMINION GOVERNMENT CENSUS



The estimated 1971 population of British Columbia is 1,400,000, an increase of about 600,000 over 1941 or nearly 200,000 more than the numerical increase since 1911. The population estimate for Greater Vancouver for the same year is 650,000 and for the City of Vancouver is 455,000. These figures may appear low after the rapid growth of the past and some of the optimistic estimates for the future. However, they represent a continued increase in growth of approximately 20 percent each decade which is a very rapid rate for any city now having 300,000 or more persons.

Furthermore, this provides a sound procedure for Vancouver. There is so much single family development that improvements can be planned without any fear of over congestion. In fact, the major problem is to provide enough facilities such as schools and parks in proper locations rather than to provide unusually large facilities. Maximum economies will result if these facilities are fully used.

The future growth is a matter of concern to the entire metropolitan area rather than to Vancouver alone. There is adequate area to accommodate a far greater population than the one estimated by 1971. The important condition is that it extend progressively outward from the central city rather than to scatter widely over the entire area. It is believed that the Vancouver area will continue to grow after the estimated population has been reached. This would require the extension of the Plan beyond the present area rather than the making of any substantial changes within the then existing development.

DISTRIBUTION OF FUTURE POPULATION. The estimated future population of 455,000 persons within the City of Vancouver can be conveniently accommodated within the present corporate limits. The area is approximately 44 square miles or 28,160 acres and to this should be added the area of the University Lands that are available for residential development—about 2,700 acres. This results in a total area of 30,860 acres. The average density for the future population would be slightly less than 15 persons per acre, a very desirable density.

While a large growth can be anticipated outside of the present corporate limits and within the Greater Vancouver area, there is a large amount of land available for urban development. In fact, the available area is between four and five times as much as is contained in the present city. However, since only about 200,000 is estimated to be located outside of the central city by 1971, it is obvious that only a comparatively small portion of the total area will be needed for urban development. If this population is developed at an average density of ten persons per acre, about 20,000 acres would be required to accommodate it. Actually the population will probably not average ten persons per acre in the outlying area although every attempt should be made to achieve this density. If the average future density is only five persons per acre, about 30,000 acres would be required. This is approximately the same amount of area found within the City of Vancouver and the University Lands.

It is especially important that, in addition to securing a satisfactory density in the outlying area, the population spread progressively outward rather than to scatter over the total suburban area, which is four or five times as large as the City of Vancouver. If it is permitted to scatter indiscriminately, leaving large

intervening tracts and many vacant lots in each block, there will either be inadequate public services and improvements or the cost of supplying same would be excessively high.

Plate Number 12 shows the desirable distribution of the future population within the City of Vancouver. It will be noted that this closely follows the 1941 pattern, the major changes being that the areas now containing scattered population are more completely developed and there is also a greater concentration of population in the older portions of the city.

The greatest concentration of population will remain around the English Bay and the False Creek areas which are closest to the downtown business district and which now contain the highest population densities. These areas are now zoned for multiple dwelling uses. It is logical that these intensive uses should be located where the land is more valuable. Furthermore, these areas are close to sources of employment, shopping and amusement and thus are logical locations for this great concentration of population.

A smaller amount of population has been distributed in the areas containing the rougher topography but these districts should contain some residential development. No population is shown in present areas or in tracts which should logically be absorbed by industrial development. The population pattern is general only, and no attempt has been made to keep it out of blocks that may ultimately be absorbed by schools, parks or other public areas. The acquisition and development of these areas for non-residential purposes will cause some minor adjustment in the distribution but, in general, the pattern can be very closely followed in the future.

The proposed population pattern will form an important basis for making recommendations regarding future improvements, such as the location of schools, parks, transit lines and other public facilities necessary to serve the future city. It provides a sound method for determining the location and extent of these facilities so that they can adequately, yet economically, serve the future citizens.

DENSITY OF FUTURE POPULATION. Plate Number 13 shows the population density in each social area of the City of Vancouver that would result from the proposed distribution pattern.

It is expected that the density in the central business district will continue to decrease as more and more property is absorbed for commercial and industrial use. However, the West End should have a very high density containing an average of about 80 persons per gross acre. This is an outstanding location for multiple dwellings and an extensive apartment development will result in this district which will add great value to the city.

Likewise there should be an increase in density in the districts located south and east of the False Creek area. A population density of at least 30 persons per acre in these areas would be both sound and desirable. Such a density could easily be obtained under the present zoning regulations.

It will be noted that only two sections of the city would have a population density of less than ten persons per acre. These contain some of the more rugged

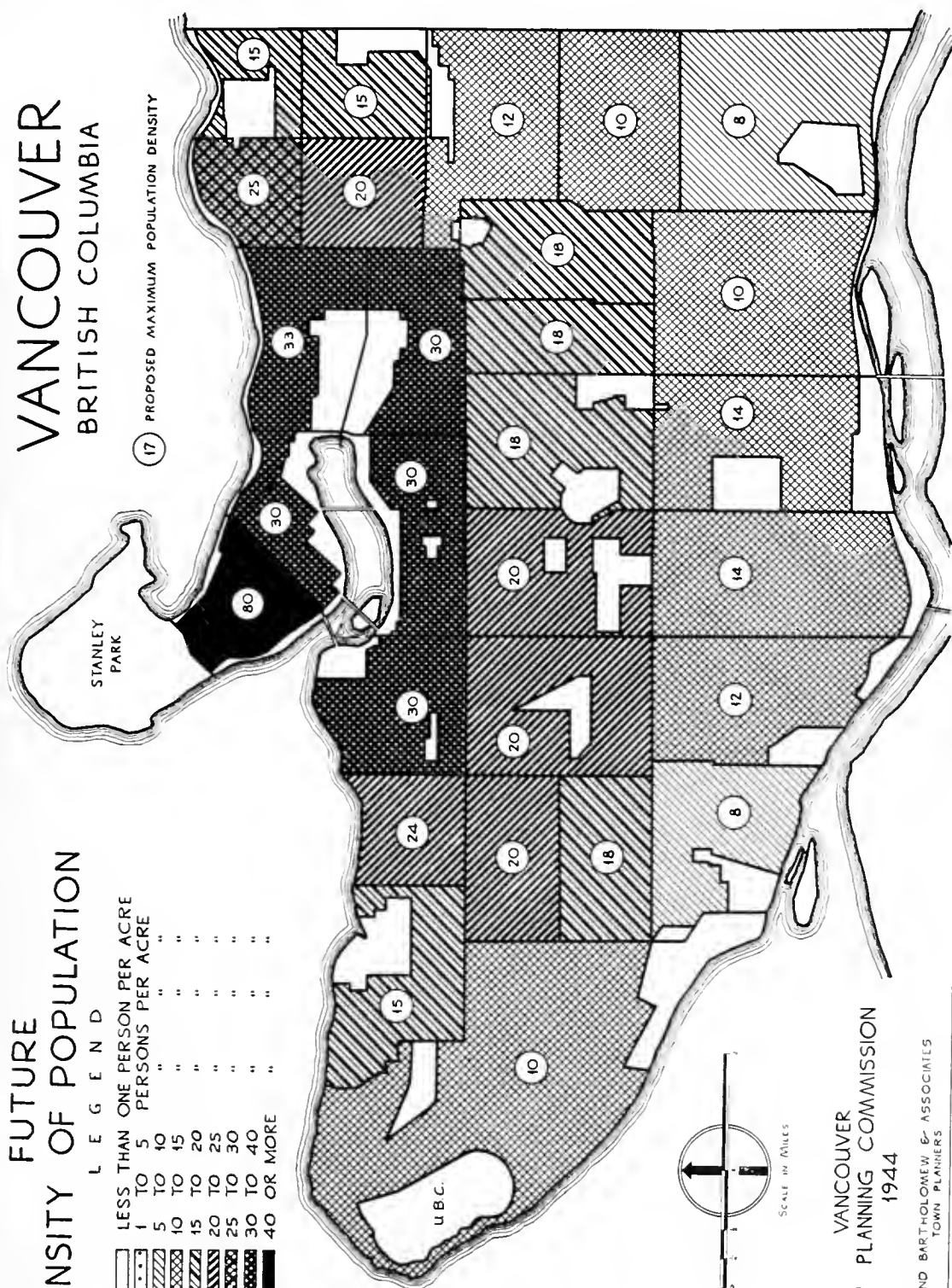
FUTURE DENSITY OF POPULATION

LEGEND

[White Box]	LESS THAN ONE PERSON PER ACRE
[Dotted Box]	1 TO 5 PERSONS PER ACRE
[Diagonal Lines \]	5 TO 10
[Diagonal Lines /]	10 TO 15
[Cross-hatch]	15 TO 20
[Steeper Diagonal \]	20 TO 25
[Steeper Diagonal /]	25 TO 30
[Dense Cross-hatch]	30 TO 40
[Solid Black]	40 OR MORE

VANCOUVER BRITISH COLUMBIA

(17) PROPOSED MAXIMUM POPULATION DENSITY



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property and are in the outskirts of the city. All other portions would have a density that would insure the efficient and economical provision of facilities and services.

METHOD OF SECURING FUTURE POPULATION PATTERN. There is no simple easy method of securing the desirable future population pattern. However, there are so many advantages that can accrue from this pattern that every effort must be made to achieve it. Among the more important present methods of achievement are:

1. Adherence to the recommendations regarding physical improvements that will be made in the revision of the Vancouver Town Plan. If the improvements are gradually made in the future so that all sections of the city are properly provided with adequate streets, transit facilities, schools, parks, sewers and water, there will be every incentive for homes to be built around these facilities rather than to be located in some other sections where such facilities are not available. This is the most important and basic method of securing a sound urban development.
2. **CONTROL OF SUBDIVISION.** Future subdivision, both within and outside the city should be carefully controlled so that it will conform to the Comprehensive Plan and to the population pattern. Many American cities have adopted subdivision regulations requiring the instalment of all improvements such as streets, sewers and water, before any lots can be sold. This tends to restrict new developments to areas where there will be an immediate demand for the lots and to locations adjoining existing facilities. Legislation enabling somewhat similar control of subdivisions in the Vancouver area should be considered in future.

Since the only areas outside of the city proper that can be urbanized consist of incorporated municipalities, these local agencies should also prepare town plans and carefully regulate the subdividing of their areas. Such a policy would not only benefit Vancouver but would be a primary benefit to each individual municipality.

It should be understood that any subdivision control is not intended to restrict individual enterprise in the development of new areas, but rather to insure that such new development will conform to desirable minimum standards. Otherwise, the public agency will eventually be called on to provide these necessary minimum improvements and if the population is widely scattered in the subdivision, the cost of such installations will be unnecessarily high. The regulatory measures benefit all tax payers who otherwise will be forced to bear a part of the cost of the improvements.

3. **MISCELLANEOUS.** It is most important that every effort be made to protect the existing development so that the population will not desire to move to another zone. Zoning regulations and building codes are among the fundamental steps necessary to insure such protection. Likewise certain older and blighted portions of Vancouver may eventually be rehabilitated or rebuilt for large scale housing projects in the future. This will encourage

many persons to continue living therein. It is also essential that citizens maintain interest in their property and keep it properly repaired.

4. CITIZEN INTEREST AND SUPPORT. The success of a planning programme, or part thereof, ultimately depends upon citizen understanding and support. It is thus particularly essential that a large number of citizens in Vancouver area understand the problems that now confront the city. They must also be generally conversant with measures necessary to solve these problems and give support to the public officials initiating the necessary steps.

Thus the problem of achieving an economic and desirable population pattern requires understanding and support on the part of both officials and citizens. Difficult problems will be encountered but they are not impossible of solution and the objective warrants consistent and extended effort.

PART III

NATURAL RESOURCES OF BRITISH COLUMBIA

BRITISH COLUMBIA—VANCOUVER'S HINTERLAND

The Province of British Columbia forms the western seaboard of the Dominion of Canada, and has an area of 372,630 square miles. It lies between the 49th and 60th parallels of north latitude. Its western boundary is the Pacific Ocean for the south, and Alaska for the north portion. The eastern boundary lies along the continental divide, the summit of the main range of the Rocky Mountains, from the 49th parallel of north latitude to the 120th meridian of west longitude, thence north to Yukon Territory. It is the third largest and is one of the most spectacular of all the provinces of the Dominion.

The major portion of the province consists of a series of mountain ranges and valleys which run in a north westerly direction from the International Boundary. The Rocky Mountains also form the western boundary of the Great Central Plain of North America. The lowest passes through this range, lie in Canada.

West of the Rockies and parallel to them is the Selkirk Range which is of an earlier geological formation. West lies the interior plateau at an elevation of approximately 3,500 feet. This plateau is broken by a few short mountain ranges and by valleys caused by the erosion of ancient rivers. Between the interior plateau and the Pacific Ocean lies the Coast Range. All along the coast, this range is deeply indented with fjords. The north eastern portion of British Columbia lies east of the Rockies to the 120th west meridian and is an extension of the North West Plains.

British Columbia's terrain is more broken than any of the other Canadian Provinces.

NATURAL RESOURCES OF BRITISH COLUMBIA

Vancouver has grown mainly by virtue of being the first seaport on the Pacific Coast of Canada having rail connection with the rest of the Continent. As stated, in the main its hinterland consists of a rugged mountainous country but there are also extremely fertile valleys. Furthermore, in addition to British Columbia's Peace River Plains beyond the Rocky Mountains, there is an opportunity of economic trade with Alberta and parts of Saskatchewan, Yukon and Mackenzie.

British Columbia's area of 372,630 square miles, is over 17 percent larger than the combined Pacific Coast States—California, Oregon and Washington. It has been estimated that some 266,770 square miles (70 percent of British Columbia's

total) is suitable for the production of food stuffs, 10 percent is arable land, and there are some thirty million acres of grazing land. It is estimated that there are nearly four million acres of grassland or meadowland.

British Columbia has 93,225 square miles, 25 percent of its total area, below the 2,000-foot level. In the combined states of Montana, Idaho, Oregon and Washington, but 84,626 square miles, 21 percent of the total area, are below this elevation.

The mountains, circumscribing though they may be from the viewpoint of arable land, are extremely beneficial to Vancouver and British Columbia as a whole.

Owing to the munificent alliance of mountain and sea, British Columbia is a land of unsurpassed grandeur, and both are a source of abundant resources—fish and aquatic fur-bearing animals from the sea: and timber, metals (ferrous, precious and semi-precious) and coal, (bituminous and semi-anthracite) and game and fur-bearing animals from the mountains. These resources are incomparable from the standpoint of variety, quality and quantity.

The mountains and sea have in them an unexpendable natural resource in the scenery, which combined with the fish and game, will attract tourists which in turn create new money for the province.

***WATER POWER.** The mountains and sea unite to form a continuous cycle of energy (water-power) service. This Province is richly endowed with great rivers and lakes of varying magnitude. The rivers supply water for hydro-electric developments, irrigation projects and domestic purposes and in addition, are sources of game and commercial fishing. The lakes, which range from a few acres to over 300 square miles in area, provide excellent reservoirs.

All streams flow and other hydrometric investigations have been conducted by the Dominion Water and Power Bureau of the Department of Mines and Resources. The Provincial Government's Water Rights Branch of the Department of Lands and Forests administers all the water resources in the province.

At the beginning of 1945 British Columbia had 864,024 installed horse power and is the third largest in Canada in developed power being exceeded by Quebec and Ontario. The latest estimate relative to the undeveloped waterpowers of British Columbia indicate that there are 7,023,000 horse power at ordinary minimum flow and 10,998,000 horse power available for six months of the year. These power estimates are based upon continuous 24-hour power at 80 percent efficiency. On this basis British Columbia is second only to Quebec in potential hydro-electric power, the comparison with other provinces being as follows:

** Data supplied by the Dominion Water and Power Bureau, Department of Mines and Resources.*

AVAILABLE AND DEVELOPED WATER POWER IN CANADA — JANUARY 1, 1945

<i>Province</i>	<i>Available 24-hour Power at 80% Efficiency</i>		<i>Turbine Installation H.P.</i>
	<i>At Ordinary Min. Flow H.P.</i>	<i>At Ordinary Six Months Flow H.P.</i>	
BRITISH COLUMBIA	7,023,000	10,998,000	864,024
Alberta	390,000	1,049,500	94,997
Saskatchewan	542,000	1,082,000	90,835
Manitoba	3,309,000	5,344,500	422,825
Ontario	5,330,000	6,940,000	2,673,443
Quebec	8,459,000	13,064,000	5,848,572
New Brunswick	68,600	169,100	133,347
Nova Scotia	20,800	128,300	133,384
Prince Edward Island	3,000	5,300	2,617
Yukon and Northwest Territory	294,000	731,000	19,719
Canada	25,439,400	39,511,700	10,283,763

There are undoubtedly many other possible developments in unexplored regions of the province. Due to topographical conditions the power possibilities range from low heads of only a few feet to high heads of over 2,000 feet. There are a number of high head sites on Vancouver Island and coastal regions, where precipitation is heavy, in a few places exceeds 200 inches yearly, which are admirably located for economical development adjacent to tidewater facilities.

Many favourable medium head sites of great potential value are located on the larger rivers, among them being the Fraser (2,500,000) potential horse power on five sites), Columbia, Nass, Skeena, Stikine, Peace, Liard and their main tributaries.

The Columbia River rises in British Columbia and flows through the United States and British Columbia before reaching the Pacific Ocean between Oregon and Washington. The development of this river and its main tributaries, the Kootenay, Pend d'Orielle, Flathead, Moyie, Kettle, Okanagan and Similkameen Rivers, for the purposes of power, water supply irrigation, reclamation, navigation and recreation, is therefore, of international interest.

The potentialities of the Columbia River basin were considered to be of such magnitude and importance that in 1944, the Governments of Canada and the United States referred to the International Joint Commission for investigation and report, the problem of determining what further developments, beyond the many projects which have been developed in the Columbia River basin over the past fifty years, of the water resources of this river and its tributaries from source to mouth, would be practical and in the interest of the public of both countries. This investigation, which will involve a tremendous amount of carefully planned work and study, is now well under way.



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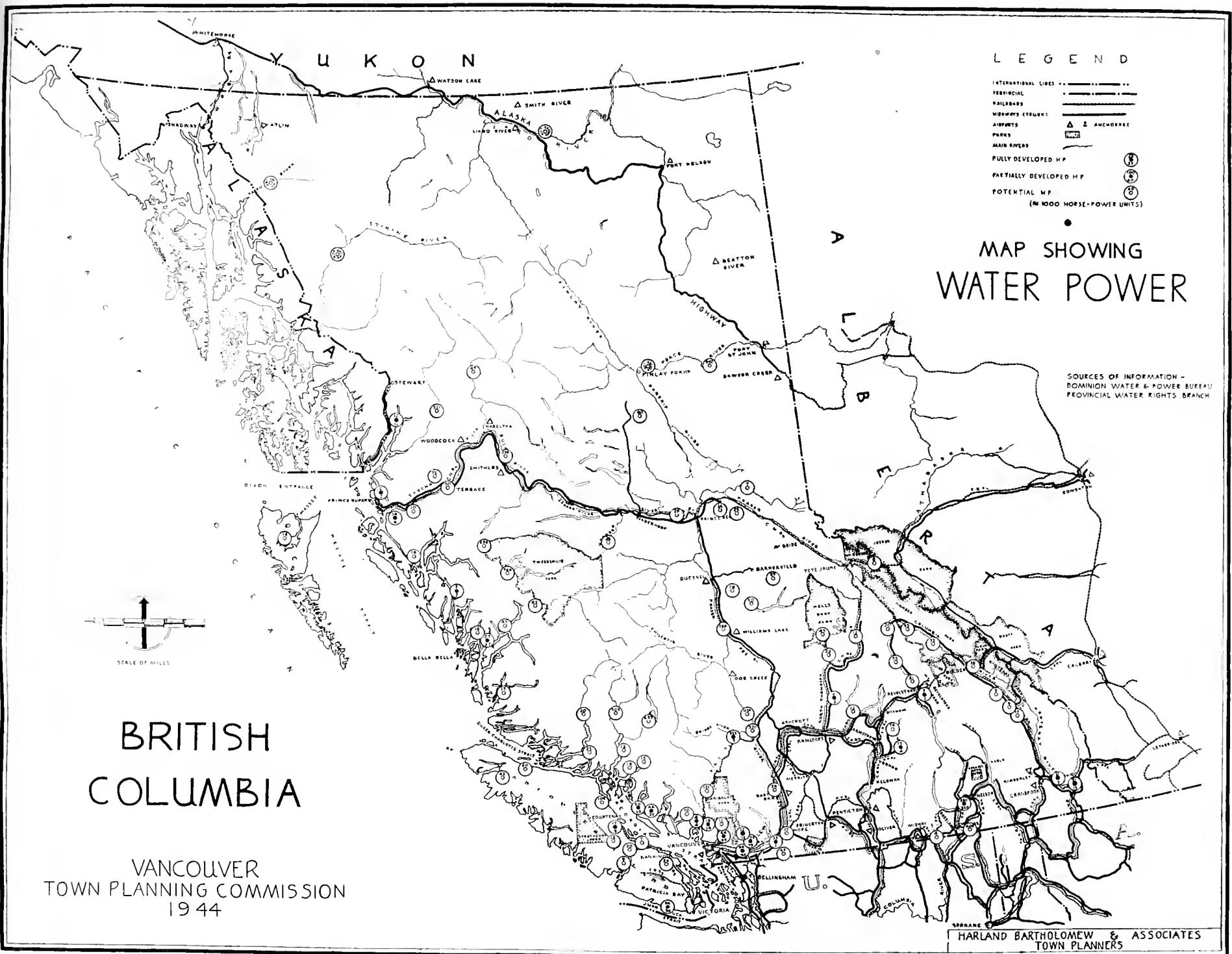
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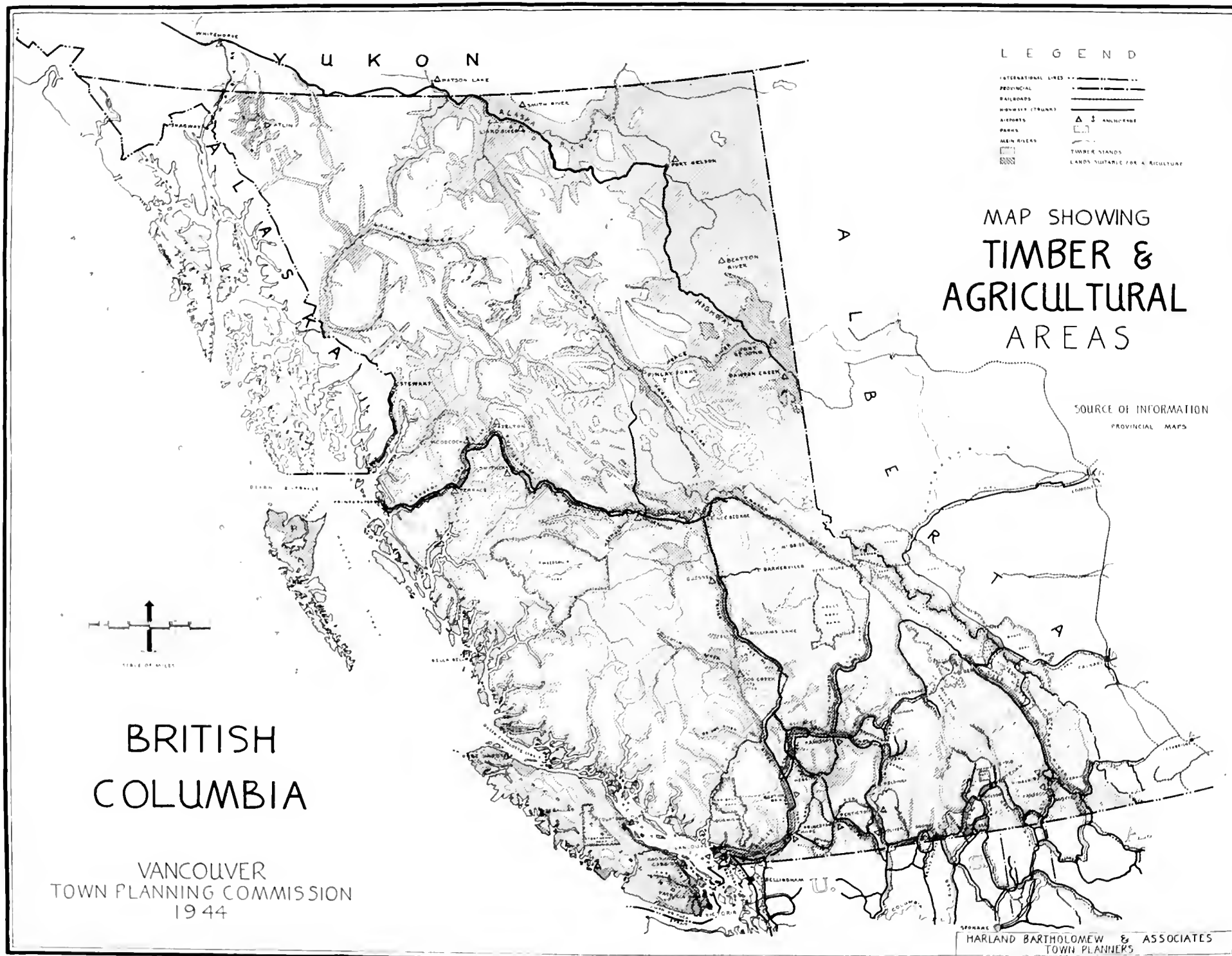
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British Columbia, like the western states of America, is subject to meteorological conditions which cause most streams to be erratic in their flow. Thus storage basins are essential to conserve water to regulate the flow in order to develop the maximum power potentialities. Storage-sites are not always available and occasionally, when they are present, they are costly to construct. Thus, although operating costs of hydro plants are low, they are frequently offset by the high capital shares which have a permanent effect on the cost of the service.

Plate 14 shows the sites of the developed and potential water power of the province. It will be noted there is an abundance of potential power still to be developed in the areas contiguous to Vancouver.

The British Columbia Power Commission was created by the Provincial Government in 1944 and is now engaged in extensive operations in the more settled areas. Undoubtedly, the Commission will proceed as rapidly as possible with the electrification of many rural districts.

FORESTRY. There is a synonymy with British Columbia and Forestry — one can scarcely think of the one without the other. The forestry industry is the province's first primary producer.

The estimated value of production in the forest industries in British Columbia, including loading and freight, for 1944 was \$146,611,000. The four-year average, 1941 to 1944, was \$127,421,000. As in many other industries, the lack of experienced labour and shortage of materials and equipment has slowed down the output of logging operations.

The following list shows the forest products, the values for which the Forestry Department has records: lumber; pulp and paper; shingles; boxes; doors; piles; poles, and mine props; cordwood, fence-posts, and logging; railway ties; laths and other miscellaneous products; logs exported; pulpwood exported; Christmas trees; cascara bark and additional value contributed by the wood-using industry.

In 1944 the Christmas tree industry was valued at \$236,000 and the collection of cascara bark amounted to \$90,000. The bulk of the world's supply of cascara is grown in British Columbia, the balance coming from north-western Washington.

Within recent years, the Provincial Government has recognized that it is of vital importance that forestry and allied industries should be organized on a permanent sound basis under Government auspices in order to maintain a continuous production on a maximum scale. To this end, many permanent Provincial Forests, each of considerable extent, have been created and several reforestation nurseries have been established.

The Provincial Forestry Department has carried out considerable air survey operations and forest survey field activities but these services were suspended for the duration of the war. It has a very efficient organization for the protection of forests against fire and insect damage. It also has the development and care of the Provincial Parks within its jurisdiction and undertakes soil analysis and forestry research.

The Government has considered its forests and their preservation of such importance that a Royal Commission on Forestry was recently appointed and is now in session. Its findings and recommendations will no doubt be such as will assure posterity a continuous "Forestry" future in all its ramifications.

Forestry industries have set aside vast sums to carry out their post-war programmes. It is estimated that, due to the enormous demand for forest products to reconstruct devastated Europe, it will be several years before the full requirements of building material will be available for domestic use. This alone will assure a market for a long time.

It is estimated that 95 percent of the total softwood reserve in the British Empire is located in Canada and British Columbia holds one-third of this. New chemical discoveries which will move softwoods to the category of hardwoods, promises much for this resource alone.

The field of cellulose products for the manufacture of artificial silk and plastics is beyond computation.

Plate Number 15 shows the timbered and agricultural areas of British Columbia.

MINING. (Plate Number 16.) Fur trading was probably the first industry in the province but it was the discovery of placer gold that brought the first influx of pioneers. After the placer diggings were worked out, the search for the "mother lode" led to the discovery of mineral ore bodies of many kinds. Over the years much wealth has been taken from British Columbia mines.

However, the mining industry has been very severely curtailed by the war—lack of manpower and shortage of supplies and materials—but nevertheless the total value of minerals produced in the province in 1944 was \$54,923,802. In 1943 it was \$65,892,395, some \$9,658,000 lower than in 1942. Mining is second in value of production of British Columbia's industries.

On the other hand, war requirements have increased the production of the base metals of which this province is now established as one of the largest producers in Canada. Vast quantities of lead and zinc, together with miscellaneous metals, including gold, silver, antimony, cadmium, bismuth, and more recently tin, a very crucial and valuable element in Canada's war effort, have been mined at Kimberley. Other lead-zinc producing mines are at Zincton, Silverton, Retallack and Field. Britannia Mines on Howe Sound, just 25 miles from Vancouver, one of the largest copper mines in the British Empire, and the Granby Mine at Copper Mountain, are very important producers of copper. Both ship their concentrates to Tacoma smelter, and the metal is sold in the United States.

The urgency of the demands of war has proved that British Columbia can produce many other metals of the so-called "strategic group". Mercury has been produced at Pinchi Lake and Takla Landing. In 1943, the former produced 1,690,240 pounds of mercury, valued at \$4,599,200.

Tungsten, chromium, manganese and molybdenum have been mined in varying quantities at several points in the province. Nickel has been mined at Choate,



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cobalt occurs in the Bridge River area and also, in association with arsenical gold ores, in Hedley district. Fluorspar has been found at Grand Forks and near Kamloops, vanadium on Quadra Island, barium in high quality in East Kootenay and mica, asbestos and quartz crystals in a number of different places.

Iron ore deposits along the lower Coast are now being investigated with the intention of establishing an iron and steel industry in British Columbia. Bituminous coal occurs in large quantities mainly near Nanaimo, Princeton, Fernie and in the Omineca and the Peace River areas. A large deposit of semi-anthracite coal has been awaiting development in Groundhog Mountain in northern British Columbia.

The basic industry in the province most adversely affected by the war is that of gold mining. Gold which was one of the prime factors in the settlement and development of British Columbia has ever been the "backbone" of mining especially during the depression years. For this reason it is known as a "hard times" industry and it has always proved to be a very valuable stabilizer in industry. Since the end of 1941, no less than 18 gold mines have been forced to close down and in 1944 only seven gold mines with mills were operating. Those mines still producing are operating on a very reduced scale, some of them having scarcely enough men to keep open.

The value of gold production in British Columbia (lode and placer) increased year by year until 1940—the peak year—and on account of war conditions it has declined very rapidly as may be noted from the following:

<i>Year</i>	<i>Value of Gold Production</i>
1940	\$23,698,444
1941	23,370,463
1942	18,155,715
1943	9,101,786
1944	7,547,309

The British Columbia and Yukon Chamber of Mines has maintained a highly efficient Mining Bureau in Vancouver for many years. It has been a boon to investors as much valuable information pertaining to all phases of mining is disseminated.

The present conditions obtaining are but temporary and as soon as men and materials are available, there will again be great activity. Mining, especially gold mining, will offer a good opportunity for post-war rehabilitation of large numbers of men.

Placer, the one phase of mining that can be successfully carried out by small companies or individuals, and the factor that brought British Columbia's original settlers, has a large field for prospecting, especially in the vast unexplored regions of the north. Yukon Territory and the Atlin country have yielded fabulous quantities of placer gold and all indications point that, from geological formation and similar conditions of the adjoining country, another "Klondyke" may develop.

It is anticipated that in the post-war years there will be a large demand for copper, lead and zinc for use in the rebuilding of devastated areas in various parts of the world.

White and coloured marble and a good quality of sedimentary rock for grindstones used in the pulp industry and for the commercial trade, are ready for quarrying on the south Coast.

Oil has been prospected for in the Peace River country but no definite reports have been received.

The ubiquitous and ever optimistic prospectors are most essential, for without their unceasing search for earth's hidden treasures, the mining industry would soon lag and become almost non-existent.

From present indications, there will be a great influx of new capital for mining development after the war. Large eastern Canadian and American companies have sent prospectors and engineers into British Columbia to acquire properties for post-war operations. The construction of the Alaska Highway has opened up a vast rich mineral-bearing area that is attracting wide-spread attention as a promising field for prospecting. The Chamber of Mines has conducted annual winter sessions for the training of prospectors, wherein instruction is given by eminent mining authorities in geology, mineralogy, prospecting, preliminary mine development and ore testing in the field.

These and many more unmentioned, are reasons for the belief that mineral production in British Columbia and Yukon will be greatly expanded in the post-war years. A healthy mining industry means new wealth to many outlying communities that depend mainly on mining for their existence and it is the business derived from this development that reflects greatly on the prosperity of the province's main distributing centre, the City of Vancouver.

AGRICULTURE. British Columbia's third industry is Agriculture. It embraces grain, tree and small fruits, vegetable growing, horticultural, dairying, stock and poultry raising, hop-growing, bee-keeping and many other branches.

The total gross value of agricultural production in British Columbia in 1943 was \$86,917,546, 17½ percent greater than in 1942, and it also exceeded that of any previous year.

The production of all fruits in 1943 amounted to 122,100 tons, valued at \$13,148,700.

The following Table indicates the volume and value of the principal fruit crops for 1942 and 1943:

<i>Fruit</i>	<i>1942</i>		<i>1943</i>	
	<i>Volume (tons)</i>	<i>Value</i>	<i>Volume (tons)</i>	<i>Value</i>
Apples.....	121,975	\$7,637,384	93,898	\$7,800,479
Crab-apples.....	3,041	152,326	1,663	113,109
Pears.....	7,979	809,040	7,071	741,621
Plums.....	1,462	121,206	1,285	145,829
Prunes.....	3,014	289,439	4,261	594,464
Peaches.....	9,578	876,286	4,825	680,233
Apricots.....	2,438	226,744	622	101,738
Cherries.....	2,279	525,563	2,613	941,962
Strawberries.....	3,676	693,089	1,746	735,063
Raspberries.....	1,999	441,435	2,619	870,483
Blackberries.....	413	57,955	483	111,471
Loganberries.....	975	154,268	656	153,391
Bush-fruits.....	1,909	205,824	1,079	138,923

The aggregate of all vegetable crops for 1943 was 94,854 tons valued at \$6,385,245, 12½ percent greater in volume and 43 percent greater in value than in 1942. The principal commercial crops were potatoes, beets, cabbages, carrots, corn, turnips, parsnips, spinach, broccoli, asparagus, celery, lettuce, rhubarb, etc.

The total area of the principal field crops in the province in 1943 was estimated at 534,900 acres, a decrease of 10,400 acres under 1942.

The following Table shows the volume and value of the production of grains, fodders and roots for 1942 and 1943:

<i>Product</i>	<i>Volume 1942</i>	<i>Value</i>	<i>Volume 1943</i>	<i>Value</i>
Grains.....	7,743,000 bushels	\$ 4,746,000	6,926,000 bushels	\$ 4,922,000
Fodders.....	820,000 tons	9,452,000	681,000 tons	12,922,000
Field Crops.....		18,244,000		22,256,000

Grains from British Columbia have been awarded first prizes on several occasions at the Chicago Grains Exhibitions in world competition. All but one of the awards were for Peace River grains—the one exception was for grain from Lulu Island.

The totals for dairy products for the years 1942 and 1943 are as follows:

<i>Product</i>	<i>Volume 1942</i>	<i>Value</i>	<i>Volume 1943</i>	<i>Value</i>
Dairy Butter.....	2,557,500 lbs.	\$ 716,100	2,260,000 lbs.	\$ 678,000
Butter—Creamery.....	5,357,027 lbs.	1,896,075	4,874,787 lbs.	1,747,018
Cheese.....	879,787 lbs.	179,730	718,063 lbs.	155,004
Evaporated Milk.....	603,467 cases	2,413,868	549,733 cases	2,308,878
Ice Cream.....	1,412,705 gals.	1,612,348	1,669,659 gals.	1,842,211
Fresh Milk.....	23,525,000 gals.	8,704,250	26,100,000 gals.	9,657,000

It is of interest to note that the University of British Columbia acquired a young milch cow in 1929, which during her lifetime of 18 years produced over 137,000 pounds of milk and over 5,800 pounds of butter-fat—surpassing all known records.

The following indicates the numbers and value of live stock and poultry for 1942 and 1943:

	1942		1943	
	<i>Numbers</i>	<i>Value</i>	<i>Numbers</i>	<i>Value</i>
Horses.....	62,000	\$ 5,022,000	62,170	\$ 6,428,000
Milk Cows.....	92,500	7,215,000	93,700	8,058,000
Other Cattle.....	236,500	12,061,000	282,300	15,203,000
Sheep.....	125,500	1,162,000	132,000	1,475,000
Hogs.....	82,000	1,550,000	89,800	1,439,000
Hens and Chickens.....	2,968,000	2,820,000	3,561,600	4,452,000
Turkeys.....	53,300	165,000	46,300	155,000
Geese.....	7,000	16,000	8,500	24,000
Ducks.....	18,600	19,000	10,300	14,400
Eggs.....	22,376,000 doz.		24,041,000 doz.	

A hen bred at University of British Columbia attained a world's record in 1929-30 with the laying of 351 eggs in one year. This was the highest record at that time but since then hens at Port Kells and Sardis in the Fraser River Valley have bettered the former record, each with 357 eggs. This performance has never been equalled.

The following Table shows the volume of miscellaneous production for 1942 and 1943:

<i>Product</i>	1942		1943	
	<i>Volume</i>	<i>Value</i>	<i>Volume</i>	<i>Value</i>
Honey.....	1,333,600 lbs.	\$280,100	1,275,760 lbs.	\$197,743
Wool.....	507,000 lbs.	130,000	548,000 lbs.	141,000
Hops.....	1,202,700 lbs.	(55½c per lb.)	1,554,800 lbs.	(70c per lb.)
Tobacco.....	373,000 lbs.	(360 acres)	267,100 lbs.	(220 acres)
Seed (Flower, Vegetable and Field Crop).....		\$901,515		\$1,297,965
Flowers and Ornamental Nursery Stock.....		493,468		542,600
Bulbs.....				212,400
Fur-farming.....		294,000		309,000

The British Columbia climate is particularly adaptable to the production of seeds and for bulb culture. Growers on southern Vancouver Island and the Fraser Valley have specialized in these industries. They are produced also in the Okanagan and Kootenay Valleys but in a smaller extent. The culture of nuts is a new but rapidly growing industry. Within a year or two some of the larger plantings will be in production; walnuts; almonds; sweet chestnuts and filberts are the more prominent kinds.

The Provincial Government has done much to assist the agriculturists—farmers, ranchers, dairymen, fruit growers, horticulturists, etc.—through the Department of Agriculture, the University of British Columbia and many other organizations such as control boards, institutes, associations and clubs. A large field staff is so distributed that all parts of the province is served with expert agricultural advice in all its phases.

When one considers the vast acreage that is available for farms of every type and the fact that so much food stuffs are imported, the field of agriculture is indeed bright for the future. There is a definite home market for meats of all kinds, wool, dairy products, etc.

FISHERIES. Fishing is one of British Columbia's oldest industries and it is rated as the province's fourth primary industry. It represents an investment in 1944 of about \$33,550,302, made up of \$19,067,010 in plants and \$14,483,292 in fishing boats and gear. The value of the 1944 production was \$34,900,990 which is approximately half of the total production valuation for all Canadian fisheries.

The industry gives direct employment to over 19,000 persons and indirect employment to a vast number of others in such industries as boat building, ship chandlery, can, canning machinery and box manufacture, printing labels, groceries, cordage, freight movement and other fields.

It is of interest to note that the sea produced British Columbia's first two export commodities. Furs were the first, sea-otter skins being shipped to China in 1785. Salt salmon was the second commodity—the Hudson's Bay Company shipping salt salmon from Fort Langley in 1829, to Hawaiian Islands. In 1863 a saltery was established at Beechy Bay and in the following year another was built on the Fraser River. In 1867 the first salmon was preserved in hermetically sealed cans in New Westminster as a kitchen experiment. The first commercial cannery was established in 1870 at Anniesville below New Westminster. In 1889, the first complete cargo of canned salmon was shipped to Great Britain. In 1898, the first cold storage plant, capacity 350 tons, began operations in New Westminster.

The importance of the fish species are in the following order—salmon (about four principal types), herring, halibut and pilchard. The pests of the fish family, dog-fish and sharks, have recently rated very high in remunerative returns on account of the Vitamin A value in their livers.

The following indicates the comparative volume and value of the salmon catches for 1943 and 1944:

<i>Product</i>	<i>1943</i>		<i>1944</i>	
	<i>Volume</i>	<i>Value</i>	<i>Volume</i>	<i>Value</i>
Salmon	1,214,214 cwt.	\$7,201,486	1,075,719 cwt.	\$7,255,524

Most of the herring are used for canning and salting and the balance—as is also the offal from the other canneries—is converted into oils and meals for cattle and poultry. Not only are the oils valuable for their vitamin content but also as a base for soap, shortening and paint manufacturing.

The pilchard catches are very erratic. They are used almost exclusively for conversion into oil and meal. The industry produced 2,975,880 gallons of herring and pilchard oil and 24,505 tons of meal in 1943.

Halibut, which are caught in the vicinity of Queen Charlotte Islands, are a valuable food fish and their livers have a high vitamin content.

Although there is considerable operation in oysters and other shell-fish, it is small in comparison to the total. It is estimated there are over 30 kinds of fish in which the industry is interested.

Like many other industries, whaling has suffered a severe set-back due to manpower shortage and other wartime factors. In 1943, oil production from the whale catch was 1,300,000 pounds, one million pounds less than in the previous year, and the whale fertilizer production was 85 tons as against 205 tons in the year before.

The Dominion Department of Fisheries which has jurisdiction over fisheries, not only regulates the industry but has done a considerable amount of research work. It is fitting that the National Government has charge of fisheries because especially in connection with salmon and halibut, international problems constantly arise. The Puget Sound salmon pack originates in the Fraser River and consideration must be given to this. As a result of the Hell's Gate disaster of 1913 in the Fraser River, wherein the stream was blocked by railway construction thereby precluding the passage of salmon going up-stream to spawn, the runs practically ceased. The Government made sufficient improvements through the years by partial river clearance and careful regulation of catches, to allow some of the run to get to the spawning grounds thereby preserving the industry in some measure. The International Salmon Commission, recently created, has just completed the partial construction of a fish-way in Hell's Gate, and judging from its successful use by a large number of fish, during the initial run, the rehabilitation of the former healthy fishing industry is confidently expected.

The Fisheries Research Board is continually at work in the interests of building up the volume of fish of all species, in evolving new methods of preserving and marketing and in discovering new uses of its products. With this interest and assistance of the Government, the industry may look forward with confidence to its post-war efforts.

SUMMARY. The diversity of natural resources, most of which have been and are being developed in the southern part of British Columbia, are of great benefit to the City of Vancouver. With the opening of the northern portion, having in mind the contemplated construction of railways and highways to and within this vast area, trade and commerce, both domestic and foreign, should be greatly increased in this city.

While visiting British Columbia, the late Rudyard Kipling expressed himself as follows: "Lumber, coal, minerals, fisheries, fit soil for fruit, dairy, and poultry farms, are all there in a superb climate. The natural beauty of earth and sky match these lavish gifts; to which are added thousands of miles of safe and sheltered waterways for coastal trade; deep harbors that need no dredge; the groundworks of immense and ice-free ports—all the title-deeds to half the trade of Asia."

TRANSPORTATION ROUTES, EXISTING AND POTENTIAL

WATERWAYS. A little over 85 years ago, British Columbia was but partly known to the native Indians and to a few intrepid men of the Hudson's Bay Company. The only means of transportation was by native canoe. There were no roads, only a maze of vast dense forests. A few small clearings, near the trading posts were cultivated by the Company men for their own use.

The initial means of transportation was by water. The "Beaver" built in Great Britain, was the first steamer to ply these Coastal waters and it carried our first great influx of miners. In the late '80's the Canadian Pacific Railway Company commenced its oriental trade, first with chartered and then with its own steamers.

River and lake paddle-wheel steamers played no small part in opening up British Columbia. These steamers are now practically extinct.

RAILWAYS. The Canadian Pacific Railway, the first trans-continental system, was built across British Columbia to the site of the present city of Vancouver, then a primeval forest. The first train arrived here in May, 1887, from Montreal.

In 1905, the Great Northern Railway Company, an American line, extended its line to Vancouver from New Westminster where its terminus had been established for approximately the previous 15 years.

The Canadian Northern Pacific Railway, the second Canadian transcontinental line, and now absorbed in the Canadian National Railways and entering British Columbia via Yellowhead Pass (lowest elevation in the Rockies, 3,200 feet) began operations in 1915.

The Grand Trunk Pacific Railway between Edmonton, Alberta, and Prince Rupert, British Columbia's northern seaport, was completed for traffic in 1914. This line was also merged with the Canadian National Railways.

The Pacific and Great Eastern Railway, conceived by a private company as a link between Vancouver and the Grand Trunk Pacific (now Canadian National) Railway at Prince George, commenced operations north from Squamish on Howe Sound, 38 miles north of Vancouver, in 1922. However, this company defaulted to the Provincial Government and the line was built eventually to Quesnel.

The Canadian Pacific Railway absorbed the Esquimalt and Nanaimo Railway on Vancouver Island running from Victoria to Courtenay. The Canadian National Railways also have a few miles of road in operation out of Victoria.

The Canadian Pacific Railway has a complete trans-provincial line south of its main line, and many connecting branch lines.

The Great Northern Railway also has many feeder lines along the southern boundary. They were constructed to tap the mining centres in the interior of British Columbia.

Throughout the province, a great many logging railroads were constructed. In many cases their roadbeds have been used for highways and in some instances, permanent branch railways. It is of interest to note, that especially during the

earlier years of the war with Japan, abandoned as well as existing logging roads on Vancouver Island and on the Mainland coastal areas assumed considerable importance in the defence of the Country.

HIGHWAYS. It will be realized without any reservation that the construction of highways in such a mountainous country as British Columbia has been a stupendous task. Over the years, a tremendous effort and inventive genius on the part of man, untold sums of money and much patience have been "invested" in roads. It is a far cry from the Fraser Canyon and Cariboo Roads, constructed by the Royal Engineers in the '50's, with their primitive equipment and powder, to the Trans-Canada Highway by expert contractors with the latest road machinery and powerful explosives.

In 1943 this province maintained 21,674 miles of highway of various types. Plates numbers 14, 15 and 16 will show the main trunk roads. The last link in the Trans-Canada Highway was opened, along the Big Bend, in 1942.

The construction of the new Pacific Highway from the Pattullo Bridge to the Peace Arch at Blaine, Washington, filled a long felt want.

The Prince Rupert-Terrace Highway was completed in 1944 and will afford access from the Coast to Central British Columbia to a point east of Prince George.

The Hope-Princeton Road, under contemplation for nearly 70 years, was finally graded late in 1944, and is now receiving further revision for its betterment.

The construction of the Alaska Highway from Dawson Creek, B.C., to Whitehorse, Y.T., as a joint United States and Canadian defence measure, was completed in 1943. When suitably paved it will greatly assist in the opening and development of Northern British Columbia.

In addition to major improvements to existing trunk roads—the Trans-Canada, the Southern Trans-Provincial Highway, the Island Highway and the Cariboo Highway, the most important in contemplation is the New Westminster-Vancouver Express Highway. This highway will be unique in that it will be the first "free-way" in the province.

The Northern Trans-Provincial Highway is yet to be completed between Prince George and Jasper, and also the North Thompson, between Blue River and Tete Jaune Cache.

Other important links are connections from Prince George, north and north-east to the Alaska Highway.

Park highways, to open up the provincial parks, will pay "dividends" from their inception, for without them very few park visitors and tourists can be anticipated. As Garibaldi Park is the closest to the most dense population, it is evident that a road to this area should be among the first of the park highways to be built.

AIRWAYS. The growth and development of our airways in peace and war are phenomenal. The Trans-Canada Air Lines cross the southern portion of the province in non-stop flights between Vancouver and Lethbridge, Alberta. The United Air Lines, from the United States have completed 11 years of operation into

Vancouver. The Canadian Pacific Air Lines connects Vancouver with points on Vancouver Island, in Alaska, Yukon and Northwest Territories. The global route from Edmonton, Alberta, to Alaska and the Orient already pass over Northern British Columbia and it is anticipated that Vancouver will be a base on the British Overseas Airways Corporation in the immediate post-war years.

Many completely equipped airports are located in British Columbia, (Plates Number 14, 15 and 16). Most of these have been constructed as defence measures. In addition, there are a great many emergency landing fields and seaplane anchorages established. Beacon lights and other aids to aviation have also been provided. When the Dominion Government's post-war aviation policy has been formulated, British Columbia should be reasonably well equipped to participate to the fullest extent.

The increased use of trucks, busses and private automobiles have made serious inroads on the earnings of railway and interurban electric lines; and steamboat companies may also be included. Each form of transportation has its field. Certainly the war has demonstrated the absolute necessity of railways. The newer forms of transportation will have to be integrated with the others, rather than to entirely supplant them.

APPENDIX

PLANNING ACCOMPLISHMENTS UNDER THE PLAN

1926 - 1944

Although practically all of the time since the publication of Vancouver's Town Plan in 1930, has been taken up by the greatest and most sustained depression and the most savage and devastating, if not the longest war recorded, it has been very gratifying to the Planning Commission to realize that so many of its recommendations have been so successfully consummated. (Plate Number 17.)

ZONING. Of the several phases of the comprehensive plan, Zoning is probably the most abstract because it envelopes the entire city. Nevertheless, the good order induced by the application of Zoning principles is in evidence almost everywhere. It is especially noticeable in the newer portions of the city where there are no intrusions of non-conforming uses. Dunbar Street, is a notable example. In spite of it being a carline street, the orderly development as a single-family dwelling district from 19th Avenue to King Edward Avenue, thence as a three-storey commercial district to 30th Avenue and again as a single-family district to 39th Avenue, is indeed a satisfactory illustration of the value of Zoning.

The stabilization of property values alone, through the medium of Zoning, has amply repaid its cost.

STREETS. The elimination of the grade crossings from the Canadian Pacific Railway Company's yards over six of Vancouver's busiest streets to the waterfront, and the construction of the tunnel in lieu thereof, has given inestimable relief to traffic.

The construction of the Burrard Bridge has given relief to the overcrowded Granville and Cambie Bridges, thus facilitating traffic movements and averting many accidents.

The construction of the First Avenue Viaduct has not only benefited Grandview and eastern suburbs, but also interurban motorists.

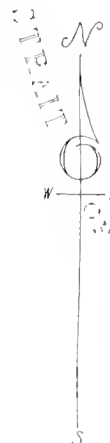
The widening of Kingsway from Knight Street to Boundary Road has been a boon not only to this general section but to all interurban travellers and tourists. One has but to travel the unwidened portion to appreciate the comfort of the new widening. The entire appearance of the highway has been improved.

The Kitsilano Diversion between 10th and 12th Avenues, the Cedar Cottage Diversion on Commercial Drive, and the elimination of the jogs on Oak Street at 16th Avenue and on Commercial Drive at Venables Street are fine examples of what can be done in eliminating hazards and obstacles to traffic on major streets such as the opening of jogs and dead-ends.

ACCOMPLISHMENTS VANCOUVER BRITISH COLUMBIA

VANCOUVER
TOWN PLANNING COMMISSION
1 9 4 4

SCALE IN FEET
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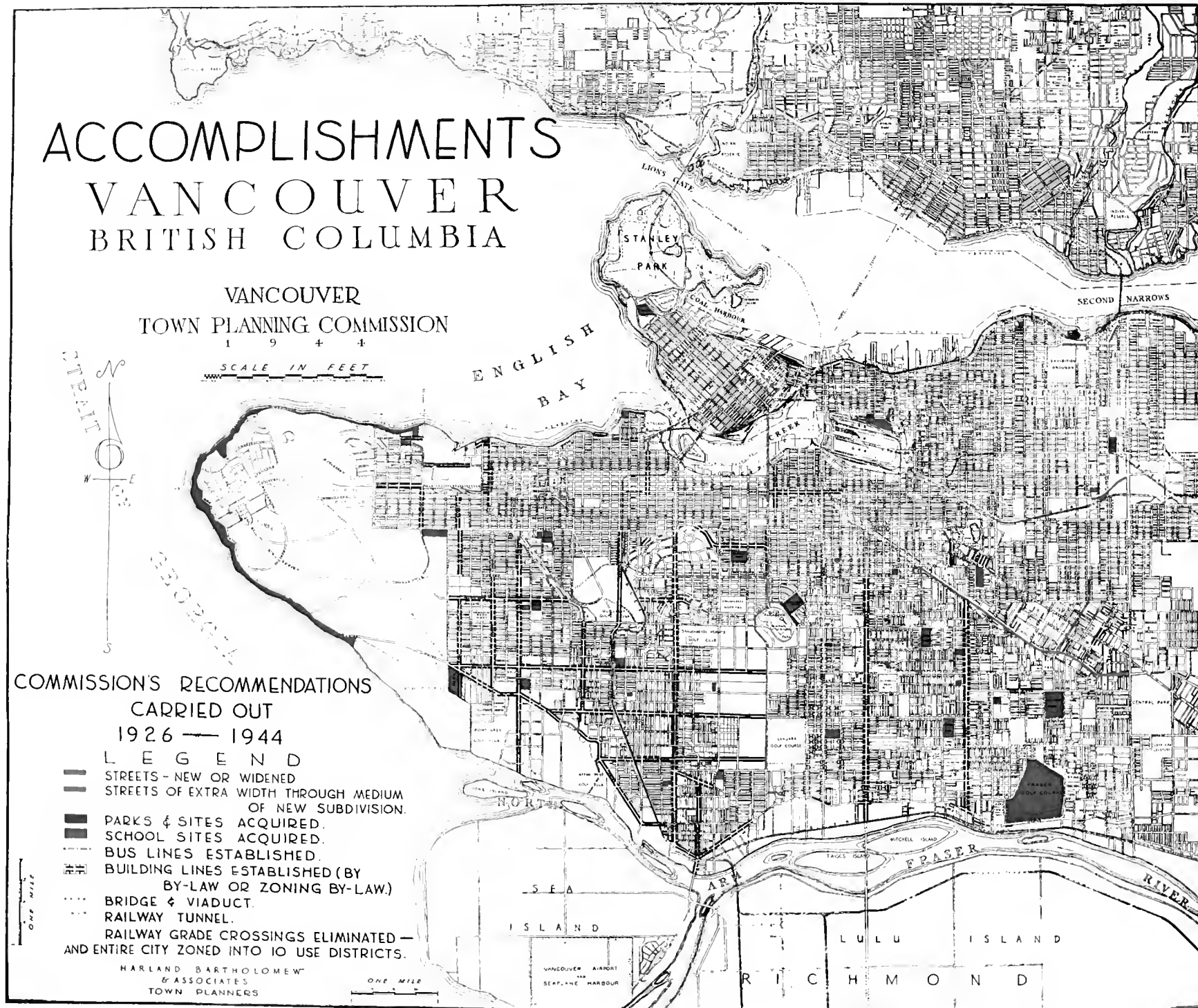
COMMISSION'S RECOMMENDATIONS
CARRIED OUT
1926 — 1944

LEGEND

- STREETS - NEW OR WIDENED
- STREETS OF EXTRA WIDTH THROUGH MEDIUM OF NEW SUBDIVISION.
- PARKS & SITES ACQUIRED.
- SCHOOL SITES ACQUIRED.
- BUS LINES ESTABLISHED.
- BUILDING LINES ESTABLISHED (BY BY-LAW OR ZONING BY-LAW.)
- BRIDGE & VIADUCT.
- RAILWAY TUNNEL.
- RAILWAY GRADE CROSSINGS ELIMINATED — AND ENTIRE CITY ZONED INTO 10 USE DISTRICTS.

HARLAND BARTHOLOMEW
& ASSOCIATES
TOWN PLANNERS

ONE MILE



The portion of the Locarno Diagonal from 2nd Avenue and Imperial Street to Trimble Street near Belmont Drive has been constructed. The right-of-way of the connection to the Loughheed Highway has also been acquired from Broadway to Cassiar Street to Boundary Road at 5th Avenue and the road paved.

A substantial number of building lines have been set on streets recommended for widening in the Commission's Major Street Plan.

Since 1927 vehicular Traffic Counts have been taken every five years in order to ascertain the trend of the traffic volume within the city and at strategic points in surrounding municipalities. These four Counts have been of inestimable value and assistance to the Civic Engineering and Police Departments.

In the matter of Street Widening, the city has retained 7-foot or 17-foot strips (according to the ultimate width of the street) on streets recommended for widening. A substantial amount of widening (property acquisition) has already been accomplished by this method.

PARKS AND PUBLIC AREAS. The acquisition of two complete waterfront blocks and several individual lots, including the Crystal Pool property on Beach Avenue will pave the way for the development of a waterfront park. This led to a wealthy citizen donating two waterfront blocks on the opposite side of False Creek, in Kitsilano.

In acquiring property in the vicinity of the north-east portion of the False Creek Fill for park and other purposes, the city now has most of the right-of-way for the proposed connection between Georgia and Charles Street.

The Commission's recommendation of withdrawal from sale of tax sale properties in a 1,250-acre tract in the south-east portion of the South Vancouver Area, so that it may be more advantageously replotted as a residential subdivision, was confirmed by the City Council. The Fraser View Golf Course, containing 210 acres, was located in this tract and a 100-acre site for a future Old People's Home is tentatively approved for the area.

Collaboration among various civic authorities is in evidence as never before. A striking example of this is noted in the deliberations of the Park and School Boards, as the recommendations contained in the Commission's Public Recreation Report is of concern to both Boards.

RAILWAY YARDS. The Glen Drive railway yards of the National Harbour Board were constructed at the east end of the False Creek fill. These yards were designed to serve the grain trade.

