1952

THE LOWER MAINLAND

looks ahead

THE LOWER MAINLAND REGIONAL PLANNING BOARD OF B.C.

THE LOWER MAINLAND REGIONAL PLANNING BOARD

The Lower Mainland Regional Planning Board of B. C. consists of representatives of the municipalities and unorganized areas of the Lower Fraser Valley. It was established by the Minister of Municipal Affairs under the authority of the Town Planning Act, by which it is charged with the duty of preparing plans for the physical development of the Region. It is financed by its member municipalities and the Government of British Columbia through the Department of Municipal Affairs.

Member Municipalities 1952

Cities:	Chilliwack	Port Coquitlam
	New Westminster	Port Moody
	Vancouver	
Districts:	Burnaby	Maple Ridge
	Chilliwhack	Matsqui
	Coquitlam	Mission
	Delta	Pitt Meadows
	Fraser Mills	Richmond
	Kent	Sumas
	Langley	Surrey
	West Vancouver	
Villages:	Abbotsford	Harrison Hot Springs
	Hope	Mission

1952 Executive

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THE LOWER MAINLAND LOOKS AHEAD

A Report and Outline Plan
for the Development of the Lower
Mainland Region of British Columbia

Revised Edition

The Lower Mainland Regional Planning Board of B. C.

New Westminster, B. C. November, 1952

Price $2

ACKNOWLEDGEMENT

This Report already belongs to the people of the Lower Mainland, probably to a greater extent than they realize. For it contains information and ideas gleaned from all sorts of people on all sorts of occasions, often given so naturally that they did not know that they were contributing anything of value. If a list could be compiled of those who helped it would contain scores of names. There would be business and professional men, government officials, mayors, reeves, councillors, commissioners, clerks, farmers, tradesmen and men and women from many other walks of life.

The Board's staff wish to acknowledge their debt and express their gratitude to all these people.

If special mention is to be made, it must be to those gentlemen who willingly served on advisory committees dealing with the economic prospects of the Region, and to the many government employees whose data and studies, freely given, were absolutely basic to this Report. In particular we thank our collaborators in the Dominion Bureau of Statistics, the Federal Departments of Agriculture, Mines and Technical surveys, National Defence, Public Works and Transport, and the Provincial Departments of Municipal Affairs, Agriculture, Lands and Forests, Public Works and Trade and Industry.

Within the staff, this Report has been a real team product, and I gratefully acknowledge the essential and distinctive contribution of my colleagues Michael Churchill, Alistair Crerar, Rolf Thomassen and Peter Oberlander.

JAMES W. WILSON,
Executive-Director.

REVISED EDITION

It is very gratifying that the demand for this Report has necessitated a second printing, especially since almost all of this demand has come from the people of the Lower Mainland, for whom it was primarily written.

In the few months since this Report was first published a few inaccuracies have become apparent and several developments have taken place which affect the validity of some of the statements originally made. These matters have been corrected or annotated in this edition.

It may be remarked that all the recommendations of this report have already been adopted by the Board, except No's. 1 (e), 2, 3 and 8. No's. 1 (e), 2 and 3 are still under consideration at the time of printing of this revision. No. 8 is being held in abeyance pending investigation of alternative solutions.

J.W.W.
November, 1952.

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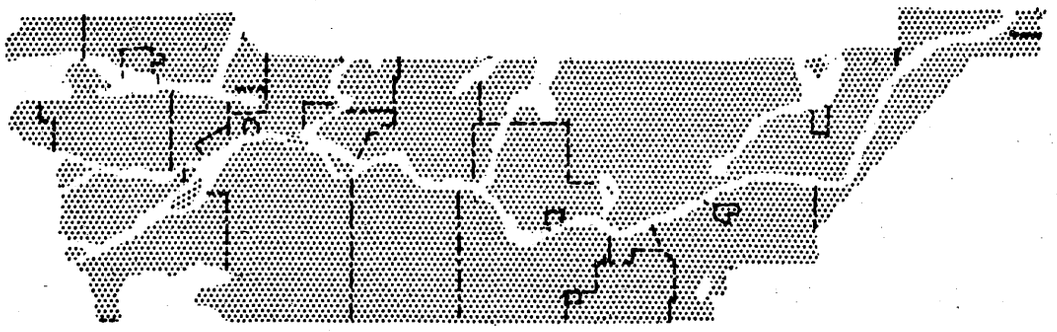
LOWER MAINLAND REGIONAL PLANNING BOARD OF B.C.



26 LORNE STREET
NEW WESTMINSTER, B. C.
TELEPHONE NEW WEST. 3623

January 1952.

To the Municipalities of the
Lower Mainland Regional Planning Board:

This Report, which is the result of more than a year's work by a skilled staff, is possibly the most important document ever produced about the Lower Mainland. It assesses the situation in the Region today, diagnoses its broader problems, and makes tentative recommendations for their solution.

At this stage the Report is only a proposal and cannot commit our member municipalities. It can become a Plan only if the municipalities decide to adopt it, modified if they see fit. It would then be a guide for their future development.

I therefore urge everyone connected with local government, administration and development to give this Report serious thought. All criticisms and suggestions for its improvement will be received gladly and given due consideration.

The important thing is that ultimately A plan should emerge which will be accepted as a guide for the Region as a whole.

D. J. McGugan,
Chairman.

ON LOAN - PLEASE RETURN TO:
Lower Mainland Regional Planning Board
624 Columbia Street
NEW WESTMINSTER, B. C.

SUMMARY OF REPORT

PART I

A great future is expected for the Lower Mainland.

The Region is expected to rely less on lumber and fishing as time goes on, and may eventually be dominated by manufacturing industries and foreign trade activities. Its industrial structure will then be more stable and less seasonal.

The Region has reason to anticipate in about 50 years a population of about 1,500,000 - two and a half times today's total. That is by no means the maximum it may ultimately reach.

About 75 percent of the valley land in the Region is suitable for cultivation, although summer rainfall is not quite adequate for full crop growth in some areas. Only about two thirds of the good available land is yet being cultivated. Uncontrolled residential development is a grave threat to our most productive land.

We may expect more automobiles and therefore more traffic, in proportion to population. One reason for the premature inadequacy of many highways and bridges is that they were not based on long-range planning of communities. Air traffic is growing fast, but the future for air transportation in the Region is rather gloomy, since almost all the best metropolitan airport sites have been built on and convenient alternative sites may be difficult to find.

The Region has ample reserves of water and hydro power resources. Pollution of rivers and beaches is becoming a serious problem.

PART II

Future development should be guided by four principles:

1 We must conserve land suitable for industrial development.

2 We must conserve land suitable for large scale recreational use.

3 We must guide residential growth away from low-lying farm lands into more suitable and less valuable upland areas.

4 For social, economic and military reasons we must limit the size of future cities and develop smaller, dispersed towns by guiding future industries into decentralized areas.

By present standards we appear to have enough industrial sites for the support of 1,500,000 people - if we conserve them for that purpose. But to attract industry we also need safe, efficient highways and attractive communities. The development of industrial estates is recommended as the best way to attract new industries.

Certain natural park areas in the Greater Vancouver area should be developed, such as Burnaby Mountain and Burnaby Lake. Residential development should be discouraged in Richmond and Delta owing to drainage conditions and flood hazards. In other districts development should be guided into upland areas.

A new short route is proposed between Vancouver and the U. S. border, crossing the Fraser at Annacis Island. A new highway is proposed parallel to and north of the Trans-Canada Highway between Whalley and Abbotsford. Consideration of bypasses is urged for several valley towns.

The map "A pattern for Tomorrow" on page 52 shows outline proposals for future developments in the Region.

PART III

The following specific recommendations are made:

1 (a) The program of the Regional Planning Board should be broadened to include direction and assistance of local planning activities.

(b) The Parks Division of the B. C. Forest Service and the Greater Vancouver Metropolitan Parks Planning Committee should be requested to collaborate with the Regional Planning Board in making a survey of the recreational resources of the Region and planning a system of regional and metropolitan parks.

(c) In the development of future water supply schemes all the municipalities should consider enlisting the services of the Greater Vancouver Water Board. The Vancouver and Districts Joint Sewerage and Drainage Act should be amended to extend the scope of the Drainage Board to the whole Region.

(d) The Regional Planning Board should prepare a plan in collaboration with the Department of Transport for the development of a system of airports in the Region.

(e) The municipalities in the Greater Vancouver area should consider setting up the following metropolitan bodies to administer activities which are no longer purely local in scope:

Metropolitan Planning Board
Metropolitan Park Board
Metropolitan Airport Board

2 The City of Vancouver and the other Lower Mainland municipalities, through the Fraser Valley Municipal Association, should have a study made of the need for some form of regional government to supplement municipal government in the Lower Mainland Region. This might be done either by a Royal Commission or by an independent commission engaged directly by the municipalities.

3 The Federal Department of Transport should be requested to study the desirability of consolidating the two existing harbour administrations on the Fraser River.

4 The Departments of Lands and Municipal Affairs should be asked to prepare legislation to give municipalities more complete control over the subdivision of land for presentation to the Legislature of British Columbia in its 1952 session.

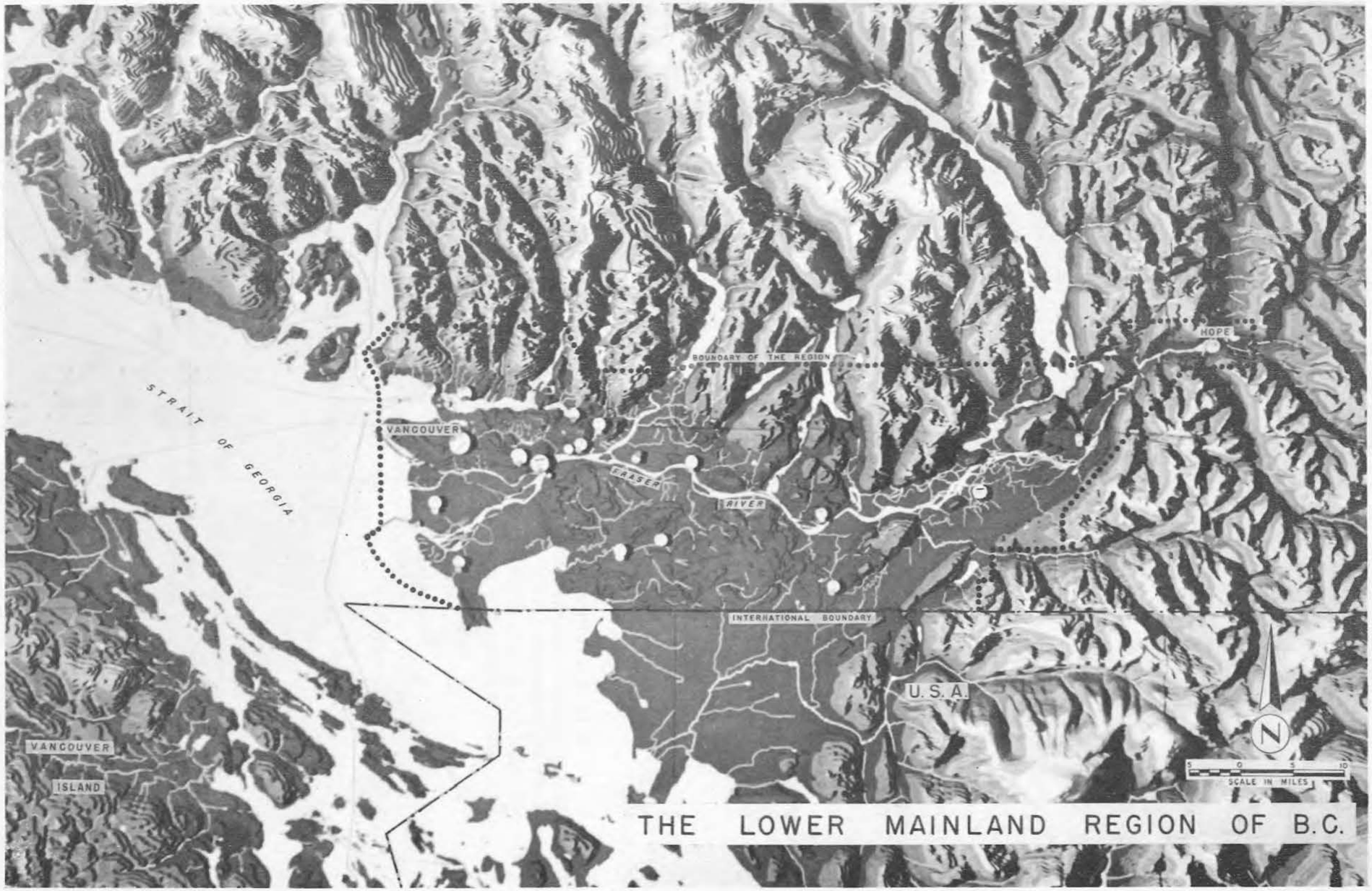
5 The Regional Planning Board should study the problem of rural zoning and bring recommendations to its member municipalities.

6 The B. C. Forest Service, the Federal, Provincial and University of British Columbia Departments of Agriculture, and commercial firms concerned with sustained-yield management of woodlots should be asked to collaborate in a program to promote proper use of land in the Lower Mainland with particular reference to farm woodlots.

7 (a) The B. C. Department of Trade and Industry should be requested to continue its program of economic studies by carrying out a survey of the Lower Mainland Region.

(b) The Federal Department of Transport should be requested to establish a system of meteorological stations in the Lower Mainland Region as a basis for future studies of climate.

8 The Federal Government should be asked to consider promoting full recreational development of Point Roberts by leasing it or by arranging for the establishment of an International Park.



THE LOWER MAINLAND REGION OF B.C.

PART I. THE REGION TODAY

1. THE REGION AND ITS WORLD SETTING

The Lower Mainland Region is in the extreme southwest corner of the mainland of British Columbia. It extends about 25 miles north of and roughly parallel to the United States boundary and runs from the Pacific Ocean at Vancouver about 100 miles inland to the village of Hope at the foot of the Fraser Canyon.

The relief map opposite shows that the Region is almost a natural geographic unit since mountains and the sea bound it on roughly three sides, while the International Boundary, though not a geographic barrier, is nevertheless a very real one. To some extent it is also a natural economic unit, consisting of a large metropolitan area and a rural hinterland which are to a large extent complementary.

Though small in area, economically the Lower Mainland is the most important region in British Columbia, as it contains Vancouver, Canada's greatest western seaport and the manufacturing and commercial centre of the province. It also contains about 60 percent of the total population of British Columbia.

Nevertheless the Region does not exist in isolation. Especially in the economic sphere its life is closely related to other countries and regions, on which it depends for raw materials, manufactured goods, and food and clothing, for which it exchanges its own products.

Before we can profitably study the future of the Region, we must be aware of its relationship to those other countries on which its future largely depends. The most important of these economic relationships are shown on pages 13 and 14.

2. THE REGION AT WORK

OUR BASIC INDUSTRIES

Men live by work, and in order to work they follow economic opportunity. And cities and regions flourish as they develop new products which others will buy. So, in order to forecast the future of our region we must first study its industries.

Industries can be classified roughly in two groups. There are "basic" industries, producing goods or performing services which are bought by other regions or countries, and "service" industries which produce goods and perform services for the benefit of their own regions only. These can be compared to the labours of the husband, who brings home a wage, and of the housewife, who works equally hard at home but earns no actual wage. And just as the household depends primarily on the wage-earner, so the region depends primarily on its basic industries.

In the Lower Mainland today the principal basic industries are:

1 The lumber industry
2 Shipping and transcontinental transportation
3 The fishing industry
4 General manufacturing industries.

Although it is undoubtedly one of our major industries the tourist industry has not been included because its earnings are spread over several "service" industries - principally the retail, catering and hotel industries - and are very difficult to assess separately.

This industrial structure will undoubtedly change in the future. Whereas we used to harvest our forests and fishing grounds and export the products raw, now to an ever-increasing degree we process them ourselves, getting a more complete economic return and supporting more people. It seems likely that within a few decades the relative importance of our basic industries will have changed, probably to the following order:

1 General manufacturing
2 Shipping and transcontinental transportation
3 Lumber
4 Fishing.

The prospects of our basic industries as foreseen by groups of experts are summarized briefly in the following pages. The whole trend is towards a broader and less seasonal economic base.

THE LUMBER INDUSTRY

The employment capacity of the lumber industry in the Lower Mainland is slowly levelling off.

As a result of the great demand for timber the log haul of the industry is still increasing. However, it is not expected to increase much more, and in fact the recent establishment of new plants in more remote timber supply areas may indicate that the limit has almost been reached. The industry will then

settle down to stable operation on a sustained-yield basis.

Within the industry the trend is towards larger firms undertaking a large range of timber use operations. This results in more complete and economic use of timber resources. Nevertheless, although the output of the industry will continue to increase due to more complete utilization of raw materials, many of its operations, such as pulp manufacturing, will become highly mechanized. As a result the labour force employed will not increase at the same rate and is expected to level off.

SHIPPING AND TRANS-CONTINENTAL TRANSPORTATION

It will be realized that forecasting the future of external trade activities is necessarily a hazardous process, depending as it does on world-wide conditions and international agreements.

From the point of view of overseas markets the future is bright, as many countries, especially in the Pacific area, do and probably will for long continue to trade for Canadian products. These countries and the commodities in which they trade are shown on pages

From the point of view of production a great industrial future is seen for both Canada and the Lower Mainland Region. Both have access to vast supplies of raw materials, especially timber and minerals, and have an abundance of hydro power or natural fuels with which to process them. Also the necessary nucleus of industries already exists and trade facilities are well developed.

If these conditions materialize, the Greater Vancouver area, which is Canada's gateway to the Pacific and the Far East, will undergo great expansion as a railway terminal and seaport.

THE FISHING INDUSTRY

Employment in the fishing industry is levelling off.

Halibut and herring are being fished almost to the limit of renewable resources, but an increase can be expected in sockeye salmon as previously depleted spawning beds in the Fraser River are brought back into production. Expansion is also possible in trawl and tuna fishing and in the oyster industry in the Boundary Bay area. In addition, various forms of marine life, such as kelp and plankton which, for physical or economic reasons, are not yet being exploited, may be utilized in the future.

Two other trends are helping to stabilize the industry. One is that many by-products of considerable value are being producted from what was previously considered to be waste, thus providing stable, non-seasonal employment. The other is that the market for fish products in Canada and the United States is growing, so that the industry is becoming less dependent on foreign markets.

The labour requirements of the industry are not expected to increase greatly, but work will become less seasonal, more highly skilled and more remunerative.

GENERAL MANUFACTURING

A great future is seen in the field of general manufacturing.

The recent expansion of pulp production will probably lead to secondary uses of pulp for textiles, and products such as cellophane and quality papers. For the same reason we may expect basic chemical industries to produce items such as chlorine and caustic soda for these new industries. Secondary timber industries can also be expected having greater employment capacity than pulp or primary lumber industries.

Secondary industries are expected to utilize aluminum from the Kitimat smelters now under construction. In addition to light products already manufactured here, such as irrigation pipe, house numbers and parking meter heads, these industries will produce machine frames, bridge members and similar items.

The arrival of oil and natural gas from Alberta or northern British Columbia will probably encourage existing industries to adopt new processes, and new industries can be expected in such fields as ceramics, food processing and the treatment of metals.

Much has been said about the possibility of a large steel-producing plant in this Region. There already is a small steel plant in Vancouver which meets the demand in British Columbia for light steel sections. For heavy sections there is not, and will not be for many years to come, sufficient demand in British Columbia to keep a plant in continuous production, especially since effective competition is offered by large producers in Europe and the United States. The existing plant in Vancouver plans to expand to meet the demand for which it can compete, but until a sufficiently large and stable market builds up there is little prospect of a large steel-producing plant being established unless under government subsidy.

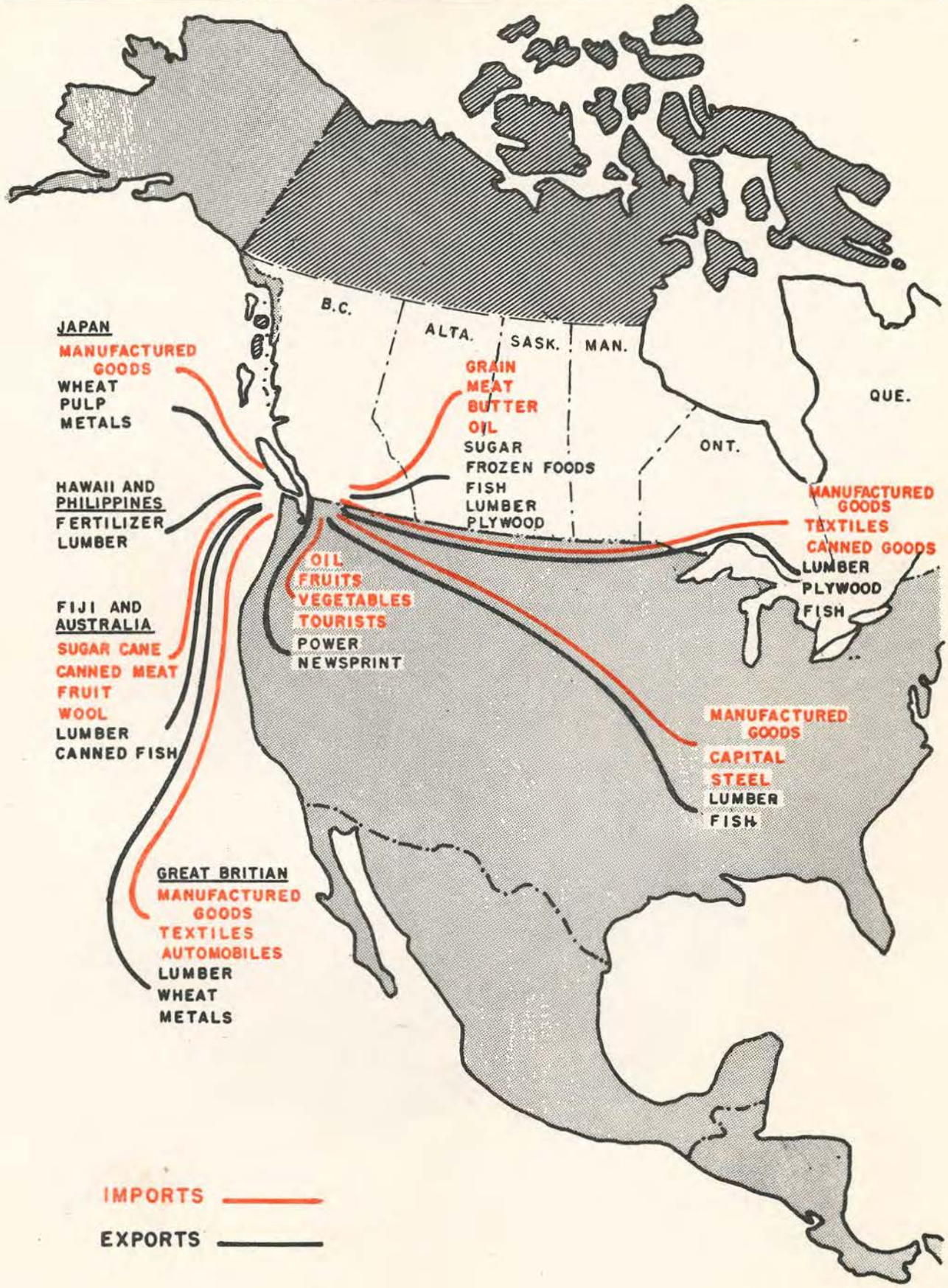
TOURIST INDUSTRY

Since the end of World War II, the number of American tourists entering the Region has been increasing steadily by about 100,000 every three years. And since most of our visitors come from the western parts of the United States, which are developing rapidly, the tourist industry in the Region appears to face a promising future. It must be remembered, however, that the international tourist industry is highly competitive and Canada has to meet strong competition from exotic countries such as Mexico, the Carribean, Hawaii, and Europe.

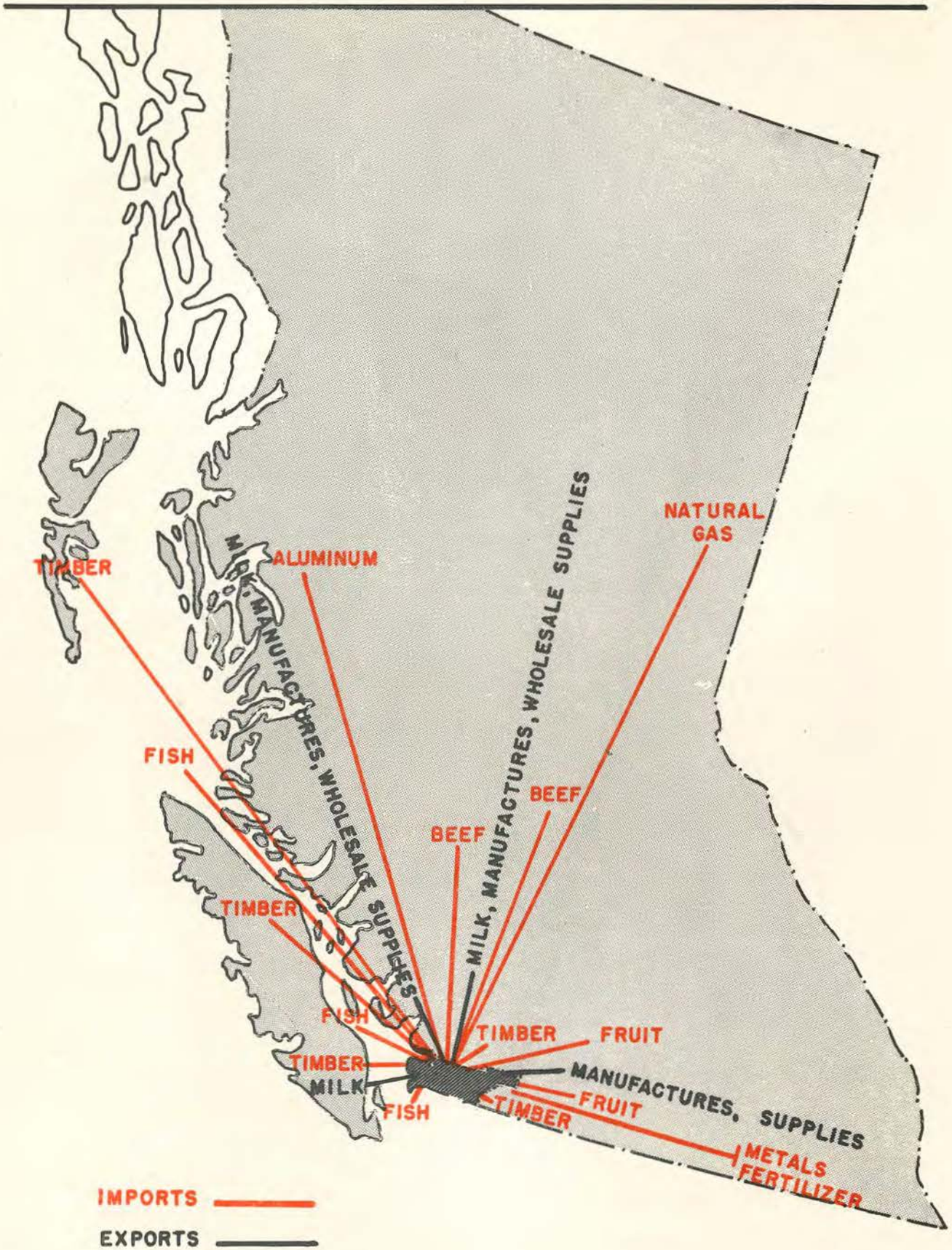
The future of the tourist industry depends not only on the natural attractiveness of the country, but also on the various facilities which make it accessible and enjoyable to the visitor. Since British Columbia is second to none for scenic beauty, the crucial matter is therefore the degree to which we develop our facilities for travel, accommodation and recreation.

At this point it should be noted how many relevant factors are not the direct responsibility of the tourist industry. For example, a survey carried out in 1951 by the Vancouver Tourist Association revealed complaints such as these from visitors:

THE REGION AND WORLD TRADE



THE REGION AND PROVINCIAL TRADE



Poor direction signs on highways;
Too many "slow" and "school" zones on highways;
Traffic lights confused by neon signs;
Smoke and smog in the city;
Littered and polluted beaches.

In other words the whole orbit of municipal management affects the attractiveness of the Region and may determine whether or not our visitors will return.

The future of the tourist industry lies largely in our own hands. The operators of hotels, motels, restaurants, stores and places of recreation and amusement must provide facilities which can compete with those of other tourist areas. But in addition our parks and beaches must be properly developed and protected, and our highways must be made efficient, pleasant and safe.

It is expected that powers will soon be available for the protection of roadsides and that more vigorous development of parks will be undertaken by the provincial government. The tourist industry itself, apart from conducting a widespread publicity campagn, has been responsible for a licensing system by which strict control is maintained over places of accommodation. The industry is obviously alive to the situation and will continue to maintain high standards among its members.

DAIRYING

Dairy farming is expected to hold its own principally because it supplies the home market and is not subject to outside competition as much as other activities. As the population of the Region increases it is likely that supplementary milk-producing regions will develop, such as Pemberton Meadows and Quesnel, in which higher freight charges will be offset by lower land costs. Since much has been said about Pemberton Meadows as an alternative "milk shed" to the Lower Fraser Valley, it is well to remember that the arable area of that district is only about 25 square miles. This is roughly the same area as is now devoted to agriculture on Lulu Island, and could not replace any substantial loss of dairy land in the Region.

But, this is not a simple problem of balancing dairy land area against milk demand. The future of dairying will also depend on the regulation of milk production by the farmers so as to prevent market surpluses which threaten to force producers out of business in "good" years. It must be remembered too that as long as beef prices are high the farmer faces a strong temptation to produce beef rather than milk. In addition, dairying faces more difficulties in respect of labour than perhaps any other agricultural activity because of the long and continuous attendance it entails and the fact that it can be mechanized only up to a certain point.

FRUIT AND VEGETABLES

From the point of view of soil quality and climate the Lower Fraser Valley has distinct advantages for growing fruit and vegetables and, subject to certain qualifications, appears to have a reasonably good future especially in the field of freezing and processing.

Before it can become a large-scale and stable industry, fruit and vegetable growing will have to be organized and consolidated. Many of its present problems are due not only to the large number of small, part-time growers, who are difficult to organize, but also to high land costs caused by the number of small holdings. This multiplicity of small producers results in high transportation costs.

It is important to remember that in canned products labour costs constitute a very high proportion, and the raw food only a small proportion, of the total cost. Processing industries will therefore survive only if wages in the Region can compete with those in other areas, such as Quebec, plus the cost of transportation to the market.

POULTRY

The future of the poultry industry in the Lower Mainland cannot easily be predicted. In recent years the industry has been sustained by the great demand for meat, especially in the United States, and by foreign contracts for eggs. In other words it is greatly affected by foreign markets as well as competition.

The industry as a whole faces a number of problems. For example, its labour problem is similar to that in dairying. Also, since comparatively little capital investment is required it is possible to enter and leave the poultry business fairly easily, and this has resulted in a multiplicity of small, part-time operators as in the case of fruit. The industry is therefore difficult to organize and regulate.

AVAILABILITY OF LAND

Regarding the future of agriculture in the Lower Mainland only one thing is certain. In Chapter 4 it will be seen that only about 50 percent more land is available for agriculture than is being cultivated now. Allowing for a population increase of 150 percent it follows that either the efficiency and productivity of agriculture will have to be increased greatly or we will be forced to import a large proportion of our fresh foods. This long-range view emphasizes the need to protect the land from misuse and from unnecessary encroachment by residential expansion.

REFERENCE: Vancouver Tourist Association, Annual Report, 1951.

3. THE PEOPLE OF THE REGION

POPULATION PROSPECTS

For many years British Columbia, due to its great and undeveloped natural resources, has been Canada's fastest growing province. In the last decade it has grown by over 40 percent, that is, twice as fast as Ontario, the next fastest-growing province. And the Lower Mainland Region, due to its relatively flat and fertile land, its mild climate, and Vancouver's advantages as a deep sea port, has shared fully in this growth.

The nature of the growth of the Region is indicated by the fact that for several decades about three quarters of its population increase has been due to in-migration and only one quarter to births among the established inhabitants. As long as we continue in this adolescent stage of growth it will not be possible to predict our population very far ahead with any accuracy. However, the economic prospects of the Region are very bright. It seems entirely probable that perhaps within fifty years there will be one and a half million people in the Lower Mainland, that is, two and a half times as many as there are today. The Report is based on this assumption.

We do not need to know this figure accurately, or when it will materialize. Our task is only to consider how the development of the Region can best be guided so that this number of people may live fully and move easily and safely, at the same time using their limited land resources most wisely and economically. It should be emphasized that this is not considered to be the ultimate population of the Region, which may some day be far greater than one and a half millions. But there would be little point in looking beyond this figure for the present.

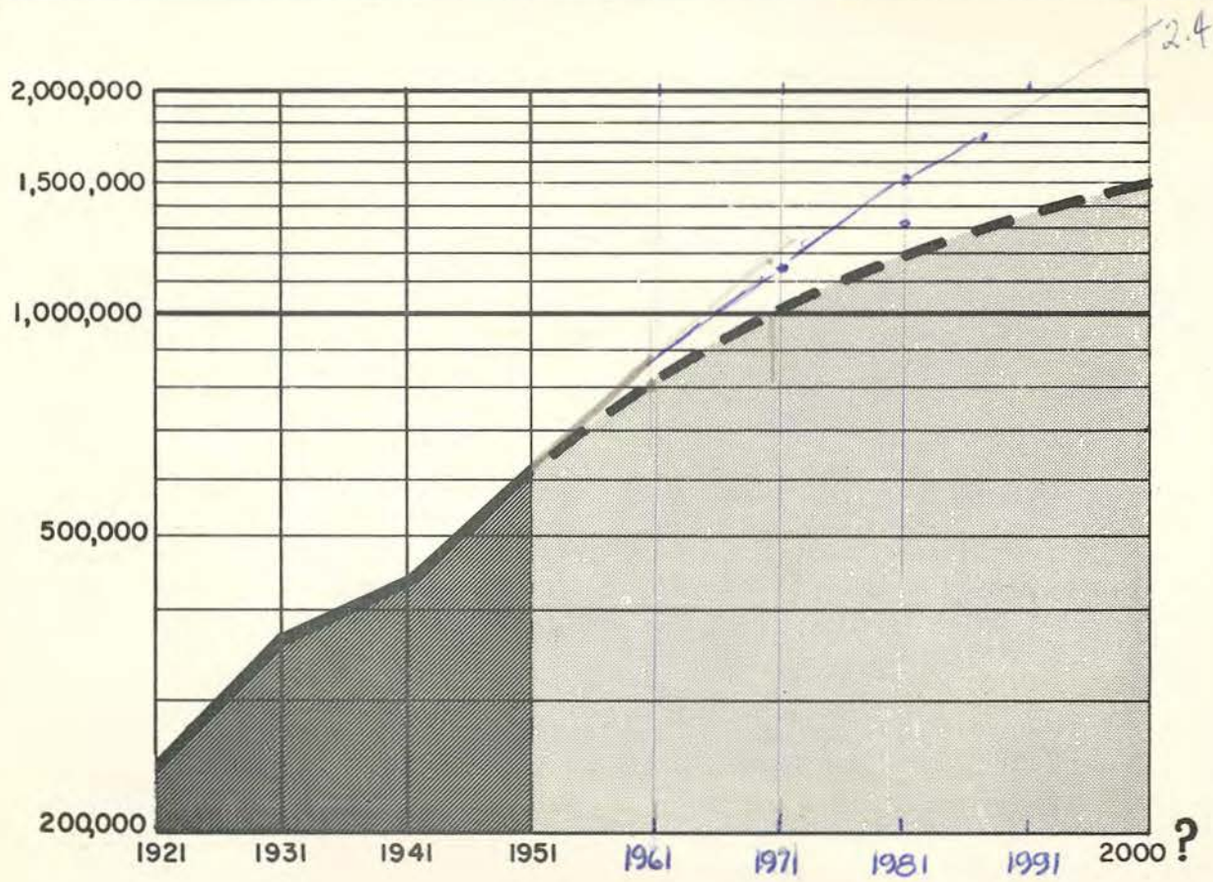
POPULATION SUB-REGIONS

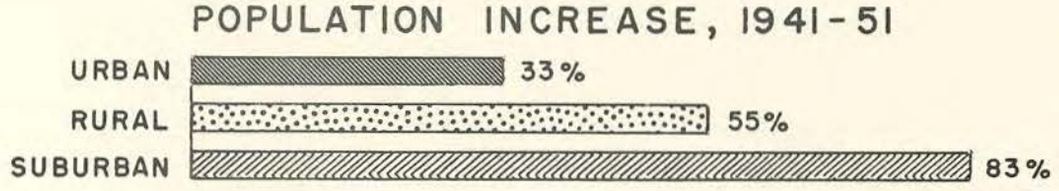
From the point of view of population, the region can be divided naturally into three sub-regions - the urban, suburban and rural areas. The urban area consists of Vancouver, Burnaby and New Westminster; the suburban ring of Richmond, Surrey, the Port Moody-Coquitlam area, and the North Shore municipalities; and the rural area of the remaining municipalities, villages and unincorporated areas to the east. The three areas differ in respect of rate of growth, birth rate, and sex ratio, or ratio of men to women. These are shown graphically on page 18.

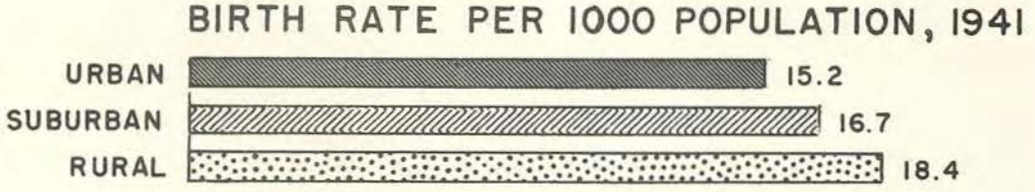
The growth rates show that the population of the suburban area is growing very fast and that of the urban area relatively slowly, while the rural population is increasing at an intermediate rate. Comparison of the birth rates indicates, among other things, a higher school taxation burden in the rural and suburban areas than in the urban area. Comparison of the sex ratios indicates a relatively greater supply of male labour in the rural and suburban areas, and of female labour in the urban area.

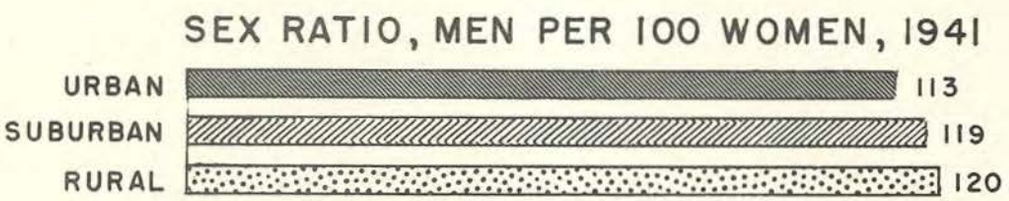
It will be realized that in a developing region, as long as land is available there will always be three such sub-regions, but their extent will change. Tomorrow's urban areas will extend into today's suburbs, and tomorrow's suburbs into today's rural areas. And as areas become built-up their growth rates usually slow down, their birth rates drop and the ratio of men to women decreases.

THE POPULATION OF THE REGION









SOURCE: CANADA CENSUS

One notable fact about the population of the Region is that for several decades the rural population has kept pace with urban and suburban growth, constituting about one tenth of the total population. This relationship seems likely to continue as long as there is land available for agriculture, and as long as agriculture is economically profitable. Some idea of the distribution of people in the Region can be gained from the map at page 30, which shows the location of cities and other communities.

4. THE LAND AND ITS RESOURCES

CLIMATE

In the Lower Mainland we like to boast about our mild climate. Just how good is our climate? The diagram on page 20 shows this in a very comprehensive way. It shows average temperature and rainfall for each month for two different areas, thus enabling us to compare their climates. But it also shows how "liveable" these climates are by ordinary standards.

In the Steveston area the climate can be classed as temperate almost all year, while in Chilliwack it is also generally temperate but rather wet in winter. Climate in the Region as a whole varies roughly between these two extremes. If our climate is compared with that of other areas it is found that on the whole it is more liveable than any other in Canada, with the exception of the climate of Victoria.

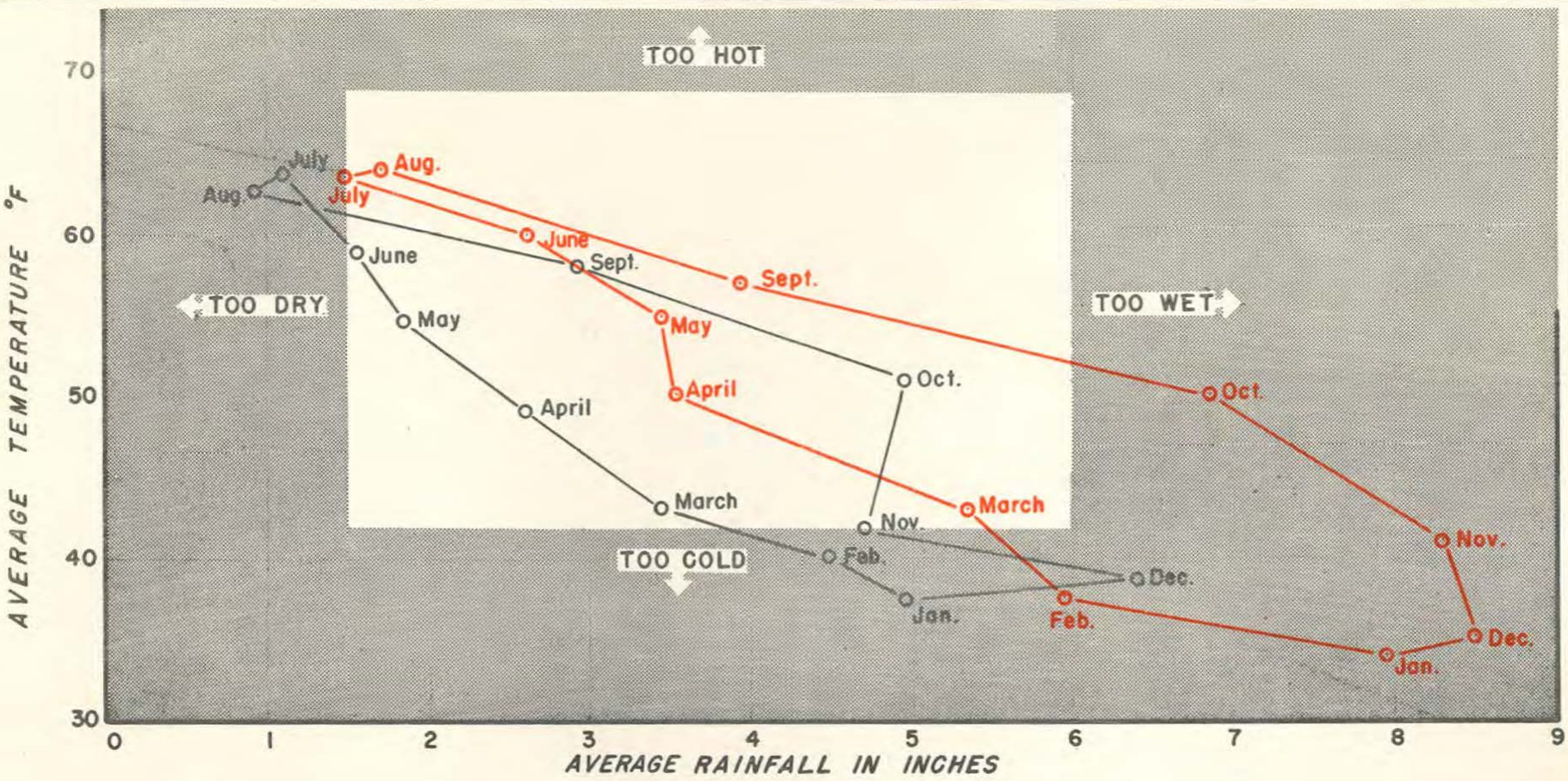
The incidence of frost is due to local topographic conditions rather than to distance from the sea. In particular upland areas and slopes have as many as 35 days fewer of frost than low-lying areas. Thus the frost-free period is about 185 days at Ladner and Chilliwack and about 220 days at New Westminster and Hope airport.

Fog occurs fairly frequently during the winter, especially in October. It settles in the low-lying areas and is seldom found higher than about 160 feet above sea level.

The factor which varies most is rainfall, which depends largely on distance from the mountains. Most of the rainbearing winds come from the southwest and are forced upwards as they approach the mountains, causing rain. The resulting rainfall variation from Steveston to Capilano, North Vancouver, is shown on page 21. A roughly similar gradient prevails from west to east, Ladner having 36 inches of rainfall, Chilliwack 59 inches and Agassiz 63 inches.

Knowledge of these climatic factors is important not only in agricultural development but in planning sites for other purposes. For example, airports should be located in fog-free areas, and both residences and main highways are better kept away from low-lying areas troubled by both fog and frost. Much more detailed information is required about local climate in the Region.

HOW GOOD IS OUR CLIMATE ?



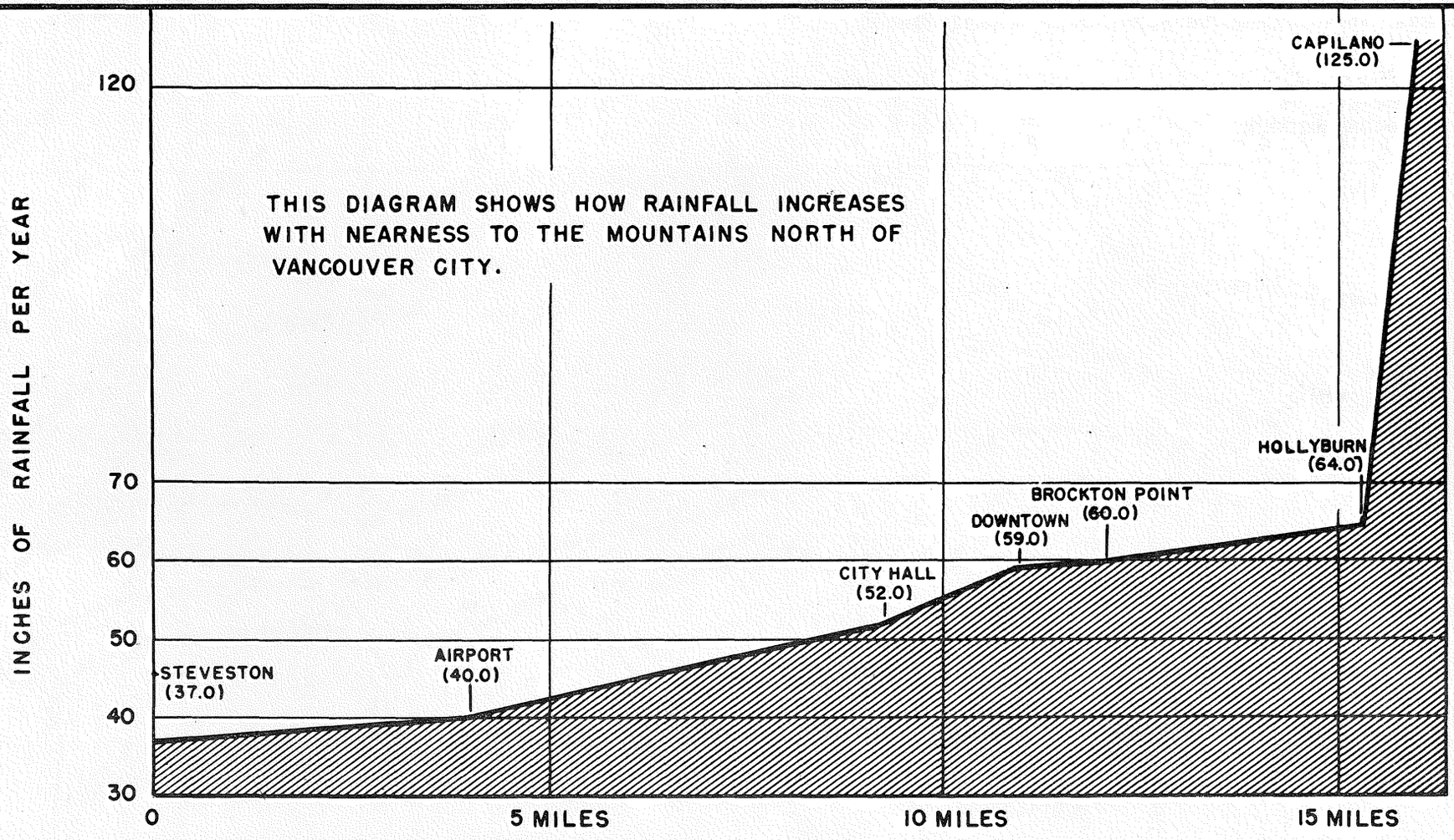
WHEN RAINFALL-TEMPERATURE VALUES LIE WITHIN THE OUTLINED ZONE, THE CLIMATE IS GENERALLY CONSIDERED TO BE PLEASANT.

The Black line is typical of Richmond, Delta and Surrey.

The **Red line** is typical of the Burrard Peninsula, the north bank of the Fraser River and the eastern Valley.

SOURCE: GRIFFITH TAYLOR

RAINFALL VARIATION ACROSS GREATER VANCOUVER

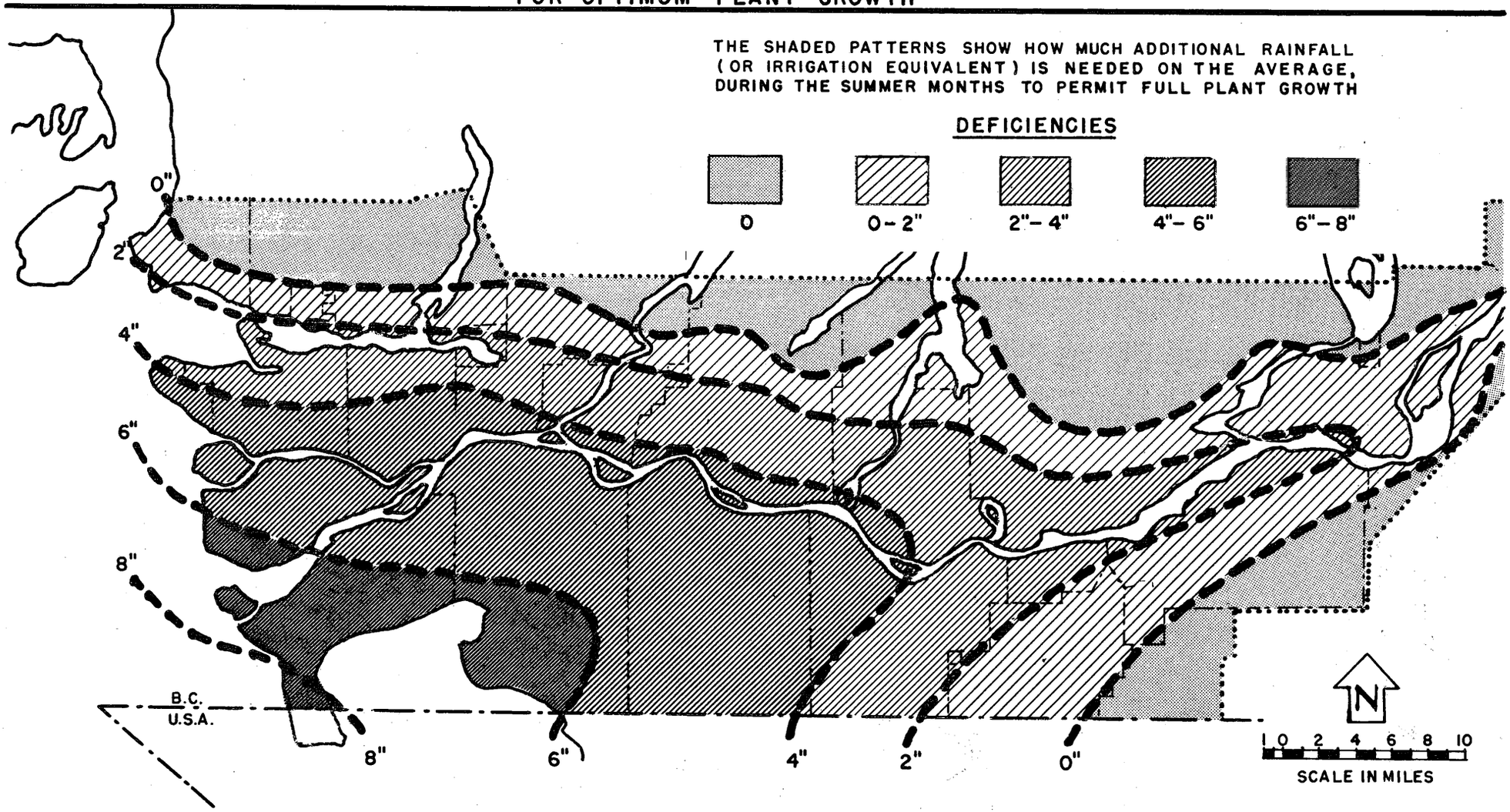


SOURCE: CLIMATE OF BRITISH COLUMBIA (B.C. GOVT.)

THE LOWER MAINLAND REGIONAL PLANNING BOARD

AVERAGE ANNUAL RAINFALL DEFICIENCY

FOR OPTIMUM PLANT GROWTH



SOURCE: CLIMATE OF SOUTHERN BRITISH COLUMBIA (KERR)

THE LOWER MAINLAND REGIONAL PLANNING BOARD

RAINFALL AND PLANT GROWTH

Although the total annual rainfall at most points in the Region is ample for most purposes, only one-quarter of it falls during the spring and summer months. In other words, rainfall during the growing season is generally not sufficient to produce full growth in crops. The distribution of this "water deficiency" is illustrated at page 22, which shows which areas would benefit most from irrigation, provided that soil quality and moisture-holding ability were favourable.

MINERALS

The Lower Fraser Valley is part of a river delta flanked north and south by mountains. There are no metal ores of consequences but granite is quarried in the Pitt River area. On the other hand there is a fairly wide range of sedimentary deposits, which are not of great value in themselves but provide raw materials for several important manufacturing and construction industries. The most valuable of these are gravel and sand for construction work, refractory clays for brick and tiles, limestone for agricultural lime and possibly for cement manufacture, moulding sands and peat. There are considerable reserves of some of these minerals, but it is unlikely that the more valuable minerals such as coal, iron or oil are present in economic quantities.

SOIL QUALITIES

From the viewpoint of potential agricultural value, the soils in the Region can be divided into three broad classes. Within these classes, which are shown on the map at page 24, there are, of course, many local variations.

The first class consists of the alluvial soils, which are almost all found below the 25 foot level and were subject to periodic flooding prior to the construction of the present system of dykes. They almost all require draining, but the cost of this work is fully justified by the fertility it produces. These soils withstand the dry summers better than the others since the water table is high and the soils, which are heavy and fine-textured, release water slowly to the plant roots. They can grow almost any crop but are rather cold and slow for early crops, and are not very suitable for small fruits unless very well drained.

The second class consists of the better upland soils, namely those in which too rapid drainage is prevented by the presence near the surface of layers of impervious soil, or by the heavy nature of the top soil itself. These soils will support good crops but tend to dry up in summer, and for this reason they are suitable for crops which mature before the dry summer spell. It is in these soils which are on high, rolling ground and have fairly steep streams that erosion is potentially a serious problem. Many of these areas, which were logged off about the beginning of the century, are now covered with dense second growth which is difficult to clear. This accounts for the large upland areas which are still undeveloped.

The third class consists of two types, sandy or gravelly upland soils

with very quick drainage, and lowland peat soils. The upland soils drain too fast to retain enough moisture for crops, but with irrigation could be made suitable for market gardening. They are also suitable for poultry raising. The peats make excellent agricultural soils, but only after careful drainage, compaction and liming. These are costly operations and are generally only justified in the shallower peat bogs.

The value of the soils map is to indicate those areas which should be reserved for agriculture on account of their fertility, and those which would be most suitable for urban development due to good drainage and relatively poor soil. Comparison with the map at page 30 will show that urban growth has already started in good agricultural lands, especially in Richmond and Chilliwack.

REFERENCES: D. Kerr, "The Climate of Southern B. C.", University of Toronto, 1950.

C. C. Kelley & R. H. Spilsbury, "Soil Survey of the Lower Fraser Valley", B. C. Dept. of Agriculture, 1939.

5. HOW WE USE THE LAND

RESTRICTIONS ON LAND

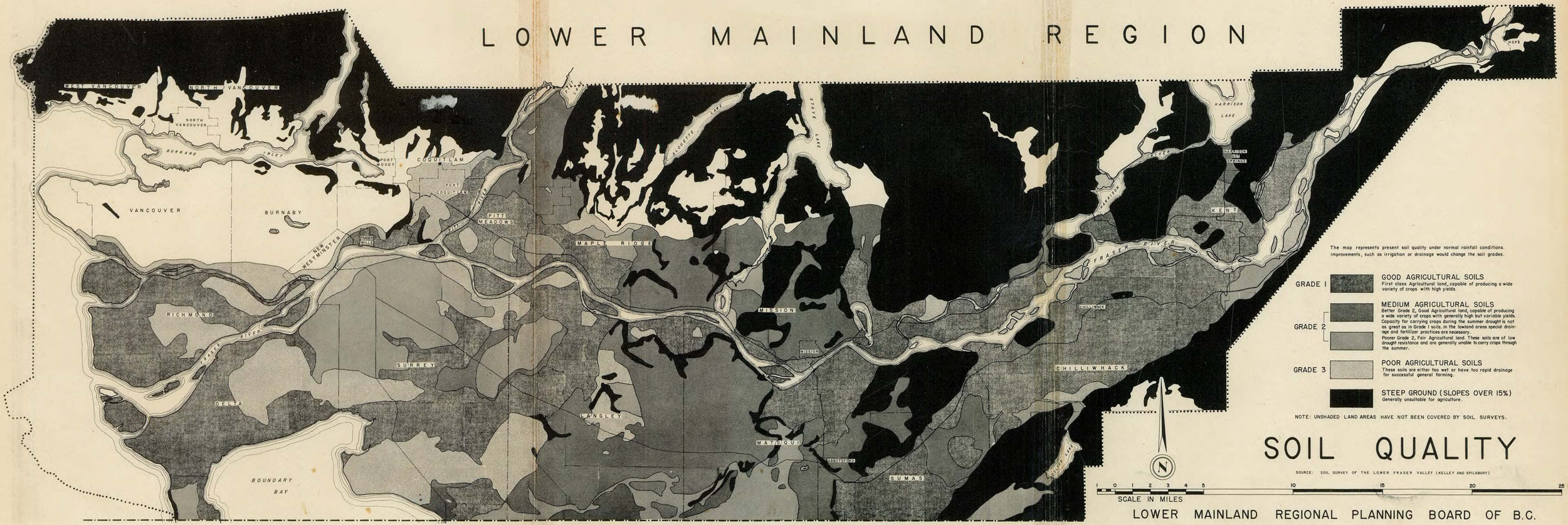
It will be noticed from the map at page 40 that the use of much of the land in the Region is restricted in some way. However, the commonest of these restrictions apply in the form of watersheds, parks and provincial forests to areas which are not suitable for industry, residences or agriculture. In the valley floor the most important restriction consists of many Indian Reserves totalling 36 square miles, of which 18 square miles are in first grade land. There is a considerable concentration of these reserves in Chilliwhack and Kent.

It is interesting to relate this map to the diagram of government at page 37. This will give some idea of the many jurisdictions which govern our use of land.

HOW WE USE THE LAND

The land area of the Region is roughly 1500 square miles, of which about 500 square miles are mountainous. In general, we are concerned only with the usable land in the floor of the valley. The extent to which we use this land is shown on the map facing page 30 and is summarized on pages 26 and 27. The highlights of this analysis are as follows:

LOWER MAINLAND REGION



The map represents present soil quality under normal rainfall conditions. Improvements, such as irrigation or drainage would change the soil grades.

GRADE 1 — **GOOD AGRICULTURAL SOILS**
First class Agricultural land, capable of producing a wide variety of crops with high yields.

GRADE 2 — **MEDIUM AGRICULTURAL SOILS**
Better Grade 2, Good Agricultural land, capable of producing a wide variety of crops with generally high but variable yields. Capacity for carrying crops during the summer drought is not as great as in Grade 1 soils. In the lowland areas special drainage and fertilizer practices are necessary.
Poorer Grade 2, Fair Agricultural land. These soils are of low drought resistance and are generally unable to carry crops through the summer.

GRADE 3 — **POOR AGRICULTURAL SOILS**
These soils are either too wet or have too rapid drainage for successful general farming.

STEEP GROUND (SLOPES OVER 15%)
Generally unsuitable for agriculture.

NOTE: UNSHADED LAND AREAS HAVE NOT BEEN COVERED BY SOIL SURVEYS.

SOIL QUALITY

SOURCE: SOIL SURVEY OF THE LOWER FRASER VALLEY (KELLEY AND SPILSBURY)

N

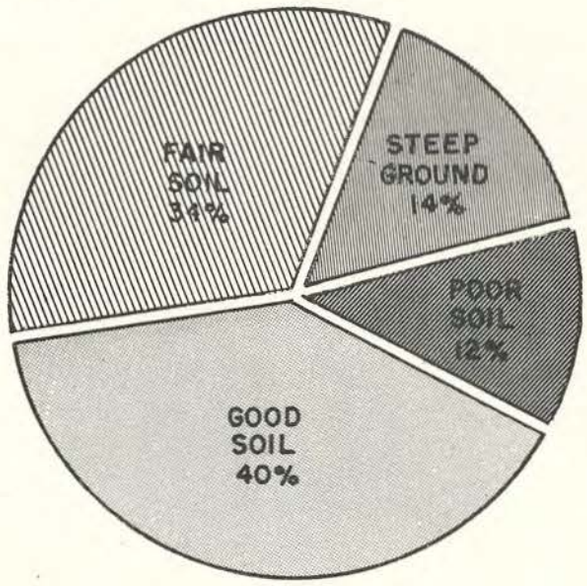
1 0 1 2 3 4 5 10 15 20 25
SCALE IN MILES

LOWER MAINLAND REGIONAL PLANNING BOARD OF B.C.

THE LAND OF THE REGION

WHAT WE INHERITED

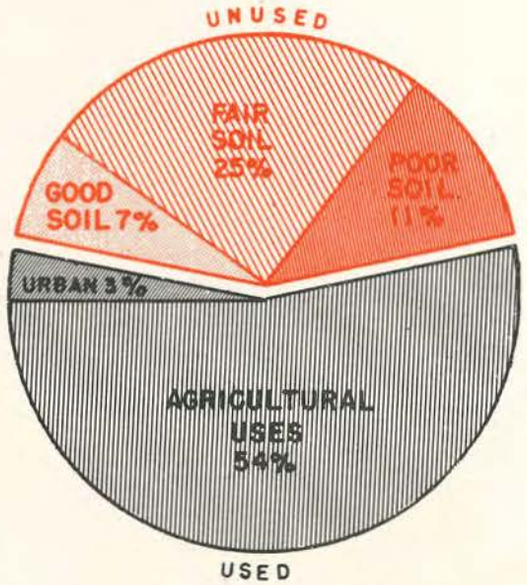
From Kelley & Spillsbury Soil Survey 1939



TOTAL VALLEY LAND, 825 SQUARE MILES
(EXCLUDING FRINGE MOUNTAINS, BURRARD PENINSULA, THE NORTH SHORE AND INDIAN RESERVES.)

803 total from p 27

HOW WE USE IT



57% x 700 = 400 sq mi

TOTAL ARABLE LAND, 700 SQUARE MILES
(EXCLUDING LAND OVER 15% SLOPE)

1/2 for L. 600 in Valley

790

655 Valley Floor - Artwork by Judy

SELECTED LAND USE IN MUNICIPALITIES

areas in square miles

MUNICIPALITY	SOIL GRADE†				TOTAL
	good	medium	poor	steep	
Port Coquitlam:					
total area	4.2	-	6.2	-	10.4
area used	3.4	-	1.6	-	5.0
area unused	0.8	-	4.6	-	5.4
*Chilliwhack:					
total area	64.6+	2.8	2.6	28.1	~~102.9~~ 98.1
area used	54.1	0.8	1.2	1.8	57.9
area unused	10.5	2.0	1.4	26.3	40.2
*Coquitlam:					
total area	4.4	-	5.6	-	10.0
area used	1.6	-	1.0	-	2.6
area unused	2.8	-	4.6	-	7.4
Delta:					
total area	42.3	8.5	15.7	-	66.5
area used	39.2	2.3	3.6	-	45.1
area unused	3.1	6.2	12.1	-	21.4
*Kent:					
total area	14.9¶	1.3	-	9.2	25.4
area used	12.2	0.3	-	0.2	12.7
area unused	2.7	1.0	-	9.0	12.7
Langley:					
total area	27.9	70.8	17.1	4.2	120.0
area used	18.8	26.5	6.4	1.5	53.2
area unused	9.1	44.3	10.7	2.7	66.8
*Maple Ridge:	9.8				41.9
total area	~~10.8~~	27.2	2.0	2.9	~~42.9~~
area used	5.7	8.4	0.3	-	14.4
area unused	4.1	18.8	1.7	2.9	27.5
Matsqui:					
total area	19.8	57.9	-	8.0	85.7
area used	17.9	22.5	-	0.8	41.2
area unused	1.9	35.4	-	7.2	44.5
*Mission District:					
total area	3.2	28.2	0.7	18.8	50.9
area used	1.2	4.4	-	0.4	6.0
area unused	2.0	23.8	0.7	18.4	~~45.9~~ 44.9
Pitt Meadows:					
total area	11.4	7.0	1.3	0.2	19.9
area used	9.8	2.0	0.1	-	11.9
area unused	1.6	5.0	1.2	0.2	8.0

LAND USE IN MUNICIPALITIES

areas in square miles

MUNICIPALITY	SOIL GRADE†				TOTAL
	good	medium	poor	steep	
Richmond:					
total area	34.5	-	11.5	-	46.0
area used	32.9	-	2.1	-	35.0
area unused	1.6	-	9.4	-	11.0
*Sumas:					
total area	25.5	15.7	-	9.0	50.2
area used	24.4	12.1	-	3.0	39.5
area unused	1.1	3.6	-	6.0	10.7
Surrey:					
total area	37.2	47.2	37.6	-	122.0
area used	28.5	18.2	9.0	-	55.7
area unused	8.7	29.0	28.6	-	66.3
Unorganized areas:					
Dewdney-Nicomen:					
total area	20.2‡	7.2	4.0	12.7	44.1
area used	17.2	0.6	0.2	0.1	18.1
area unused	3.0	6.6	3.8	12.5	27.9
Barnston Island:					
total area	2.3	-	-	-	2.3
area used	2.3	-	-	-	2.3
area unused	-	-	-	-	-
North Pitt Meadows:					
total area	-	9.9	-	-	9.9
area used	-	0.4	-	-	0.4
area unused	-	9.5	-	-	9.5

† See Soil Quality Map for description of grades.

* Municipalities not completely covered by the soil survey. Areas shown do not equal total area of municipality.

\+ 4.8 sq. miles in Indian reserves not included.
¶ 7.6 sq. miles in Indian reserves not included.
‡ 2.6 sq. miles in Indian reserves not included.

We use about 85 percent of our first grade soils. The remainder lies mostly in small woodlots or in awkward corners difficult to drain or cultivate. This is a high degree of utilization and reflects the fertility of the soil and the ease with which it can be cleared.

We use only about 40 percent of our second grade soils. Cultivation of these soils has been hindered by their heavy tree cover, and this has resulted in farmers clearing the land adjacent to the roads, which are usually one mile apart in rural areas, and leaving large undeveloped areas in between. It is believed, however, that most of this land is already privately owned and that clearing is proceeding slowly.

We use only about 25 percent of our third grade soils, which reflects the relative unsuitability of these soils for agricultural purposes.

In summary, excluding all third grade land and land already in use there are still some 250 square miles of unused arable land in the valley. If all of this were put to use our agricultural acreage would be increased by over 60 percent. However, considerable areas, especially in the uplands, should probably be left in forest cover to prevent erosion and flash floods.

The amounts of land used in the individual municipalities are shown on the two preceding pages.

THE LAND AND OUR COMMUNITIES

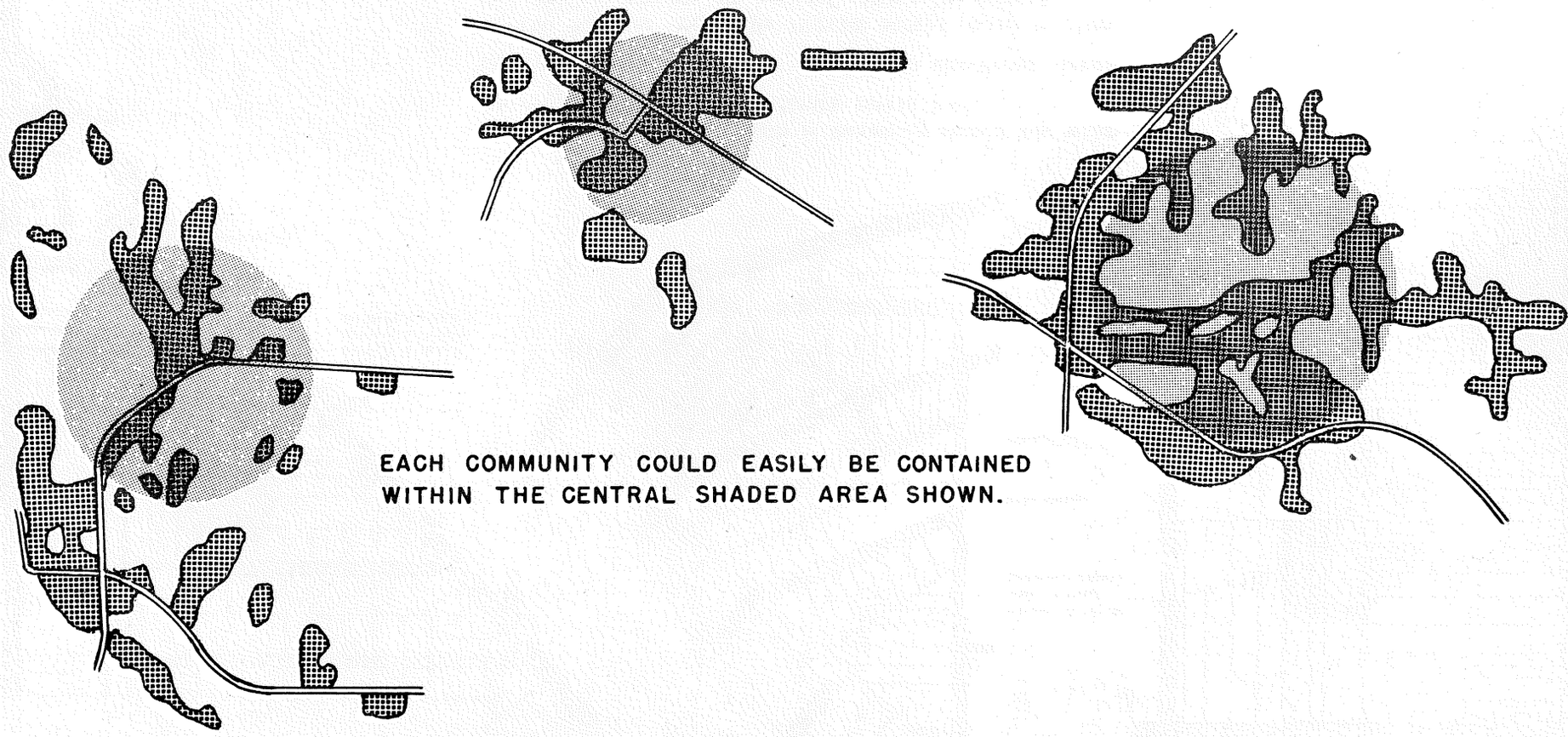
Apart from agriculture, our communities themselves constitute the greatest use of land, namely about 93 square miles or 9 percent of the total usable area of the region. And residences alone account for about 73 percent of that area or 7 percent of the total usable land area. These figures are relatively small and may seem unimportant against the total area of land available, but they do not tell the whole story.

It has already been pointed out that some communities are located on our most productive soil. It will be noticed also that many of our urban areas are scattered and spread out, frequently along main highways. Some very bad examples of haphazard growth and its social consequences are shown on page 29.

But its most important effect is that it often sterilizes land best suited to big and essential community needs, for example, industry, airports and parks. (Its effect on airport development, which is discussed in the next chapter, is a shocking case in point.) It clutters up main roads, making them unsafe and inefficient. And it produces communities which are socially and economically unsatisfactory. Haphazard residential growth constitutes a great threat to our future, but it can be controlled by intelligent planning, firm zoning and control of building along main highways.

Uncontrolled subdivision is also very wasteful of land on a smaller scale besides having a number of other unfortunate results. Several bad cases in the Region and their effects are shown on page 30. Although these are unusually bad examples, they do point to the need for firmer control of the subdivision of land.

COMMUNITIES RUN RIOT



EACH COMMUNITY COULD EASILY BE CONTAINED WITHIN THE CENTRAL SHADED AREA SHOWN.

Scattered communities mean that children have farther to walk to school and housewives to stores. They also mean longer roads, water mains and drains and thus higher taxes.

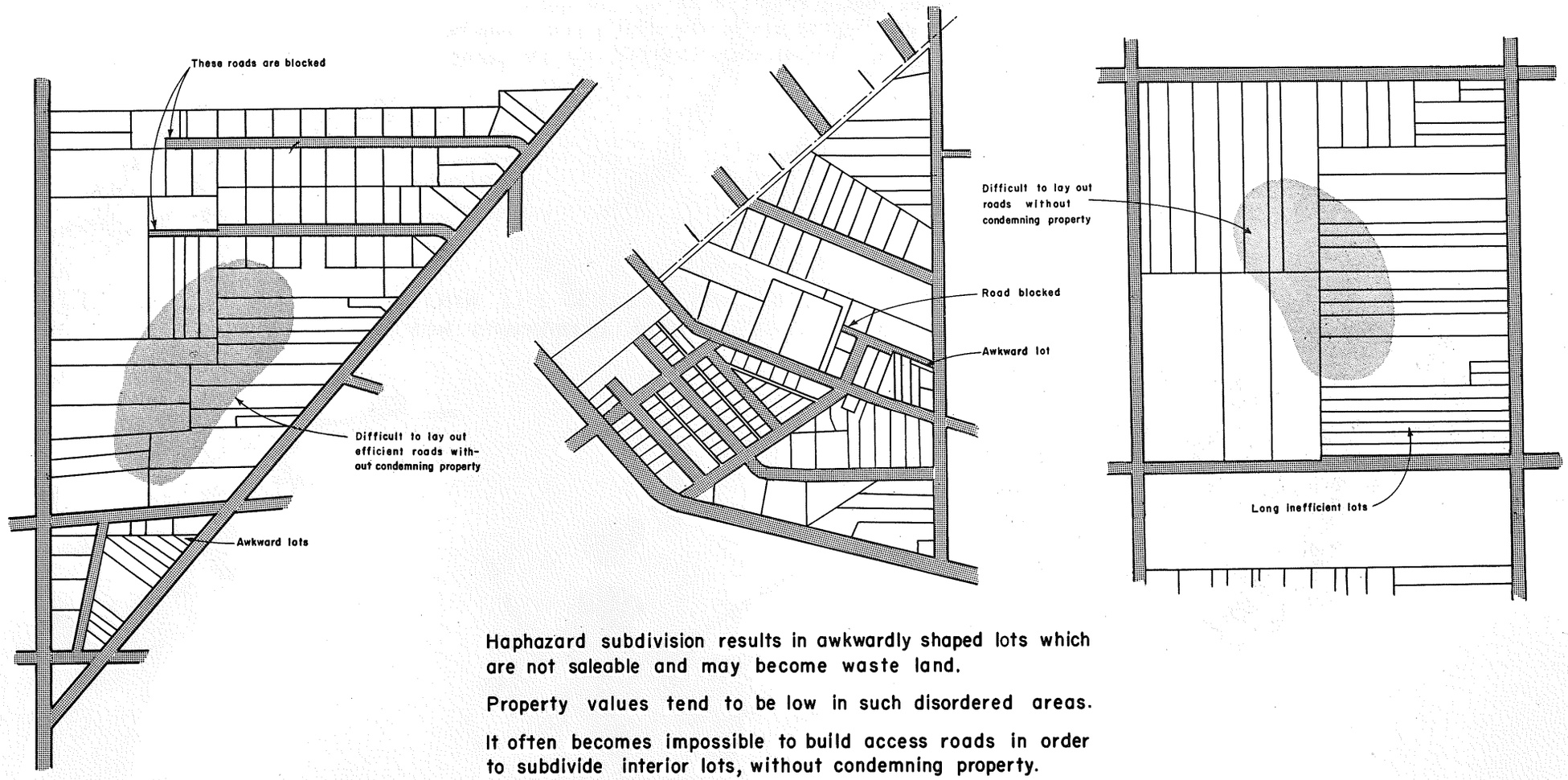
These are actual communities in the Lower Mainland Region

— Existing residential areas

Scale: ½ 0 Miles 1

THE LOWER MAINLAND REGIONAL PLANNING BOARD

SUBDIVISION RUN RIOT



Haphazard subdivision results in awkwardly shaped lots which are not saleable and may become waste land.

Property values tend to be low in such disordered areas.

It often becomes impossible to build access roads in order to subdivide interior lots, without condemning property.

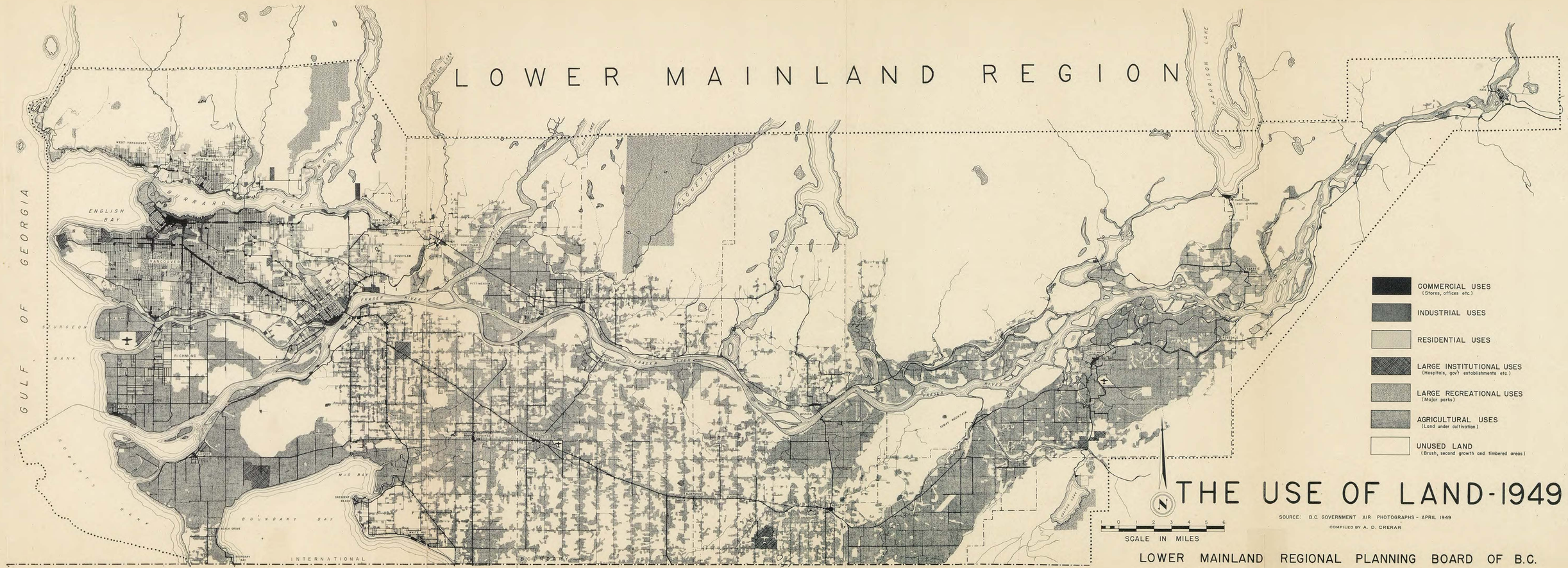
▭ – Road Allowance
——— – Property Line

The subdivisions shown are actual cases in three different Lower Mainland municipalities.

Scale in feet
500 0 500 1000

THE LOWER MAINLAND REGIONAL PLANNING BOARD

LOWER MAINLAND REGION



COMMERCIAL USES
(Stores, offices etc.)

INDUSTRIAL USES

RESIDENTIAL USES

LARGE INSTITUTIONAL USES
(Hospitals, gov't establishments etc.)

LARGE RECREATIONAL USES
(Major parks)

AGRICULTURAL USES
(Land under cultivation)

UNUSED LAND
(Brush, second growth and timbered areas)

N

0 1 2 3 4 5 6
SCALE IN MILES

THE USE OF LAND-1949

SOURCE: B.C. GOVERNMENT AIR PHOTOGRAPHS - APRIL 1949

COMPILED BY A. D. CRERAR

LOWER MAINLAND REGIONAL PLANNING BOARD OF B.C.

6. HOW PEOPLE AND GOODS MOVE

THE TRANSPORTATION SYSTEMS OF THE REGION

Ability to move about easily and quickly is the essence of our civilization, so that transportation systems are truly the arteries of communities and regions. The transportation systems of the Lower Mainland Region are shown on the map facing page 34.

Sea-borne traffic enters the Region by the harbours at Vancouver and New Westminster. The former, in which trade facilities are more or less concentrated between Stanley Park and the Second Narrows, has the advantage of being free of river flood conditions, while the latter has the advantage of being a fresh water port.

The heavy traffic through the Region by land is handled by the railways, the Canadian National and the Canadian Pacific handling eastern traffic, and the Great Northern traffic with the United States. To this in time may be added traffic from central and northern British Columbia by the Pacific Great Eastern. The B. C. Electric Railway Company operates a purely regional freight line from Vancouver to Chilliwack.

It is not always realized that of the main railways only the Canadian Pacific runs all the way to the waterfront at Vancouver Harbour. The others take freight to the waterfront via the National Harbours Board Railway tracks which run between Vancouver and the North Shore over the Second Narrows Bridge.

The principal highways of the Region are the Trans-Canada and the King George V Pacific Highways leading to the east and south respectively. Within the Burrard Peninsula Kingsway, Grandview and Lougheed Highways radiate out from central Vancouver. Traffic from the North Shore is carried by the Lion's Gate and Second Narrows Bridges, and from Richmond by the Marpole and Fraser Bridges. All of these bridges are already inadequate to some extent. When the Agassiz-Haig Road, at present under construction, is completed there will be a through road to the east on the north side of the Fraser River also.

The main air transportation needs of the Region are served by Vancouver Airport on Sea Island, which is fairly convenient to the city and has ample room for expansion. It is supplemented by a frequently-used seaplane channel and anchorage alongside. In times of fog, which is relatively frequent at Sea Island, Vancouver's air traffic is diverted to the military airport at Abbotsford, which is high and relatively fog-free.

There are two abandoned military airports in the Region, in Sumas and Delta, and a number of small airfields, used mainly for local flights.

THE FUTURE OF WATER TRANSPORTATION

Both Vancouver Harbour and the Fraser River have room for great expansion of water transportation facilities. In the Vancouver harbour area expansion can take place most easily on the North Shore. From the long-range point of view the present New Westminster Harbour area is strictly limited as regards both water frontage and railway siding area. However, there will be

great possibilities for expansion seaward if Annacis Island and Lulu Island are joined as a result of the filling now being done by the Federal Department of Public Works.

The Fraser offers vast possibilities for river transportation, being navigable all the way up to Hope, although the 30 foot channel extends only as far as Fraser Mills. The Federal Department of Public Works is constantly carrying out improvements to the lower part of the river, and such works could probably be extended as far up-stream as might be made necessary by industrial development along the banks.

It must be remembered that large stretches of frontage on the Fraser are at least temporarily sterilized by periodic floods. Even when such frontage has been adequately dyked considerable drawbacks still remain to industrial use of the land. Difference in level between shore ground and dyke, foundation difficulties and drainage problems behind the dyke are some of the factors to be considered. None of these is insuperable, however, and it will only be a matter of time and growing pressure for industrial space before many areas are developed which are today considered unsuitable.

THE FUTURE OF THE HIGHWAY SYSTEM

The amounts of traffic carried by the main highways are shown on page 33. This shows that, quite literally, all roads in the Region lead to Vancouver. Conversely, it shows how dependent Vancouver is on the outlying districts for labour and trade, and thus stresses the value to the city of good arterial roads from these areas. It is notable that although the bulk of traffic from the valley goes through to Vancouver a considerable amount of it terminates at New Westminster.

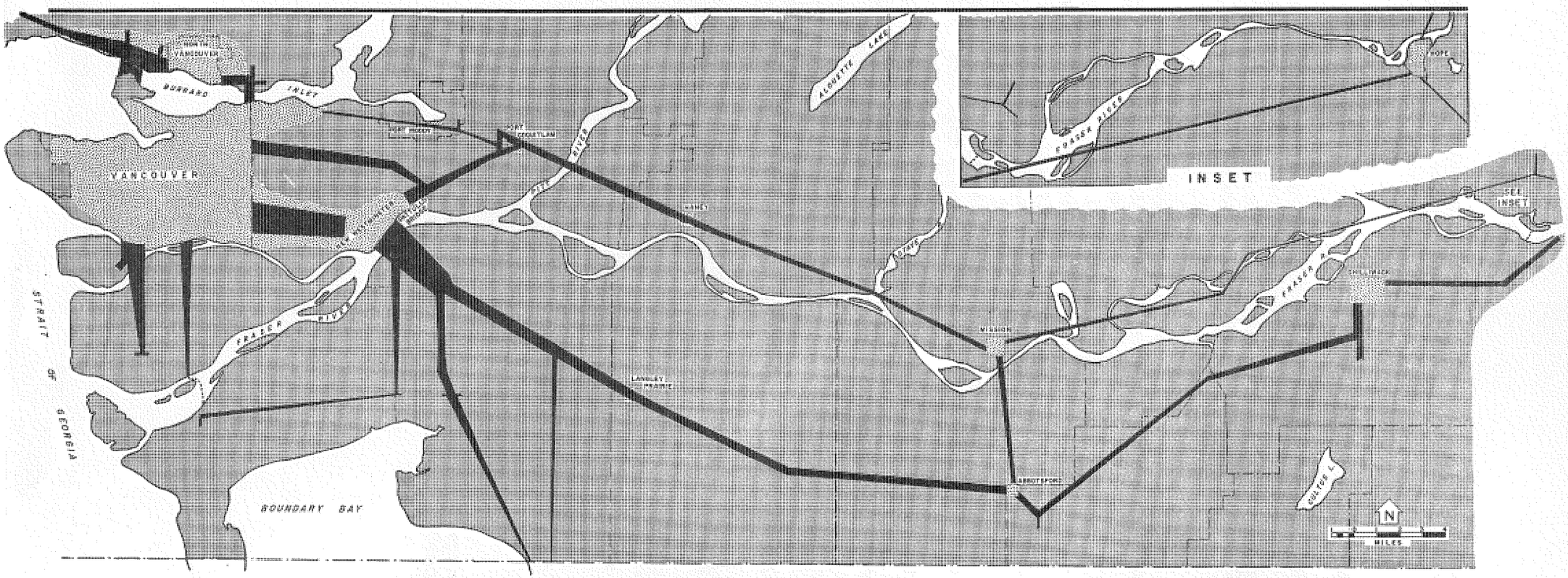
Two factors must be discussed which affect traffic, especially regional traffic into Vancouver. The first is that traffic increases as the areas which the highways serve are developed. As there are still large areas in Burnaby, Coquitlam and beyond which will undoubtedly be built up, it is certain that the highways in the Burrard Peninsula will have to carry a proportionately greater load of traffic in the future than they do now.

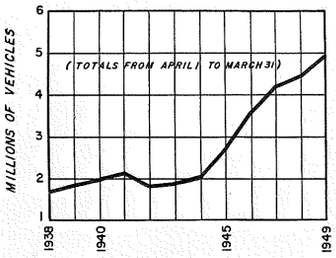
The second factor, which will intensify the first, is that the proportion of automobile owners in the population is still increasing. At present there is roughly one vehicle to every five people in the urban area and to every four people in the rural areas. It seems very probable that, barring a major war or other dislocation to normal life, within a decade or two there will be one vehicle to every four people in the urban area and to very three in the rural area. In other words, even without any increase in population, traffic volumes can be expected to increase by at least one quarter.

Since traffic on roads depends on the number and distribution of the people using them the planning of highways must be preceded by the planning of future residential and industrial areas. To design highways without first planning the use of the land they will serve is to put the cart before the horse, as there is then no means of predicting the traffic load which they will have to carry, or the width which should be reserved for future widening.

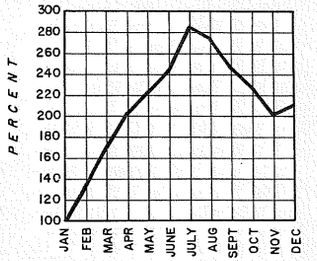
This fact is most obvious in the case of highway bridges such as the Lions Gate Bridge which, after less than 15 years' service, is already inadequate at peak hours. Since bridges involve large investments and last for

TRAFFIC VOLUME - 1950

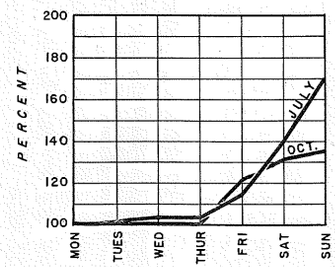




YEARLY TRAFFIC VARIATION
AT PATTULLO BRIDGE



MONTHLY TRAFFIC VARIATION
AT PATTULLO BRIDGE 1950



WEEKLY TRAFFIC VARIATION
AT PATTULLO BRIDGE 1950

TRAFFIC FLOW SCALE: 0 10,000 20,000 30,000 VEHICLES PER 24 HOUR DAY
FLOW IS TOTAL OF TWO DIRECTIONS

FLOWS SHOWN WERE MAXIMUM VALUES TAKEN ON SUNDAYS OR SATURDAYS ABOUT THE END OF SEPTEMBER 1950

DAILY AND MONTHLY VARIATIONS FROM THE FLOW PATTERN CAN BE ESTIMATED BY MEANS OF THE VARIATION DIAGRAMS SHOWN

TOWNS AND COUNT POINTS ARE CORRECTLY LOCATED BUT ROADS CONNECTING THEM HAVE BEEN DRAWN IN STRAIGHT LINES TO SHOW UP CHANGES IN TRAFFIC FLOW

SOURCE OF DATA: DEPT. OF PUBLIC WORKS, VICTORIA B.C.

BUILT-UP AREAS

THE LOWER MAINLAND REGIONAL PLANNING BOARD

many years they should be designed to serve the anticipated future inhabitants of a definite tributary area. And this can be done only by long-range regional or city planning.

THE FUTURE OF AIR TRANSPORTATION

The use of air transportation has been growing at a phenomenal rate in recent years. In 1945 it was predicted that Vancouver's scheduled air traffic would increase tenfold within twenty years. To date this forecast has fully materialized, since scheduled flights have increased by two and a half times since 1945.

Although the runways at Vancouver Airport are now operating at rather less than half of their capacity for airline flights, it appears fairly certain that they will have to be extended or supplemented within a few years. However, as air traffic increases it is landing control rather than runway capacity which becomes the critical factor in airport operation. The solution adopted by the larger American cities has been to segregate civil air traffic into several types, such as scheduled airline, non-scheduled and local, and freight flights, and to provide separate fields for each as the need arises. The applicability of this solution to the Vancouver area, however, is considerably restricted by topographical difficulties and relatively high cost of land.

In 1946 a Metropolitan Airport Plan prepared for Vancouver Town Planning Commission envisaged five additional airports in the near future - one major site in Surrey, one secondary in Coquitlam and three minor in Burnaby, North Vancouver and Port Coquitlam. Of these five, the North Vancouver site has been completely built over, and all the others with the exception of the Port Coquitlam site have been so severely encroached on that their usefulness is now very doubtful. And this has happened within five years.

Our need for airports will increase steadily, but uncontrolled development and lack of corporate action by the municipalities have seriously impaired our ability to satisfy this need. The 1946 Airport Plan concluded "Virtually no alternative sites are available. Use of any of these sites for another purpose would have a serious effect on the growth of air transportation in the Vancouver area".

In respect of air transportation we have been cultivating an insidious form of collective suicide.

REFERENCE: Vancouver Town Planning Commission,
Metropolitan Airport Plan, August 1946.

LOWER MAINLAND REGION
TRANSPORTATION FACILITIES
LEGEND
SYMBOLS
PAVED ROAD
GRAVEL ROAD
RAILROAD
TEAM TRACK, 15 CAR CAPACITY
WHARF AND FLOAT (PUBLIC)
AIRPORTS, AS DESCRIBED
MIN. CHANNEL DEPTHS (FRASER RIVER)
30 FEET FROM GULF OF GEORGIA TO FRASER MILLS
18 FEET FROM FRASER MILLS TO HAMMOND
12 FEET FROM HAMMOND TO MISSION
5 FEET FROM MISSION TO HOPE
NORTH ARM (FRASER RIVER)
15 FEET FROM GULF OF GEORGIA TO MARPOLE
10 FEET FROM MARPOLE TO NEW WESTMINSTER
SCALE IN MILES
ENGLISH BAY
BURRARD INLET
FRASER RIVER
RICHMOND
MUD BAY
BOUNDARY BAY
INTERNATIONAL BOUNDARY
ALOUETTE LAKE
HARRISON LAKE
PITT RIVER
HUNTINGDON
MILITARY AIRPORT
MUNICIPAL AIRPORT
ROAD PATTERN CORRECT AS OF MAY 1949
LOWER MAINLAND REGIONAL PLANNING BOARD, NOVEMBER 1951

7. THE UTILITIES OF THE REGION

In respect of the long-range potential of its major utility resources, the Lower Mainland is in an enviable position. Few regions face such an untroubled future.

As regards electric power, there is within transmission distance of the Region almost twice as much economic hydro potential as a population of one and a half millions would require, even if the total per capita consumption of power were to increase by 50 percent. In addition, the B. C. Electric Railway Company has already covered the valley area with a system of transmission and distribution lines such that no point in the valley is more than four or five miles from an ample supply of power. Many parts of the system are capable of providing power for many years ahead, but in addition, land is now being reserved for a future large transmission line running roughly up the middle of the southern part of the valley.

As regards water supplies, the rivers and lakes in the mountains in the north of the Region can provide water by gravity flow to supply any anticipated population. In respect of distribution, the Great Vancouver Water Board's system of mains already covers roughly the western third of the valley, where the bulk of the population is and is likely to be found.

In addition to the water available from the mountains, large underground supplies have been revealed in certain areas, notably Surrey and Langley, by surveys carried out by the Federal Department of Mines and Technical Surveys. It is possible that these supplies, which are deep and virtually free from any possibility of surface pollution, could be tapped economically by deep wells to feed local distribution systems. This has greatest economic possibilities in the southernmost areas, which would require relatively long supply mains if served from the mountain sources.

Drainage and sewerage are usually local rather than regional problems. There are, however, several important exceptions. One is the case of the Greater Vancouver area, in which this is very properly treated as a metropolitan problem, and is administered by the Vancouver and Districts Joint Sewerage and Drainage Board. Other examples are the Nicomekl River, which creates drainage problems affecting both Langley and Surrey, and the Alouette Rivers affecting both Maple Ridge and Pitt Meadows. It is obvious that in such cases action by individual municipalities is not sufficient.

Pollution is a special problem which has had several consequences. It has ruined several metropolitan bathing beaches and is threatening others. It has created offensive working conditions for riverfront industries. And fears have been expressed regarding its effect on the salmon runs in the Fraser. Apart from aesthetic and social objections, we have probably now reached the point where it will be cheaper to prevent pollution than to make good the damage it does.

As the population increases pollution is bound to become an increasingly serious regional problem. Strict control will have to be established over industrial wastes, and sewage will have to be treated prior to discharge into rivers or sea inlets. Pollution is being studied by the Fraser River Basin Board whose findings may provide a basis for future policy.

8. HOW THE REGION IS GOVERNED

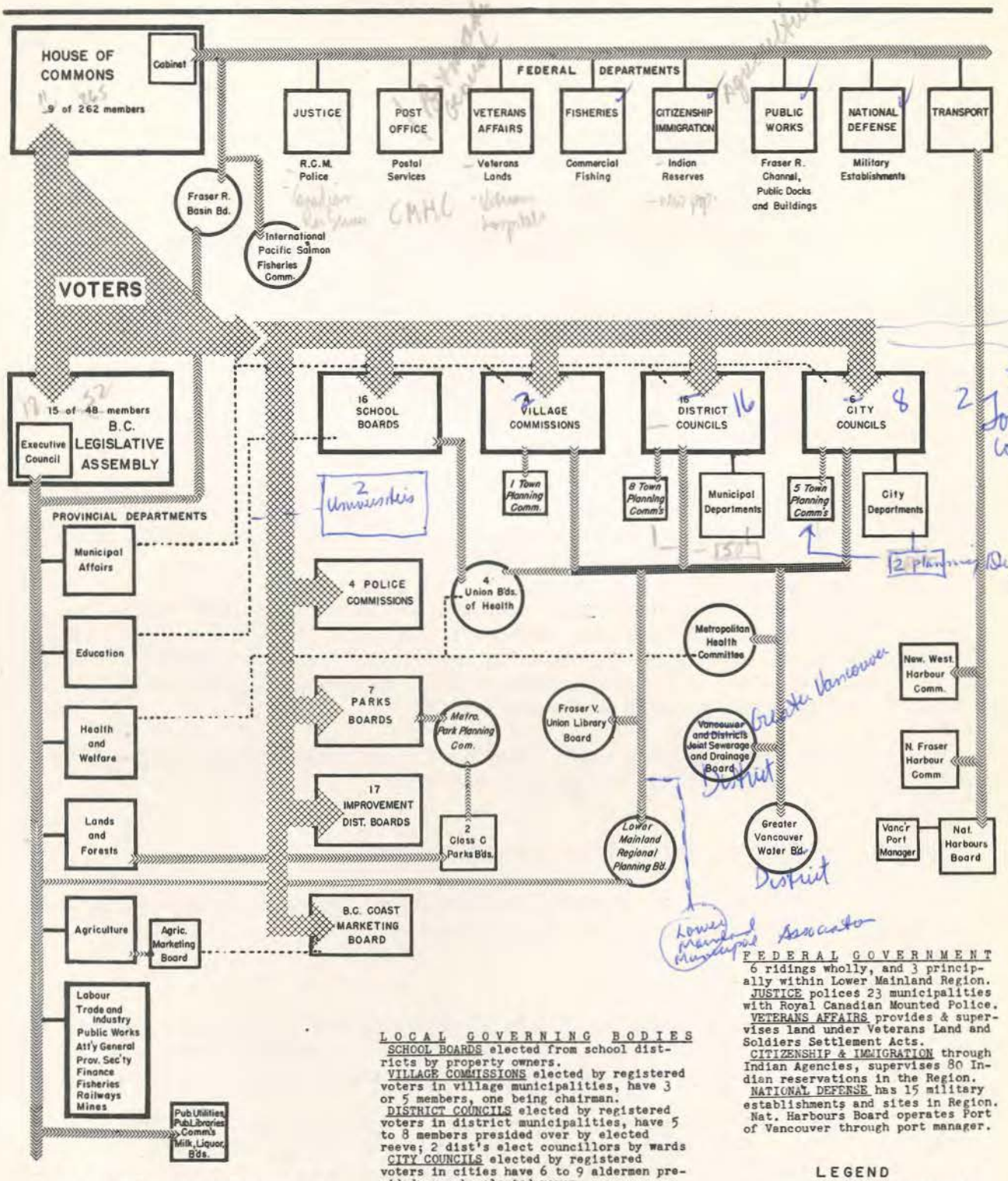
It is not always realized how complex the government of the Region is, or how closely administration is related to the use of land and resources. Yet if we are to consider how the development of the region can be guided, we must understand our system of government.

A full account of this subject would fill a library, but the diagram on page 37 gives some idea of the number of bodies which administer our use of land and natural resources.

Generally speaking, we must carry out our government and various aspects of development by means of these bodies, but sometimes, when any new needs arise or when any task exceeds the power of an established body, new bodies must be created. Thus planning for land and resources also involves proposals relating to government and administration.

Note: Maps contained in this report are reproductions of one inch to one mile originals, copies of which may be obtained at cost from the Lower Mainland Regional Planning Board.

GOVERNMENT IN THE REGION



PROVINCIAL GOVERNMENT
9 constituencies (13 members) wholly, and 2 mainly, within Lower Mainland.
MUNICIPAL AFFAIRS supervises certain municipal functions under Municipal Act.
EDUCATION aids & directs school boards in carrying out Public Schools Act.
HEALTH & WELFARE provides health officers for Union Boards, municipalities, & school districts; welfare offices jointly with municipalities.
LANDS & FORESTS supervises Improvement Districts under Water Act; appoints 'C' class Parks Boards for Crescent Beach & Cultus Lake; controls forests and parks.
OTHER departments carry out important provincial functions in Region.

LOCAL GOVERNING BODIES
SCHOOL BOARDS elected from school districts by property owners.
VILLAGE COMMISSIONS elected by registered voters in village municipalities, have 3 or 5 members, one being chairman.
DISTRICT COUNCILS elected by registered voters in district municipalities, have 5 to 8 members presided over by elected reeve; 2 dist's elect councillors by wards
CITY COUNCILS elected by registered voters in cities have 6 to 9 aldermen presided over by elected mayor.
POLICE COMMISSIONS have 2 elected members and mayor or reeve in municipalities (except Vancouver) having own police force.
IMPROVEMENT DISTRICT BOARDS OF TRUSTEES elected by property owners of districts set up under Water Act to construct and maintain dyking, drainage or water systems.
PARKS BOARDS established by municipal by-law, elected by municipal voters, supervise and maintain parks of municipality.
B.C. COAST MARKETING BOARD has 2 of its 3 members elected by Region farm producers.
UNION BOARDS OF HEALTH, established under Health Act, jointly appointed by municipalities and school boards of health district.
FRASER VALLEY UNION LIBRARY BOARD jointly appointed by municipalities and school bds.

FEDERAL GOVERNMENT
6 ridings wholly, and 3 principally within Lower Mainland Region.
JUSTICE polices 23 municipalities with Royal Canadian Mounted Police.
VETERANS AFFAIRS provides & supervises land under Veterans Land and Soldiers Settlement Acts.
CITIZENSHIP & IMMIGRATION through Indian Agencies, supervises 80 Indian reservations in the Region.
NATIONAL DEFENSE has 15 military establishments and sites in Region.
Nat. Harbours Board operates Port of Vancouver through port manager.

LEGEND
ELECTION .....
APPOINTMENT.....
DIRECTION OR CONTROL.....
JOINTLY APPOINTED BODIES
ELECTED BODIES
APPOINTED BODIES

compiled and prepared by D.M.Churchill

THE LOWER MAINLAND REGIONAL PLANNING BOARD

PART II. THE REGION LOOKS AHEAD

9. THE PRINCIPLES OF REGIONAL DEVELOPMENT

THE AIM OF REGIONAL PLANNING

The aim of regional planning is to anticipate certain basic needs of man; to assess his resources; and to advise him as to the wisest use of his resources. Since both needs and resources are constantly changing, planning is necessarily a continuous process.

Man is a complex being, but from the point of view of regional planning today he has four main needs - work, recreation, home, and opportunity to move easily from one activity to another. No one of these needs can be left unsatisfied if modern man is to live fully.

On the other hand man's resources are strictly limited - the land and its fertility, trees and plant life, minerals, animals, fish and water. They can be destroyed beyond replacement by over-use, and their natural balance can be upset to cause a chain reaction of ruin - deforestation to erosion, erosion to flooding, flooding to death and destruction.

So we have a double task. We must plan continuously for the whole needs of man, and for wise use of his resources.

THE PRINCIPLES OF REGIONAL DEVELOPMENT

Although rigid rules cannot be laid down, there are certain general principles which must govern our development.

1 Industry:

We must give priority in land planning to our basic industrial needs, for where there is no opportunity for work there can be few people and no communities. But in this connection there are several trends we must recognize.

Not only are industries in general becoming larger, but their space needs have increased. In place of multi-storey buildings industrialists now require single-storey structures to allow continuous flow of goods at one level and better lighting within the building. They recognize the need for parking space for employees' cars, cafeterias and rest rooms in their buildings and pleasant, spacious grounds. In total, it is seldom that a single large industry seeks less than 15 acres for its site. And that site must be on fairly level ground, capable of carrying the weight of buildings and machines, well drained and accessible by road and often by rail and water.

2 Recreation:

We must also give priority, especially near large cities, to major recreational needs. Certain areas, because they have pleasant beaches, fine trees, good climate or scenic beauty are eminently suitable for large-scale recreation. And such land, once stripped or built on, is not easily restored. It is well to remember, too, that apart from its social and aesthetic values such land is by no means a dead loss from the economic point of view. The total money value of places like Stanley Park and Cultus Lake, though not easily determined, must be very considerable.

3 Agricultural Land:

In allocating areas for residential use, we must try to keep away from the best agricultural land. In certain circumstances - as for example, when people would otherwise be compelled to live far away from their work - the claims of residences must take precedence, but especially in the Lower Mainland where both topography and soil quality are varied it is rarely necessary to encroach on our limited arable land. It is not always realized that, no matter how inviting it may appear, flat alluvial land is not best for residential purposes. It is low-lying, subject to fog and frost, and difficult as regards drainage and sewage disposal. On the other hand, most of the upland areas, which have less valuable agricultural soils, do not have these drawbacks and their rolling contours afford more attractive sites for homes.

Apart from these things, the fact remains that as yet the Lower Mainland supplies itself with fresh milk, fresh fruit and a proportion of vegetables. Since we will some day have to supply more than twice our present population it is utter folly to sacrifice our most fertile land on the altar of unproductive residential use when more suitable land is available for that purpose.

4 Arrangement of Cities:

We must arrange both the size and spacing of our communities, so as to produce a safe and healthful environment for living.

Today it is necessary to think, as never before, in terms of mass safety. To encourage the growth of very large urban areas is to court suicide on a grand scale. From the point of view of safety from atomic air attack we are urged by military experts to limit our cities to not more than ten square miles in area and to separate them by distances of at least ten miles of open country.

But there are other reasons why we should try to limit our cities, reasons as compelling as danger since they apply in peace as in war. They are to be found in the effects of big cities on their inhabitants.

In large cities, transportation problems arise. People have to travel by the thousand, usually at congested peak periods. Many necessarily live far away from their work and spend perhaps two hours every day in fatiguing travel, a period which may represent a third or more of their total leisure time. In addition, the whole orbit of life becomes more conventionalized as mass work, mass eating, mass transportation, mass entertainment and mass sport hold sway. And escape becomes increasingly difficult, especially at weekends when people swarm to popular lakes, beaches, and parks.

Various quantitative comparisons have been made between conditions

in large and small cities. For example it has been shown that the cost of police services in American cities varies as follows:

Population	Annual Cost Per Head
Up to 30,000	10 cents
100,000 to 300,000	20 cents
300,000 to 600,000	40 cents
Over 1,000,000	60 cents

It has also been found that per capita expenditures on public health in cities of over 1,000,000 are three times the expenditures in cities of 30,000 to 50,000 population. In short, the balance-sheet does not favour the big city.

An alternative to the metropolis is a constellation of smaller communities, of a size in which a man can live fully and retain his individuality, clustered around a centre containing the specialized commercial, professional and cultural facilities which none of the smaller communities can afford alone.

Such a scheme hinges on two assumptions, namely that industry also is decentralized and that good roads and rapid transit facilities are maintained between the central city and its satellites. If industry were not decentralized the satellite communities would be mere dormitory towns having no economic life of their own, and their inhabitants would still waste much time in travelling to and from work.

Moreover, there will always be certain facilities which only a large centre can support and which everyone wishes to use on occasion, such as specialized stores and medical clinics, museums, universities and theatres. Also many financial, commercial and administrative activities may still wish to be centrally located and will establish themselves in the central city. If people living in decentralized towns are to be able to take full advantage of these facilities there must be adequate transportation facilities between the centre and its satellites.

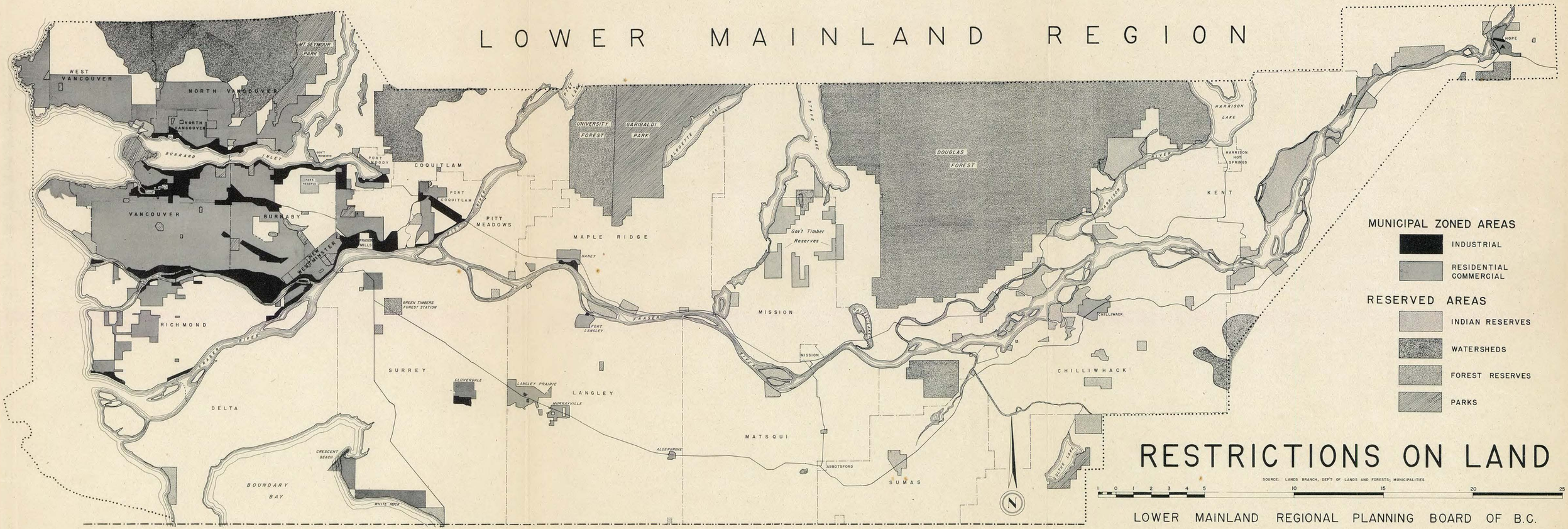
Thus the aim in guiding the growth of communities should be to develop decentralized industrial areas to form the nuclei of decentralized towns. The towns themselves should be limited in size and should be guided away from low-lying areas on to higher ground. And they should be connected to the central city and to each other by controlled highways.

APPLICABILITY OF THE PRINCIPLES

It may be assumed that the more alert municipalities will, in their own interests, safeguard their choice industrial sites. They may also be persuaded of the folly, even from the point of view of municipal economics, of developing low-lying lands for residential purposes. It should also be possible, with the collaboration of the Provincial Government and under the pressure of events such as the British Empire Games in 1954, to make provisions for a system of regional parks.

There are considerable obstacles, however, in the way of limiting the size of cities in any country where land is privately held and can be subjected only to light restrictions. In the case of the Burrard Peninsula, which performs an economic function of ever-increasing importance to the whole of Canada, the principle of limitation seems to have very restricted applicability as yet. It is believed that, instead, the immediate remedy must lie in careful internal planning, and development of adequate open spaces within the peninsula.

LOWER MAINLAND REGION



MUNICIPAL ZONED AREAS

- INDUSTRIAL
- RESIDENTIAL COMMERCIAL

RESERVED AREAS

- INDIAN RESERVES
- WATERSHEDS
- FOREST RESERVES
- PARKS

RESTRICTIONS ON LAND

SOURCE: LANDS BRANCH, DEPT OF LANDS AND FORESTS; MUNICIPALITIES

1 0 1 2 3 4 5 10 15 20 25

LOWER MAINLAND REGIONAL PLANNING BOARD OF B.C.

In other areas, where in any case economic pressures are not likely to be so great, topography usually suggests suitable limitations. One important exception, however, is the north uplands of Surrey. This extensive area, which is already developing like wildfire and will probably continue to do so, could hold perhaps 250,000 people. Since it has no natural relieving features it is essential that early provision be made by planning green belts or small-holding zones, to prevent this area becoming a featureless mass of houses.

Apart from the problem of limitation, the question may well be asked "How, in a democracy like Canada, can we guide residential development?" There is a great deal we can do. We can encourage or discourage growth by proper location of those municipal services which have to be provided somewhere anyway, and by zoning. The former include paved roads, water mains, schools, hospitals and post offices. All these are essential to urban communities and people tend to establish themselves near them. Their location is within the control of either the municipal government or of some other level of government, and can thus be used as a lever for guiding growth in any desired direction. As yet zoning is only of limited use for the control of urban growth, but it could be made much more effective if extended to include rural areas, in which sprawl-developments usually start. This subject is discussed more fully in Chapter 9, Section 6.

REFERENCE: Lewis Mumford, "The Culture of Cities", Harcourt, Brace & Co., New York, 1938.

10. THE APPLICATION OF THE PRINCIPLES

THE NATURE OF REGIONAL PLANS

Since it is easy to acquire misconceptions about "plans" a few words of introduction will not be out of place.

No long-range plan is put into effect at one fell swoop. Growth takes place slowly under the pressure of natural forces. And in the course of time circumstances change and our needs and standards change also. Thus it is not always wise or even possible to make now, in the form of hard-and-fast plans, decisions which really belong to the future. This is true of private developments, such as the establishment of industries and the growth of towns, over which we have no positive control. But it is not true of public facilities, such as highways, parks or airfields, which we ourselves build. These we control and can plan for.

Thus we can build a highway along a predetermined route, even if it is built in sections over many years. Or we can buy an airfield site many years ahead of its actual development. But in the case of industrial and urban growth we can only adopt guiding principles to be applied continuously to problems of development as they occur. Our approach in their case must be general rather than specific.

Under these circumstances long-range spatial plans are of limited value, while the principles by which day-to-day decisions are made are much more important. In other words, in regional planning it is more important that there should be a set of general principles governing the use of agricultural land than that a specific use for Farmer Blank's quarter-section should be shown on a plan for the year 2000.

A PROPOSED OUTLINE PLAN

It is with these limitations in mind that the outline plan facing page 52 should be interpreted. Proposed highways, bridges, airfields and parks have been shown roughly. Their exact location is not important, and in any case could only be decided by detailed surveys near the time of action. The location and extent of future towns are only suggestive. They show how these towns might develop if the principles of limited size, dispersal and avoidance of low-lying land were put into effect. Circumstances may inhibit growth in certain areas and encourage it in others, but the important thing is that growth should be guided continuously by these principles applied to daily decisions by municipal councils and commissions.

INDUSTRIAL AREAS

Industrial areas are the keystone of land planning, for when industry leads the way communities follow. If we wish to develop decentralized communities we must find decentralized sites for industries which will support them. In general we will seek to further the growth of existing small communities rather than start afresh.

Judging by the figures tabulated on page 43, there is roughly enough suitable space within about 40 miles of the Burrard Peninsula for industries necessary to support 1,500,000 people. This, of course, cannot be an authoritative statement, first because the space requirements of industry are generally increasing, and second because not all of the designated areas may be acceptable to industry. It seems likely that in the foreseeable future we will require every acre of land suitable for industrial purposes. The municipalities should therefore survey their industrial land resources and take steps by zoning or other means to preserve and use them wisely.

In most cases the industrial areas shown on the plan have been located on sites either already zoned for industry or designated as suitable by the B.C. Department of Trade and Industry as a result of recent surveys. (Their exact extent and location will be contained in a Report which the Department is expected to publish in 1952.) Only in the case of Richmond have the Department's areas been substantially changed. In this case the area for potential sites is believed to be unrealistic in the foreseeable future and has therefore been reduced.

Special reference must be made to Annacis Island. When this island is joined to Lulu Island as a result of filling operations now being carried out, the way will be open for extension of the New Westminster Harbour on to Annacis Island. This would not only give a long wharf frontage on the deep side of the river but would stimulate industrial use of the frontage between the two islands. Such development would be aided by the construction across Annacis Island of an arterial highway between Vancouver and the United States border.

INDUSTRIAL ACREAGES*

GREATER VANCOUVER AREA

Municipality	Zoned, Vacant	Potential	Municipality	Zoned, Vacant	Potential
Burnaby	1975	250	Port Coquitlam	220	820
Coquitlam	1200	-	Port Moody	275	300
New Westminster	275	580	Richmond	1080	1200
North Vancouver City	145	85	Surrey	525	270
North Vancouver District	220	-	Annacis Island (Delta)	-	1000

Data from "Composite Industrial Map 1951", Industrial Development Division, B. C. Department of Trade and Industry.

LOWER FRASER VALLEY AREA

Municipality	Potential†	Municipality	Potential†
Abbotsford	7	Maple Ridge (zoned)	110
Chilliwack (zoned)	9	Maple Ridge	190
Chilliwhack	230	Matsqui	315
Hope (zoned)	15	Mission District	435
Hope	10	Mission Village	30
Kent	230	Pitt Meadows	185
Langley (zoned)	50	Unorganized	1120
Langley	45		

Compiled 1951 by Industrial Development Div., Dept. of Trade and Industry, in collaboration with the Regional Planning Board.

* These figures, necessarily approximate, should be interpreted with caution, especially "Zoned, vacant" areas which may already be owned or reserved.

† Deemed suitable for industrial use by reason of road and rail access, availability of power and water and suitability of soil.

The mere presence of suitable industrial sites is no assurance that industry will choose to use them. On the other hand as industrial expansion takes place and suitable sites become scarcer, and especially if roads are built between Vancouver and the valley towns which will permit safe and speedy truck transportation, the probability of industries settling in the valley rather than in the Burrard Peninsula will increase. And almost every town in the valley already possesses the essential railway and power facilities, and water supplies are not an insuperable problem anywhere in the valley.

It is notable that while Canada appears to view complacently the problem of industrial dispersal, the United States Government is actively inducing industries to settle away from the larger centres. For example, in accordance with an industrial dispersal plan which has been drawn up by municipal planning staffs and the Seattle Chamber of Commerce, industrial "parks" have been planned over 40 miles out of Seattle. If the same criteria can be applied to this Region, the industrial orbit of Greater Vancouver would extend as far out as Abbotsford and Mission.

The effect of uncontrolled roadside building along main highways on this dispersal radius is obvious. If our highways are allowed to become built up as parts of the Trans Canada and King George Highways have been, the economic dispersal distance will be reduced. Thus the industrial future of many towns in the valley may well depend on the efficiency of our main highways.

It is also notable that more and more industrial development is taking place in the form of industrial parks or estates. These consist of large areas of clear, suitable land which are graded and provided with roads and utilities, usually by a development company in collaboration with the municipality concerned. In such areas the industrialist can be sure of the services and space he requires without encroachment by residences or other uses of land, and has the company of other industries whose products he needs. The best example in Canada of such an estate is Ajax, Ontario, where existing ordnance factory buildings were taken over and converted. This form of development, which will be introduced into the Region by C. B. Riley's proposed industrial estate in Burnaby, is undoubtedly the way in which large developments will take place in the future. It has great advantages for both industry and the community in terms of economy of space and utilities, and concentration and segregation of industry.

The industrial estate is most suitable for secondary industries, especially those which do not wish to invest money in buildings. Such firms find it more attractive to lease space, especially at the start of their operations, and can often be induced to settle where suitable buildings can be leased.

It is not permissable for municipalities in British Columbia to construct industrial buildings using public funds. However, they can do a great deal by zoning or purchasing suitable sites so that they may be available for development by industrial enterprises, whose need for good sites is constantly growing. Municipalities can also further such development by servicing suitable land with roads and services.

RECREATION AREAS

In planning recreation areas two principles must be observed. First, we must develop parks with specific needs and purposes in mind. Sometimes in the past we have been guilty of designating wild and beautiful spots as parks

without regard for their accessibility or for the needs of people. There are probably excellent skiing areas at the North Pole and bathing beaches in Samoa, but even if they were designated and protected who would use them? We must develop parks where they are needed and where they can be used.

Second, our parks must be made attractive and must satisfy the needs of the people. In some instances it may be sufficient to hack a few trails through a wilderness and call it a park. But if an area is to be used by the family it must contain easy paths, scenic viewpoints, picnic benches, fireplaces, cabins, and perhaps a tearoom or hotdog stand. In other words, a park must serve a specific purpose and must be designed and equipped accordingly.

In this Region we must develop not a haphazard collection of open spaces but a system of parks which will serve the needs of all kinds of people from the toddler to the octogenarian. And these must be developed near the people who are to use them. This can only be done after a comprehensive survey of our recreational resources, as suggested in Chapter 11. The following specific suggestions are made either because they are specially urgent or because they seem to offer exceptionally attractive possibilities.

The first and most urgent problem of recreational space arises in the metropolitan area. If this were to be fully developed without any large spaces it would be about 20 miles long and 6 miles wide - a vast, featureless sea of buildings and streets. From many points of view green "breathing spaces" will be absolutely necessary to relieve such a monotonous scene and make it fit to live in. Fortunately there are some natural features which can and should be utilized to the full to break up the urban sprawl.

Burnaby Lake

The first of these is Burnaby Lake, now little more than a swamp, but once truly a lake. It is unthinkable that such a large area should remain an eyesore in the centre of a rapidly growing city. Its proper development would not only be a godsend to the future metropolis but would also add immeasurably to the attractiveness and value of the surrounding properties.

It is suggested that Burnaby Lake area should be developed as a large park for boating, swimming, picnicking, riding and all sorts of sports meetings, especially aquatic events, for which it is ideal. In addition, the creek and its banks might well be developed all the way down to the Coquitlam Boundary. This matter should be studied by a team of experts including an engineer, an architect, a parks expert and a botanist, who between them could handle the various aspects of the problem. Only then could the park be treated as a whole and its full potential realized.

Being ideal for this purpose, Burnaby Lake has already been named as first choice for the rowing and sculling events of the British Empire Games to be held in Vancouver in 1954. Full advantage could be taken of this unusual opportunity if the facilities required for 1954 were to be planned as the nucleus of a long-range development. In particular, buildings should be designed for permanence rather than as temporary structures. This is a unique opportunity which must be grasped with both hands.

Burnaby Mountain

Burnaby Mountain is another natural feature which should be fully utilized for the public good. Practically the whole of the south slope of the mountain is capable of development, and in fact a large part of it has already been optioned or bought for industrial purposes, while some residences have also been built. The north and east slopes are too steep for ordinary development and can only be used for hiking and climbing. However, the view on all sides from the summit is absolutely superb, and it is suggested that if the top of the mountain, which is relatively flat, were developed as a picnic and viewpoint area the climb might be considered worthwhile and the maximum use might be made of the whole area. The buildable area involved would be small but would greatly enhance the usefulness of the other parts.

Coquitlam Greenbelt

The third important natural feature is the existing greenbelt which extends from the Burrard Peninsula at Port Moody to the Fraser at the mouth of the Pitt River. This belt hinges on the slopes which run along the south boundary of Port Moody, swing south-east along the Coquitlam plateau and then turn south-west by Essondale. It is continued south-east by the Essondale farm area, an Indian Reserve, and ultimately by Mary Hill, overlooking the Fraser River.

This is an excellent example of how various kinds of area - in this case, wooded slopes, institutional grounds, farm lands, undeveloped lands and a hill - can constitute an effective greenbelt. Furthermore, selected zones in the greenbelt could be used as low-density residential areas subject to strict control of the cutting of trees.

It is suggested that part of the adjoining Coquitlam plateau might be incorporated and developed for all-round recreational use, thereby enhancing the usefulness of the adjoining slopes. The fine view of the river and valley from Mary Hill should be preserved for the general public by acquisition of the summit. If these things are done almost the whole width of the peninsula will be crossed by a natural belt of green, giving recreation space to the inhabitants, taking public advantage of the finest viewpoints, adding to the attractiveness and value of the whole area and giving distinctiveness to the adjacent municipalities.

Sumas Mountain

Sumas Mountain, lying in the middle of the valley about 45 miles from Vancouver, is a unique natural feature with apparent possibilities as a park. It is about 25 square miles in extent and rises to a height of 1500 feet above the surrounding plain. Although on the whole it is rugged, there are quite a number of gentle slopes and plateaus within it, and the area is thickly wooded and contains game.

The possibilities of an area so wild and yet so accessible are attractive and should at least be investigated. It should be noted that there appears to be a feasible highway route through the south end of the Mountain, which would provide access while leaving the greater part of the area untouched.

URBAN DEVELOPMENT

When the total population of the Region reaches about 1,500,000, the Greater Vancouver area, including the North Shore and Richmond, will be fairly completely built up and will contain over 1,000,000 people. Assuming that the rural districts holds 100,000 people - a smaller proportion of the total than they do now - there will be between 300,000 and 400,000 people to be accommodated in decentralized towns east of the Burrard Peninsula. These people will require between 45 and 60 square miles of land.

Topography and the distribution of soils in the Valley are such that it is possible for us to put into practice the two principles previously stated, namely that we should avoid low-lying land and develop towns of limited size separated by stretches of agricultural land. We can find 60 square miles of land for towns: land which will not take food from our own mouths by sprawling on to farm land; which will be relatively high and fog-free, and which can be separated by open country so as to produce safe, livable communities. It will be to our eternal shame and hurt if we fail to do this, for the opportunity will never return.

The map "A Pattern for Tomorrow" shows some of the possibilities before us.

The Burrard Peninsula

It is almost certain that in a few years the Burrard Peninsula will be completely urbanized. Most of the land will be used by residences, not only because people naturally wish to live near their work, which will still mostly be located in or near the peninsula, but also because much of it has already been subdivided into small lots and would be difficult to reassemble for other purposes.

For social, economic and military reasons the peninsula is a much larger area than one would like to see densely built up. However, it is clear that Greater Vancouver's strategic position with respect to Canada and the Pacific is inescapably thrusting greatness on it. It is therefore a question of how rather than whether we shall develop. But although the mountains and waters around the peninsula limit it and provide a beautiful setting, nevertheless the Burrard Peninsula is a very large area to be completely urban, and if it is to remain even tolerably attractive and efficient its internal development must be carefully guided. To make it liveable, far-sighted planning backed by courageous administration will be necessary. The question of metropolitan parks has already been mentioned. Organization for metropolitan planning and parks administration are discussed in Chapter 11.

Greater Vancouver can now see its destiny clearly. How it chooses to meet that destiny lies entirely in its own hands.

West Vancouver

The future extent of West Vancouver is limited strictly by topography but the area is almost certain to develop to its full extent owing to its setting and natural attractiveness. The absence of industrial sites, however, seems to destine it to remain largely a residential community. One of its main problems will be the proper routing of highways through the district so as to minimize the effect on living conditions of through traffic from Squamish and Horseshoe Bay.

North Vancouver

By reason of the industrial potential of its waterfront, its proximity to Vancouver and its natural attractiveness, the North Vancouver area is also certain to develop as far as the mountain slopes will allow. Among the main physical problems of all the North Shore municipalities will be through highways and bridges to the Burrard Peninsula. The greatest possible integration of administration functions between the three municipalities would be most desirable.

Richmond

Urban growth in Richmond should be strictly limited at least to the areas which have already been so subdivided as to make them unfit for large scale agriculture. This would enable the municipality to get maximum benefit from the roads and other facilities already installed with minimum additional expenditure.

Richmond contains some of the most fertile land in the Region, including about 10 percent of the Region's dairying land. Intensive urban development would compel the municipality to install a proper sewerage system owing to the health hazards which large numbers of people using septic tanks would create. And various circumstances would make the construction of a sewerage system a costly undertaking. First, the soil in Richmond makes pipe-laying expensive and necessitates piling for all heavy buildings or those housing machinery. Second, it is almost certain that pollution in the river, especially the North Arm, will soon make it necessary for towns to treat their sewage prior to discharge into the river. In other words, sewage disposal on a large scale would impose heavy and continuous costs on the municipality. Also, Richmond is flat and lies below tide level some of the time. If a greater area were made impervious by roads, pavements and buildings the drainage problem would increase, while open ditches, which are both unsafe and unsightly, would become less acceptable in an urban community.

In addition, there is still risk from floods in the unpredictable Fraser River. While a break in a dyke system may not be serious in rural districts, it may cause a major disaster in a densely developed area. In the event of such a catastrophe - which cannot be discounted - rescue, relief and rehabilitation costs would be sustained not only by the Region, but also by the province and the country as a whole. The folly of building towns within flood plains was recently stated very effectively by an eminent American engineer. "We teach our Boy Scouts to pitch their tents on high ground where flood waters cannot overtake them; but their elders build their factories, houses and cities on any low, flat ground - although it may have been subject repeatedly to overflow by great floods. Then they rely on their elected representatives to see to it that government engineers save them from overflow, AT THE EXPENSE OF THE PUBLIC PURSE." He then showed that no method of flood control is perfect. The best solution is for people to keep out of flood plains as far as possible.

For these reasons, urban growth in Richmond should be strictly limited to fuller development of the present urban areas. The arable land should be preserved for the benefit of the whole Region. This does not preclude the possibility of parts of the municipality developing in small holdings of economic size. Nor does it preclude the possibility of industrial development taking place around the banks of the island if foundation and drainage conditions are acceptable to industries wishing to take advantage of the waterfront.

Delta

With regard to the soil and drainage problems Delta is very similar to Richmond. Delta however has the advantage that most of its land is in large sections which are in excellent shape for farming. It should therefore remain a highly productive farming area.

Surrey

The whole of the Surrey uplands is ideal for urban purposes. It is high, has good draining soils and is close to probable future harbour and industrial developments on the Fraser. However, it could accommodate a bigger and more concentrated city than should be allowed to develop for social, economic and strategic reasons. The area into which it is suggested residential development should be guided is the western part, which contains attractive industrial sites and has poorer soil than the eastern area. In addition it is slightly better placed in respect of transportation distance to the Vancouver area. The remainder of the upland area is considered very suitable for small holdings. One of the major problems of Surrey will be proper control over its urban development in order to produce attractive and efficient communities of reasonable size.

On account of its fine climate and location, White Rock is certain to expand, partly as a resort and partly as a residential town for people working in the Westminster area. White Rock contains a potential airport site which might conceivably be developed as a secondary airport for the metropolitan area.

Langley

Langley Prairie is not really a suitable site for a town. It is low-lying, has drainage problems and is situated in first class agricultural land. However, it is an established community and has industrial possibilities owing to the presence of suitable land alongside the railway. Moreover, the uplands to the west and northwest are excellently suited to urban development, not too far from the metropolitan area, yet not too close to the Surrey uplands. It is suggested that residential development in Langley should be guided in this direction.

Only the limited high ground at Fort Langley is suitable as a town site, the rest being below flood level. Moreover, the historical circumstances which brought it into being vanished long ago, and no new factors are yet foreseen which would revive it. Growth in Fort Langley therefore cannot be encouraged.

Pitt Meadows

Pitt Meadows, because of soil quality, low elevation and unspoiled land is best suited for agriculture, and urban development should be discouraged. It contains potential industrial sites, however, which could be developed without harm to the surrounding arable land. Industries in these areas could help to provide employment for the Haney area, which in turn should act as the trade centre for Pitt Meadows.

Maple Ridge

The Haney area seems very desirable for urban development. There are industrial sites within or close to it and proper development of Garibaldi Park would bring trade to the area, as will the Dutch development in Pitt Meadows. However, the urban growth should be carefully guided, preferably towards Hammond to form one cohesive community. Development should be kept clear of the flood plain of the North Alouette River.

Matsqui, Abbotsford and Sumas

The Abbotsford area is the crossroads of the valley. It is also the trading centre of a considerable rural area, much of which is not yet developed (50 percent of the usable land area is undeveloped in Matsqui and 20 percent in Sumas). For these reasons alone the Abbotsford area can expect to grow. But two other factors could also promote growth. First, there are suitable industrial sites alongside the railway north of the village. Second, the area would benefit if Sumas Mountain were to be developed as a park.

The ground around the village is hilly and varied and would make a pleasant town site. But if this community is to make the most of its future, it must be administered as one community, which it is in fact. A possible future town of perhaps 10,000 population with a separate core of about 1,000 is unthinkable in the twentieth century. The problem of integrating the whole built-up area should be studied by the three municipalities concerned with the assistance of the Department of Municipal Affairs and the Regional Planning Board.

Mission Village and District

The Mission area is already established as a trading centre and also has some industry. There are excellent large industrial sites west of the village and it is not unlikely that industry will find these attractive as sites nearer the metropolitan area become scarcer. In addition the area north of the village would be a desirable town site.

Mission Village already faces the same problem as Abbotsford due to overflowing its boundaries at some points, and a study of the possibilities of unification of the built-up area would again be desirable.

Chilliwack

The Chilliwack area is very attractive and flourishing. Its economy is mainly agricultural and it has attracted a considerable number of small holders.

Since its agricultural hinterland is now almost completely developed, the urban community cannot expect much growth by virtue of local trade unless many more people choose to settle on small-holdings. There are some excellent industrial sites nearby in Chilliwhack, however, and it is not unlikely that industry might wish to establish there. While the area is as yet probably beyond economic distance from Vancouver for regular industrial trucking, the eastward growth of the metropolitan area and the construction of a new controlled highway might alter this.

The Chilliwack community also has burst its nominal boundaries like Abbotsford and Mission, and should be studied in the same way.

Harrison Hot Springs

By virtue of the natural beauty of Harrison Lake and its attractive modern hotel, Harrison Hot Springs is now well established as a tourist centre. The proposed regional survey of recreational resources might well pay particular attention to this area with a view to further recreational development.

Preliminary studies by the Fraser River Basin Board have suggested that possibly Harrison Lake could be dammed as a major flood control reservoir for the benefit of the Lower Fraser Valley. This possibility must be kept in mind in future planning for the Village.

Kent

Although Agassiz has some excellent industrial sites, it is probably too far from large population centres to have great industrial prospects in the foreseeable future. Nevertheless its growth could be greatly stimulated by the completion of the Haig-Agassiz road (which it is assumed will be completed in the near future), by the improvement of the whole of the North Shore highway to first-class standards and also by the construction of a bridge across the Fraser near Rosedale, as discussed in the next section under "Transportation Facilities."

Hope

The future of Hope hinges on regular commercial traffic (since Hope is the only community of any size for many miles); on tourist trade; and on lumber. Highway traffic, which has already increased greatly following the construction of the Hope-Princeton highway, can be expected to grow as the province develops. Tourist trade also is expected to increase, and Hope's share of it will depend on whether Hope keeps itself attractive enough to encourage tourists to stop. This means proper development not only of stores, cafes and motels, but also of recreational facilities such as riverside parks and lakes such as the Kawkawa.

Hope's main industry is sawmilling, which is strictly seasonal. The future of its sawmills depends on continued availability of timber within economic hauling distance. This factor has even more bearing on the possibility of secondary timber industries settling in Hope, since no firm would settle without assurance of long-term supplies of raw material. It is understood that Hope is one of the areas being considered by the B. C. Forest Service for the establishment of a public working circle for logging. Only if this materializes does Hope appear likely to acquire a non-seasonal economic base.

Unorganized Areas

There are several large industrial sites in the unorganized parts of the Region, but most of these are at the east end of the valley remote from markets and centres of labour, and are not likely to be developed in the foreseeable future.

TRANSPORTATION FACILITIES

Highways and Bridges

New highways open up undeveloped areas and create economic opportunities. It is therefore essential that highways should be planned to produce development of the most suitable areas, as well as to facilitate the movement of traffic from one centre to another, Thus the highways and bridges shown on the map "Pattern for Tomorrow" are based on prior proposals for industrial and residential areas.

In planning highways and bridges on the North Shore possible developments in the Gibson's Landing, Squamish and Pemberton areas should be considered. Otherwise it should be possible to anticipate future traffic fairly accurately since the ultimate population of the North Shore will be determined by physical factors. Since most future development will probably take place in the north and east parts of the District of North Vancouver which would tend to use the Second Narrows crossing, it does not seem inevitable that the First Narrows Bridge will have to be supplemented by a bridge in the First Narrows area. When an adequate new bridge is built at the Second Narrows it should accommodate most of the future additional traffic as well as perhaps some traffic which at present prefers a longer drive across the First Narrows to a slow one across the Second Narrows.

One of the greatest needs of the Region is a shorter and faster highway from Vancouver to the U. S. border. The highway shown on the plan would branch off Marine Drive to cross the tail of Lulu Island, Annacis Island, and across the Fraser River either by a high level bridge or by a tunnel. It would then follow the edge of the Surrey plateau to join the King George Highway near the Nicomekl River. Apart from reducing the present road distance between Vancouver and the border by about three miles, such a highway would open up potential industrial areas in Burnaby, Richmond, Queensboro and Annacis Island, as well as facilitating and serving future residential areas in Surrey and relieving growing congestion in New Westminster and along Kingsway. It would effect an even greater saving in time than in distance if roadside developments are strictly controlled so as to permit continuous driving at reasonable speeds. Another crossing of the Fraser will probably be necessary anyway to relieve Patullo Bridge within a dozen years.

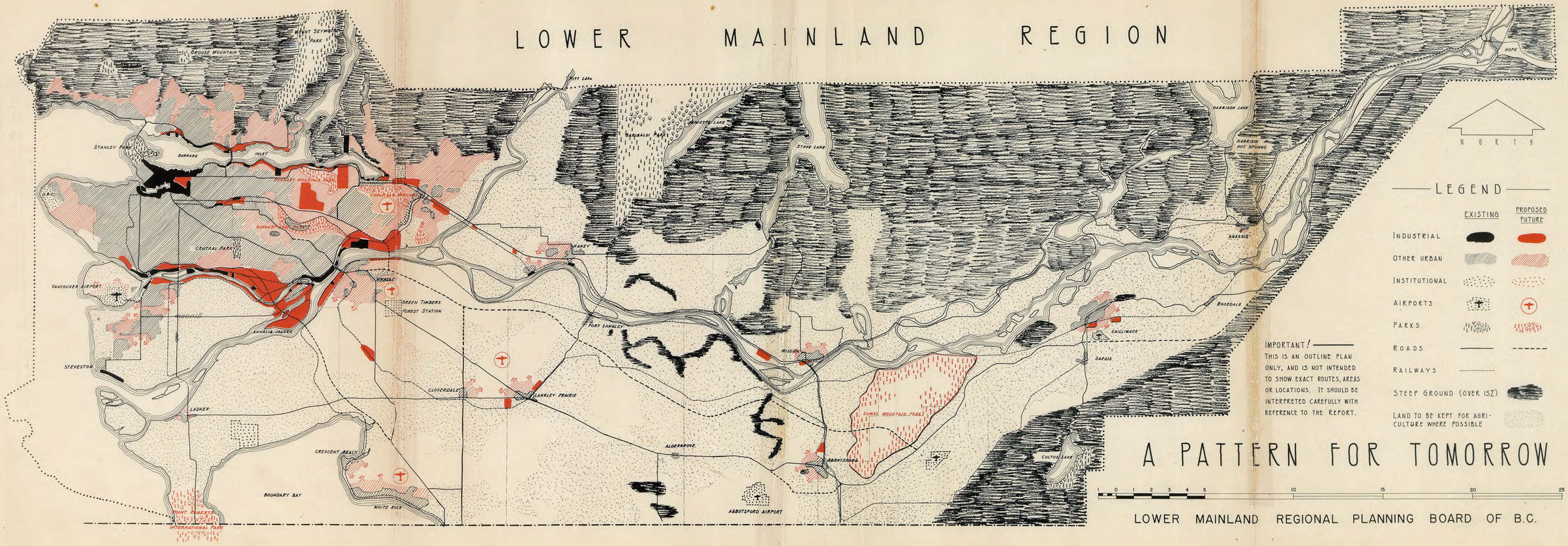
In time a third crossing of the Fraser in the metropolitan area may become necessary and one above Fraser Mills might be best since this would not conflict with the use of the deep water channel by large vessels.

With regard to upstream crossings of the Fraser River, reasonable justification for a bridge near Chilliwack now seems to have been established. A recent study of this question concludes "... although a large element of uncertainty is involved... this study indicates that although a bridge(at Rosedale) would not be warranted as a self-amortizing public facility for some years, probably within a very few years it would be more economical than a ferry.

Even now the western part of the Trans-Canada Highway is quite inadequate and since it might be just as costly to widen the present highway as to build a new one, it is suggested that a parallel highway be built several miles to the north. This would have several advantages. It would provide an alternative route in the event of road blocks or repairs, stimulate the development of lightly settled parts of Surrey, Langley and Matsqui, and, if properly located relative to existing railways, would create new industrial sites. Physically there appear to be no obstacles to such a route, branching off at Whalley and rejoining the present highway near Abbotsford.

"A Preliminary Economic Study of the Proposed Rosedale-Agassiz Bridge", The Lower Mainland Regional Planning Board, September 1952.

LOWER MAINLAND REGION



NORTH

LEGEND

	EXISTING	PROPOSED FUTURE
INDUSTRIAL		
OTHER URBAN		
INSTITUTIONAL		
AIRPORTS		
PARKS		
ROADS		
RAILWAYS		
STEEP GROUND (OVER 15%)		
LAND TO BE KEPT FOR AGRICULTURE WHERE POSSIBLE		

IMPORTANT!
THIS IS AN OUTLINE PLAN ONLY, AND IS NOT INTENDED TO SHOW EXACT ROUTES, AREAS OR LOCATIONS. IT SHOULD BE INTERPRETED CAREFULLY WITH REFERENCE TO THE REPORT.

A PATTERN FOR TOMORROW

0 1 2 3 4 5 10 15 20 25

LOWER MAINLAND REGIONAL PLANNING BOARD OF B.C.

Discussion of highways would not be complete without some reference to the controversial subject of bypasses. It will be realized that a bypass can be justified only if a reasonable proportion of the total traffic will use it. In the case of many rural towns, most of the traffic is heading for town anyway and it would be absurd to bypass it. But where a town is located on a highway like the Trans-Canada Highway, which carries regional as well as local traffic, there may be need for a bypass. Since such proposals often arouse local fears it is interesting to note that recent studies of the effects of bypasses indicate that local trade is usually greatly benefitted. It is suspected that several towns on the Trans-Canada highway such as Langley Prairie, Abbotsford and Chilliwack, would actually benefit by bypasses, but a separate study would have to be made in each case.

AIRPORTS

Since airport planning is specialized work and would necessitate a careful preliminary survey, airport proposals have been confined to the remains of the system outlined by Vancouver Town Planning Commission in 1947 and to a few other sites which cursory investigations suggests as suitable.

AGRICULTURE

A natural distribution of agricultural activities will probably take place, depending on transportation costs, the price of land and the relative value of crops.

Market gardening, which can usually outbid other agricultural activities for land, will probably be found nearest the metropolitan area. Dairy farming will stretch back up the valley on the better soils. Fruit and vegetables are likely to be grown in the Mission and Clearbrook areas, around the existing nucleus of a processing and freezing industry. Poultrying does not need either much land or good land, its main requirements being power and water. It will probably be found on the poorer uplands soils, as close to the metropolitan areas as possible for feed supplies and for marketing.

REFERENCE: Transportation and Communication Department,
Chamber of Commerce of the United States,
Washington, D. C., "Do bypasses hurt business?"

PART III. THE FIRST STEPS AHEAD

11. REGIONAL PROBLEMS AND POLICIES

ADMINISTRATIVE PROBLEMS OF THE REGION

Within perhaps 50 years the whole area will be, geographically and otherwise, a miniature New York area, with the Burrard Peninsula as its Manhattan. As this growth takes place, the administrative problems of the Region, and the metropolitan area in particular, will be greatly intensified. The administrative problems of major concern to this Report are planning, parks, water and drainage, and airports. (It should be remembered, however, that many other activities such as education, health and welfare, would also be intensified.)

Planning

The most basic of municipal administrative activities is community planning, since it guides and coordinates the others. Planning is especially necessary in metropolitan areas and regions consisting of many communities, in order that not only highways and utilities, but also the pattern of land settlement, may form a whole rather than a number of unrelated parts. The need for joint planning has already been recognized by the recent formation of a technical committee for metropolitan highway planning. Although this has been set up to deal primarily with expressways, it is obvious that many more such matters will arise as time goes on. Some properly authorized body must be available for this task of planning and coordination.

In general, the control of local development is entirely in the hands of the municipalities. Also in general, municipal development has either proceeded in a completely haphazard way or has been controlled by an arbitrary zoning plan. Such plans are seldom reviewed comprehensively from one decade to another to keep pace with changes, and are riddled with special exceptions. "Planning" is carried out very conscientiously by lay planning commissions which, however, have to work without qualified assistance, without maps and data and without money appropriations.

Recommendation 1 (a) The Regional Planning Board should extend its activities from the purely regional level to direct and assist planning programs in the smaller municipalities. This would be a desirable move, since the Board has already acquired a great deal of knowledge and experience relating to the municipalities and could effectively integrate regional and municipal planning to the advantage of both.

In a metropolitan area consisting of several closely interlocked municipalities, planning must be unified, detailed and authoritative.

Recommendation 1 (c) The Greater Vancouver municipalities should consider establishing a Metropolitan Planning Board to undertake planning in the Greater Vancouver area.

Parks

As time goes on and more people stream out of the urban areas each weekend, more parks, playgrounds, beaches and lakes will be required. And while we are rich in forest areas and parks such as Garibaldi and Mount Seymour which cater to the young and athletic, the lakes and beach areas which are better suited to family recreation are rapidly passing into private hands and are either not available to the general public or are available only a price.

Since large recreation areas are regional assets, and perform a regional rather than a local function, their development should not be left to the whims and inadequate resources of the individual municipalities in which they happen to be located.

Recommendation 1 (e) The Greater Vancouver municipalities should consider establishing a Metropolitan Park Board to develop and administer parks within the metropolitan area; and the Provincial Government should be asked to develop and administer designated large parks in the rural area.

In this event Garibaldi Park would be taken over from its present board by the B. C. Forest Service, an operating body which is better equipped to carry out a full development program. This proposal, which has already been made by the B. C. Division of the Community Planning Association of Canada, seems the best way of realizing the great potential value of Garibaldi Park.

Since the recreational resources of the Region have never been surveyed comprehensively, such a survey should be the first step towards action.

Recommendation 1 (b) The B. C. Forest Service and the Metropolitan Parks Planning Committee should be asked to undertake a survey of the recreational resources of the Lower Mainland in collaboration with the Regional Planning Board and prepare plans for the development of a system of regional and metropolitan parks.

Water and Drainage

Water, whether for domestic, industrial or agricultural use, or as regards its disposal by drainage, constitutes one indivisible field of administration. This is especially so in a natural geographic region such as the Lower Mainland.

In the Region there are two possible sources of water supply, namely the mountain watersheds and underground sources. These sources should not be developed in wasteful competition but in a complementary fashion, each serving its own most economical area. Local drainage problems which, as in the case of the Nicomekl River, have no respect for municipal boundaries, should also be handled on a regional scale, and in conjunction with water supply since drainage can affect the ground water table.

Recommendation 1 (c) In developing future water supplies, valley municipalities should consider utilizing the services of the Greater Vancouver Water Board. Also, the Vancouver and Districts Joint Sewerage and Drainage Act should be amended to bring the whole of the valley within the jurisdiction of the Sewerage and Drainage Board.

Airports

The Federal Government has no statutory policy relating to the development of civil air fields. This is left primarily in the hands of the municipalities, although in specific cases the Department of Transport may give grants in aid. But airports require large land areas and capital investments, which are usually beyond the financial capacity of individual municipalities.

Recommendation 1 (e) The Greater Vancouver Municipalities should consider establishing a Metropolitan Airport Board. Such a board would not only be stronger financially but would also be more able to negotiate with the Federal Government than any one municipality.

In the meantime, further planning is now necessary owing to our failure to act in the past.

Recommendation 1 (d) The Regional Planning Board in conjunction with the Federal Department of Transport should prepare a long-range plan for the development of a regional system of airports.

GOVERNMENT WITHIN THE REGION

The number and scope of the above problems suggest that some form of government above the municipal level is needed. This does not imply that the municipalities will disappear. It only means that many matters are growing too big for them alone and should be dealt with by a higher body or bodies, which will supplement municipal governments.

The Goldenberg Report of 1947 dealing with provincial-municipal relations in British Columbia recognized this basic problem in the metropolitan area, and recommended "that consideration be given to the provision of additional services on a joint basis in the Vancouver area". It is suggested, however, that this recommendation does not go far enough. It would not be good democratic government to have a number of powerful administrative boards acting autonomously above the municipal level. They should be responsible to some governing body representing the municipalities. It is therefore suggested that at least a Metropolitan Council and a Valley Council would be necessary for responsible government.

An article in McLeans Magazine of 15th November, 1951, dealing with the chaotic state of local government in Greater Toronto made it clear that the problem of metropolitan government is particularly real and that it grows increasingly difficult to solve as the metropolis grows larger and its separate governments become more deeply entrenched. We should take warning from the fact that after many years of bickering, Toronto's administrative tangle has been taken out of the hands of the municipalities involved and is to be unravelled by a provincial board.

The same problem has been recognized in Greater Winnipeg, where the Government of Manitoba has appointed a special committee to report on reorganization of local government in the metropolitan area.

Within perhaps 30 years, Greater Vancouver will be larger than Greater Toronto is today. If it is not to suffer the same fate as Toronto; if it is not to blight its own potential as a great metropolitan centre of trade and industry, Greater Vancouver must further organize its government - which was set up in the horse and buggy era - to meet the needs of today and tomorrow. This is probably the most important issue facing the Lower Mainland Region today. Its urgency cannot be overstated. Action cannot be taken too soon.

Although this will not be done easily, three things are clear. First, the longer it is left the more painful and bitter it will be. Second, it would be better settled by agreement between the municipalities concerned than by provincial decree. Third, if the municipalities delay too long, like Toronto, they may be deprived of the right to choose, and saddled with a solution imposed by a higher authority. And the writing is on the wall.

It is submitted that, for the same reasons - although the urgency is not so great as in the case of the metropolitan area - a Valley Council would be desirable for the rural districts.

Recommendation 2 The municipalities of the Region should have a study made of the need for some kind of regional government, and of its form and scope. This might well be dealt with by the Fraser Valley Municipal Association together with the City of Vancouver. It is also suggested that the study should be undertaken by an outside rather than a local commission. Either the Provincial Government might be asked to set up a Royal Commission, or the municipalities might themselves agree on an impartial commission.

Although only Metropolitan and Valley Councils have been mentioned, as offering the most practical solution in the near future, it will be realized that from many points of view the ideal solution would be a Regional Council. It is for this reason that the above recommendation suggests that the whole problem should be studied in general without prejudice to the final recommendation.

METROPOLITAN RAILWAYS AND HARBOURS

Railways

The railway system in the metropolitan area is a controversial subject. To outward appearance it is a rather haphazard network of five different railways. (This will be reduced to four, if the National Harbours Board Railway is acquired by the Canadian National Railway, but would again rise to five if the Pacific Great Eastern Railway were to build a connecting link.) Yet neither of two studies made within the last 25 years suggested that the general layout of the system should be altered, both confining themselves to improvements in the operation of the system as it is. A recent unpublished report by a railway expert concluded that frequent criticisms of the operation of the system have not been justified. This report also concluded that the establishment of a separate company to handle all terminal switching would not achieve any real advantage and would be very difficult to achieve.

Under these circumstances no recommendations can be made regarding the railway system. This important matter is not likely to lie dormant, however, as it will certainly be studied closely by both the forthcoming Vancouver Town Planning Department and any future metropolitan planning body.

Harbours

In the field of harbour administration there are three separate bodies, the National Harbours Board in Burrard Inlet and the New Westminster Harbour Commission and the North Fraser Harbour Commission on the Fraser River. The first and largest is administered by a Port Manager. The latter between them have eight commissioners.

In the case of the Fraser River the areas of jurisdiction of the two independent commissions are completely arbitrary. In one case the dividing line runs down the centre of the North Arm so that the two halves of the narrow channel are under separate jurisdictions.

Since the peninsula will soon be one unified metropolitan area served by common systems of roads, railways and other facilities, it is suggested that its shipping facilities would be better administered by fewer authorities with more logical areas of jurisdiction.

Recommendation 3 The Federal Department of Transport should be asked to study this matter with a view to possible integration of the harbour boards on the Fraser River.

CONTROL OF SUBDIVISIONS

As the law now stands there are serious loopholes in the legislation which empowers municipal councils to control the subdivision of land within their boundaries. As a result, shockingly wasteful and inefficient land patterns occur which are costly to service and difficult to rectify. For example, as shown on page 30, lots can be found which are 60 feet wide and over 1000 feet long, so hedged in by buildings that access roads cannot be built to allow them to be subdivided further.

If urban growth is to be properly controlled, municipalities must have adequate control over subdivisions. This fact has been recognized by the Union of B. C. Municipalities, which recently endorsed proposed amendments to the Land Registry Act and the Municipal Act.

Recommendation 4 The Department of Municipal Affairs should be asked to frame suitable amendments to subdivision control legislation for presentation to the Legislature of British Columbia during its 1952 session.

COMPREHENSIVE ZONING

Most municipalities in the Region have already enacted zoning bylaws by which they regulate the uses of land in their urban communities. But these bylaws have one great weakness. They practically never apply to rural or semi-rural areas, and yet it is in these areas, especially in the fringes around

towns, that the haphazard growth takes place which creates the problems of the future. It is obvious that if it is to succeed in its preventive aspect, zoning must be made comprehensive.

Lest this proposal seem too drastic, it should be remembered that zoning is not a matter of rigid and final restriction. Good zoning is revised as often as changing conditions make it necessary. Moreover, good zoning starts out from conditions as they are and is adapted to the natural suitability of the land. For example, in rural areas there might be small-holding zones in which lots might not be less than perhaps one acre, and several agricultural zones, each with different farm area requirements depending on the character of the ground and the prevailing mode of agriculture. In any case the individual is protected against arbitrary or harsh applications of zoning by the right to appeal to Appeal Boards.

Proper rural zoning is not only fair and reasonable but is absolutely necessary for the sound development of the Region and its municipalities. The power to enact rural zoning laws already exists by statute, and needs only understanding and skill for proper application and political courage for its use.

Recommendation 5 The Regional Planning Board should study the possibilities of rural zoning with a view to making recommendations to the municipalities.

LAND CONSERVATION

Several recent developments have drawn attention to the need for wise use of land in the Region. For example, in some parts of Surrey, which is being steadily stripped of its tree cover, soil erosion is apparent. This not only threatens to sterilize and deface the areas concerned but is causing silting up of ditches, resulting in high maintenance costs. In the same area Bear Creek, which only a few years ago was a salmon spawning stream, is now a fitful trickle of water. Yet another effect has been the drying up of many shallow wells, indicating a lowering of the water table. Again, along the Rosedale-Hope stretch of the Trans-Canada Highway it has been observed that land slides have occurred only in areas which have been logged off.

Recommendation 6 (a) The Department of Lands and Forests should be asked to intensify its work dealing with the operation of woodlots. This service, which consists of demonstration and advice, should be brough to the notice of farmers through such organizations as Farmers' Cooperatives and the B. C. Electric Farm Service.

(b) The Federal, Provincial and U.B.C. Departments of Agriculture should be asked to undertake, through their extension branches, a program of education and demonstration in conservation methods.

(c) These programs should be carried out in collaboration with commercial enterprises such as Timber Preservers, Limited, which are interested in sustained-yield operations and carry out free advisory surveys for farmers.

FACTUAL RESEARCH & SURVEYS

It should be the policy of the Regional Planning Board to encourage and assist all surveys and research projects, promoted by the governments, universities or private organizations, which add to our knowledge of the people and resources of the Region. Those which are most urgently needed are the following:

Recommendation 7 (a) An economic inventory and analysis. The B. C. Department of Trade and Industry should be asked to undertake for the Lower Mainland Region an economic survey similar to that carried out in 1951 for the Okanagan, Similkameen and Kettle Valleys. All organized bodies concerned with industrial and commercial development, such as the Greater Vancouver Industrial Development Commission and Boards of Trade could be expected to support this request.

(b) A study of climate. This could be correlated with the soils and ground water survey now being carried out by the Federal Department of Mines and Surveys to form the basis of a regional study of irrigation. The Federal Department of Transport should be requested to establish additional meteorological stations throughout the Region so that comprehensive and continuous records may be obtained. The number and location of stations should be decided in consultation with local bodies such as the B. C. Department of Agriculture, the Geography Department of the University of British Columbia and the Regional Planning Board.

POINT ROBERTS

Point Roberts, an area of about 5 square miles, is that piece of United States territory which hangs like an afterthought from the south end of the Delta peninsula. It is one of several situations, created by the arbitrary establishment of the 49th parallel as the International Boundary, which are quite absurd from the point of view of geography and government. Point Roberts has a small, permanent community consisting mainly of fishermen, but its summer population is greatly increased by Canadian holidaymakers, many of whom own property there. At weekends there is a great influx of people from the Region who line up and submit to the usual Customs formalities.

Whichever country owns it, Point Roberts is definitely a recreational outlet for the people of the Region. It also has some economic value as a small fishing centre. But possibly its chief value is that, by virtue of its position and shape, in Canadian hands it would control the fishing rights over a sea area of perhaps 100 square miles. In the meantime, completely haphazard land development has been taking place, and shacks, houses and commercial establishments have been springing up in disorder. If this pleasant area is to be developed fully and become as useful as possible to the people of the Region, its growth should be properly controlled, preferably by Canada, whose people use it most.

On the assumption that the area could not be acquired outright owing to constitutional difficulties on the part of the United States, two alternative suggestions are made:

Recommendation 8 (a) The Federal Government should be asked to try to obtain a lease on Point Roberts for say 99 or 999 years.

(b) The Federal Government should be asked to try to arrange that the U. S. portion of Point Roberts together with part of the adjoining Canadian territory be designated jointly as an International Park similar to the Waterton-Glacier International Peace Park.

REFERENCES:

H. Carl Goldenberg, "Provincial-Municipal Relations in in British Columbia", King's Printer, Victoria, B. C., 1947.

Regional Development Division, Department of Trade and Industry, "Industry and Markets in the Okanagan, Similkameen and Kettle Valleys", Victoria, B. C., 1951.

12. WHERE DO WE GO FROM HERE?

This report has done three things which bear on the development of the Lower Mainland Region.

1 It has presented a number of facts which must be known and utilized if the Region is to be developed in an orderly way.

2 It has stated four broad principles which should underlie our development and use of land.

3 It has made a number of specific recommendations.

NOW WHAT?

Each Municipal Council in the Region, having considered this Report, should decide whether or not to endorse its recommendations, and should instruct its Regional Planning Board representative accordingly. If a majority of the Board members endorse the recommendations,

1 The Regional Planning Board will undertake specific studies on airports, parks and rural zoning in collaboration with other bodies, and will direct and assist local planning programs.

2 The municipalities will be asked to have a study made of the need for some form of metropolitan and valley government, and the Greater Vancouver municipalities will be asked to consider setting up metropolitan boards for planning, airports and parks.

3 The Provincial Government will be asked to prepare subdivision control legislation, undertake a land conservation program and carry out an economic survey of the Region.

4 The Federal Government will be asked to set up meteorological stations, study the need for integration of harbour authorities, and arrange for the development of Point Roberts.

In addition to participating in the above activities where it can profitably do so, the Regional Planning Board will continue to study specific regional problems as they arise.

For the present, some of the main problems of the Region have been diagnosed and referred to the bodies best fitted to deal with them. For the future, the Regional Planning Board will not only deal similarly with new regional problems but will attempt to diagnose them continuously as they develop. In other words this is the first step in a continuous program of study of regional problems, which is only a prelude to action by the appropriate authorities.

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