

THE URBAN DEVELOPMENT OF CENTRAL VANCOUVER ISLAND

by

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ABSTRACT

The thesis is a study of the urban development of Central Vancouver Island, an area which lacks economic homogeneity. Throughout the period of settlement, agriculture has been second in importance to coal mining and later to the forest industry. Much of the settlement in the region has been as a result of the utilization of three natural resources - coal, forest and land suitable for cultivation. Access to a means of transport was the early factor limiting expansion of settlement, in particular access to the coast and steamers from Victoria. As transport facilities on land improved, occupation of inland areas took place.

The first urban settlement in the region was associated with coal mining in the Nanaimo area, and later farther north at the Cumberland-Union mines. The second phase of urban growth occurred from 1900-1930, a period characterized by decreasing profits from coal mining and greater importance of forest industries. This phase is marked by the growth of Duncan and Courtenay as service centres for their respective agricultural hinterlands and by changes in the location of mining centres.

A rapid increase of population occurred as a result of advances in the forest industry, and of concurrent increase in the service industries, between 1931 and 1961. This third phase of settlement is characterized by an improved and expanded highway system

which greatly facilitated the growth of a hierarchy of urban centres, both service and industrial, along with the expansion of the settled area of the Island.

A statistical analysis of the population and number of central functions and functional units present in the urban centres of Central Vancouver Island was carried out. Comparison of the results obtained with those published for a similar study in South West Iowa, indicates that most of the relationships present in the latter agricultural region are also present in Central Vancouver Island, but to a less marked degree because of the presence of a larger number of industrial centres. Another conclusion is that the study of trade centres through this period illustrates the fact that those centres which are of a high order in a hierarchy tend to increase more rapidly than lower order centres.

Five centres, Nanaimo, Duncan, Courtenay, the Albernis and Ladysmith, were selected for detailed study of their changing functions and morphology. This revealed the importance of transport facilities, wharfs, railways and highways, which have resulted in industrial expansions and, in some cases, increase of service functions.

The central and port location of Nanaimo has led to its growth

as the major wholesale distribution point for the area and it is as the tributary area to Nanaimo that the region attains unity. Despite the variety of economic backgrounds to which the urban centres owe their existence, and the early growth of settlement in widely separated locations, the development of a network of communications has allowed the evolution of a hierarchy of urban places within the region.

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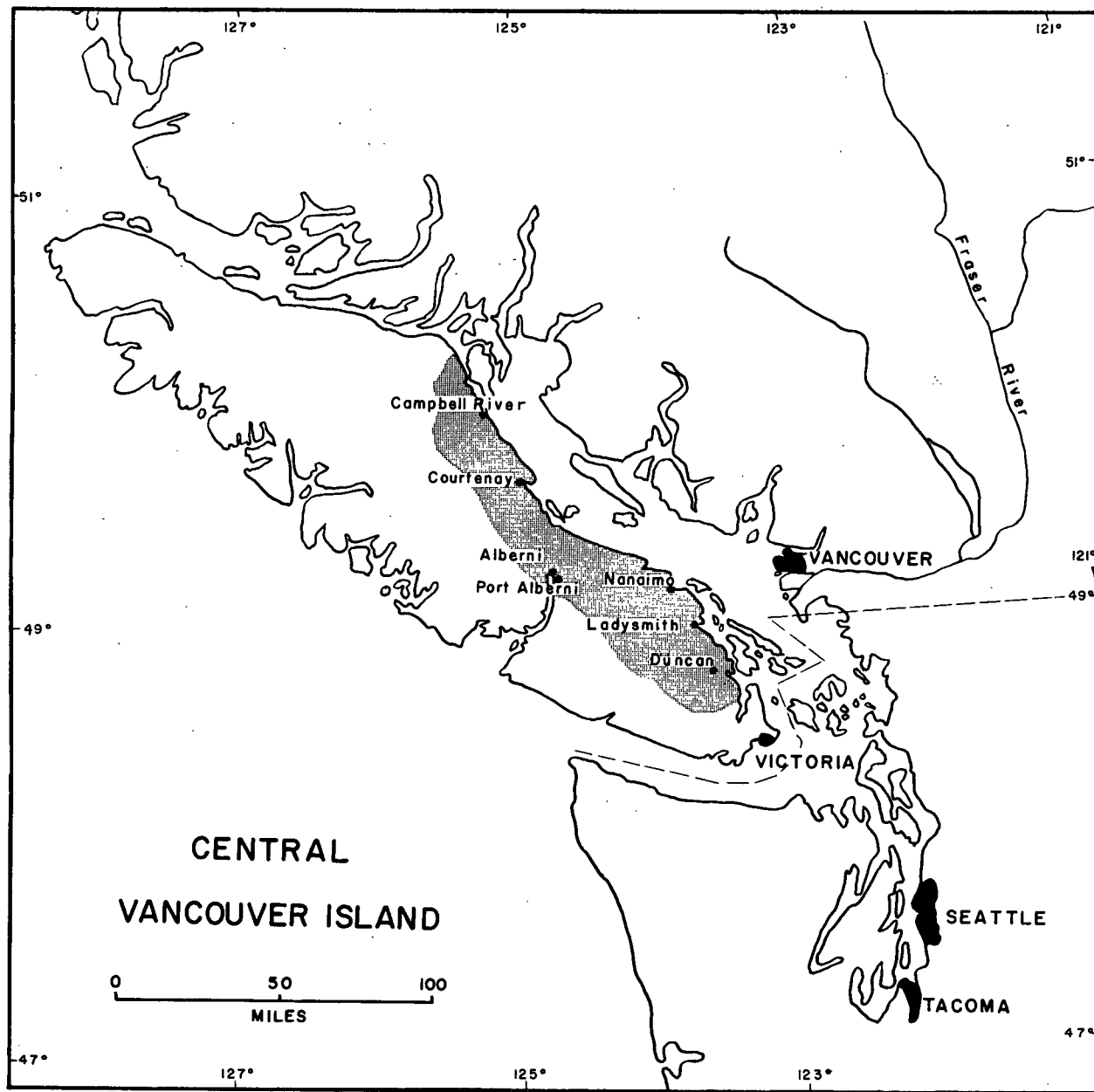
CHAPTER I

INTRODUCTION

The Problem

Many geographical studies have been made of the urban development of North American areas that are basically agricultural. In addition much has been written on aspects of the geography of individual urban centres. Little, apparently, has been published about regional urban development in areas which do not have substantial agricultural development. Vancouver Island is an area of this type where only a few urban settlements have agricultural origins. This study attempts to determine the character of urban development within part of Vancouver Island.

The region, shown on Map 1, has been delimited to include the zone of continuous settlement, rural and urban, along the east coastal plain of Vancouver Island excluding the Greater Victoria region but including the Alberni Valley. This region was chosen for a geographical study of urban settlement because there is variety in both size and function of the urban centres and also because the region is the wholesale trade area of Nanaimo. Both of these factors suggest that while the area provides scope for the study of several different factors of urban development, a hierarchy of central places may exist, that might give a degree of unity to the region. This region will be referred to as Central Vancouver Island.



Map 1. Central Vancouver Island

The Approach

R. E. Dickinson states that:

"The geographical study of an urban settlement is concerned with four main problems: first, the physical and cultural conditions that were involved in the origins of the nucleus of settlement; second, the reactions of this nucleus, in its functional and morphological development, to the impact of historical events; third, the life and organization of the contemporary settlement viewed areally, both as a whole and with respect to the differentiations within it; fourth, the inter-relations between the settlement and its surrounding territory. In addition to the study of an individual settlement there is, however, a further important aspect of study, namely, comparison."¹

This study of Central Vancouver Island, although dealing with the urban development of a region rather than a single centre concerns itself with the problems suggested by Dickinson. Chapters two and three of the thesis deal with the urban development of the region as a whole and chapter four is a more detailed study of five selected urban areas within the region.

The first portion, (chapter 2), which is a study of the origins of settlement, has involved an examination of sources in the Provincial Archives, Victoria, B.C.. Newspaper files, unpublished manuscript material and early photographs of the region, centennial histories of pioneer activities on the Island and similar reference materials were consulted. In the preparation of the maps of population distribution prior to 1931 (Maps 3-8) the boundaries of census divisions were determined from the written descriptions provided by the Dominion Bureau of Statistics. The material available on the settlement origins and development in the region prior to 1931 varies in quantity and quality and for some localities it offers little for a study of this kind.

Three activities, coal mining, forestry and agriculture have been the major propellants to the development of the economy of the Island as a whole. The first section of the study is therefore concerned with the influence of these activities upon the settlement pattern, location and growth within Central Vancouver Island. As the utilization of natural resources is dependent upon the accessibility of resource and market, the development of transportation facilities on the Island has been considered as one of the major locational influences of urban settlement.

The second portion of the thesis, (chapter three), continues the study of urban development in the region up to the present time. A survey of all the factors involved in the growth of the economy of the region within the last thirty years is beyond the scope of this study. Instead an attempt has been made to determine first, if an urban hierarchy does exist within the region at present, and second, the structure of this hierarchy from 1931 to 1961. This has been based upon a survey of the central functions present within all the urban settlements of the region.

To determine the structure of the hierarchy in 1961 the correlations between size of settlement, number of types of central function, and number of functional units were examined in an attempt to discover what relationships existed at that date. In order to discover if the relationships in a sample area not primarily agricultural are similar to those for an agricultural region the results were compared to those determined for Southwest Iowa by B. J. L. Berry, H. G. Barnum and R. J. Tennant.² A different method had to be used for 1931, 1941, and 1951 because

although the number of central functions present in the various urban centres at earlier dates can be determined from telephone directories, it is not possible to obtain the population data for unincorporated centres prior to 1956 when such figures were first included in the Census of Canada. The British Columbia Directories³ list estimated populations for many unincorporated settlements but there is no indication given as to the areal basis of the population estimate. Further, in cases where the population is known from the census there is frequently considerable discrepancy. Therefore, the method used to establish the hierarchy for earlier years is similar to that used by J. R. Borchert in "The Urbanisation of the Upper Mid West 1930-1960"⁴. This is based upon levels of trade activity and requires less initial information. The hierarchy which has emerged from this application for the period 1931-1961 indicates changes in the economy of the region and, particularly, changing transportation patterns and associated alterations in accessibility.

After the study of urban development upon a regional basis, five of the major settlements were selected for a detailed examination of their morphological and functional characteristics. This examination forms the third portion (chapter four) of the thesis. Development of these five centres as reflected in the changing patterns of commercial land use was mapped for the period 1931-1961. Present commercial land use was plotted in the field, and at the same time interviews were carried out in an attempt to establish previous use of the city lots. The greater part of the compilation of the maps for 1931, 1941, and 1951 was accomplished

by using the B. C. Telephone directories which provide the street addresses of commercial establishments. These addresses were related to those determined in the course of field work. The information obtained by interview and from the British Columbia Directories for 1931 and 1941 was used to check the land use plotted from the telephone directories. It had been intended to carry this phase of the study further into the past, but telephone directories for the area prior to 1931 list only a portion of the commercial businesses. Furthermore, a diligent search for material clearly indicated that other available sources were not sufficiently reliable to warrant such an attempt within the scope of this study.

From these urban land use maps a study of the morphological development as related to changing functions, transport facilities and population was possible for each of the five centres. Comparison of the relative importance of the various factors to the growth of individual centres was also attempted.

Chapter five summarizes the main findings of the study and also highlights the importance of transport facilities as a major factor in the urban development of Central Vancouver Island.

¹Dickinson, R. E., "The Scope and Status of Urban Geography; an Assessment", Land Economics, XXIV, (August 1948), p.224.

²Berry, B. J. L., G. H. Barnum and R. J. Tenant, "Retail Location and Consumer Behaviour", Papers and Proceedings of the Regional Science Association, Vol. 9 (1962), pp. 65-106.

³The British Columbia Directories, as distinct from the B. C. Telephone directories, do not give addresses when listing commercial establishments, and, as listings are under the names of residents there is no guarantee that the business is actually in the community in which the owner resides.

⁴Borchert, J. R., The Urbanisation of the Upper Mid-West 1930-1960, University of Minnesota, Minneapolis, 1963.

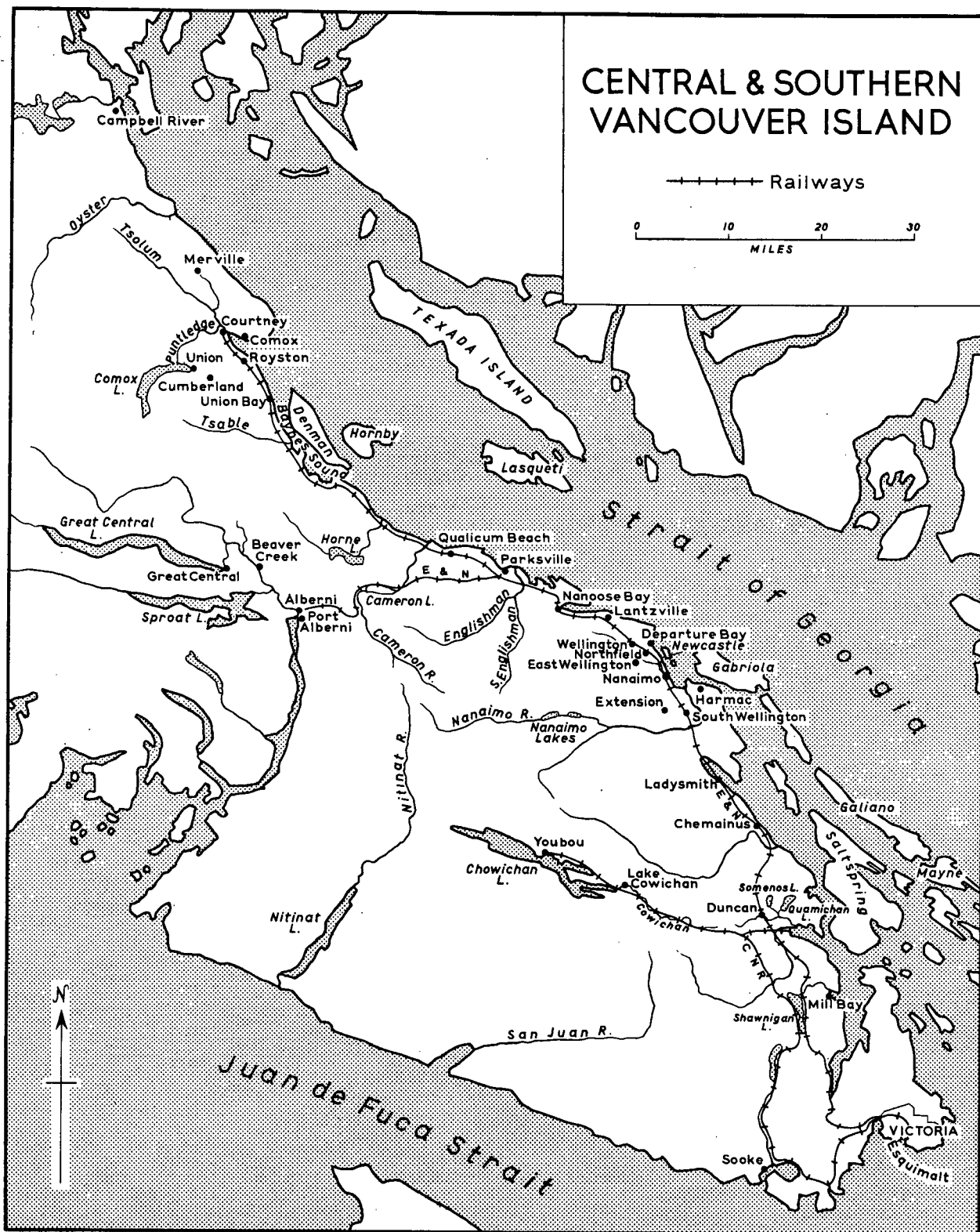
CHAPTER II

THE ORIGINS OF SETTLEMENT IN CENTRAL VANCOUVER ISLAND

It was not until fifty years after Captain Vancouver had established its existence as an island that the colonization of Vancouver Island began. Within the first decade of settlement, that is by 1850, the three economic activities which have played major roles in the development of the Island had been established; agriculture, coal mining and forestry. The present pattern of urban settlement has its origins in the early development of these industries and their associated transport facilities.

In 1843 the Hudson Bay Company constructed Fort Victoria and agriculture developed on a limited scale in the adjacent area of the Saanich Peninsula and in the Colwood district. Disputes between Great Britain and the United States as to the location of the international boundary were settled in 1846 when the Oregon Treaty was signed establishing the forty-ninth parallel on the mainland, and the middle of the channel between Vancouver Island and the mainland, as the boundaries of the crown colonies. Prior to this conclusion of the dispute, several Royal Navy ships had been sent to Victoria as a precautionary measure and this had increased the demand for foodstuffs to such an extent that the agricultural labour force of fifty had to be augmented by training Indians to milk cows and use agricultural implements.¹

Coal mining commenced in 1849 at Fort Rupert in the northeast.² This activity was also undertaken by the Hudson's Bay Company



Map 2. Central and Southern Vancouver Island. Source: South Western, British Columbia (10 miles to 1 inch) Department of Lands and Forests, B.C.

and the coal was sold to the Pacific Mail Steamship Company.³ The coal at Fort Rupert did not prove extensive and the miners were unwilling to remain due to the hostility of the natives; consequently, in 1852 operations transferred to the Nanaimo district.⁴ Prior to 1852 all the white people on Vancouver Island with the exception of one family and servants, were employees of the Hudson's Bay Company.⁵ The optimism regarding the prospects of the Nanaimo coal mines brought several shiploads of genuine settlers, miners and their families from mining areas of Britain. Between 1852 and 1861, 55,408 long tons of coal were exported.⁶

The first lumber operations other than the clearing of land for agriculture began at Millstream, near Esquimalt in 1848.⁷ A second mill went into operation at Sooke in 1850⁸ followed shortly by mills at Mill Bay and Genoa Bay.

Agriculture

The development of the mines at Nanaimo and the subsequent gold rush to the interior of British Columbia provided an increased and reliable market for agricultural produce. As a result agriculture in the Saanich Peninsula became well established, while the Cowichan and Comox valleys began to develop as significant agricultural nuclei. These three areas of early and continuing agricultural importance are the locations best suited to agriculture due to their position on the sheltered east coast of the Island where rainfall is comparatively low and temperatures mild. The frost free period is longer than in other areas of Canada

with two hundred and eighty-two days in Victoria and approximately two hundred days in most of the rest of the east coast. At Duncan where the frost free season is shorter, one hundred and fifty-five days, there are higher summer temperatures and a greater number of hours of sunshine than elsewhere.⁹ The soils of these areas are derived from glacial and marine deposits whereas in the adjacent upland lithosols and extensive rock outcrops are common. The areas of earliest agricultural settlement were those with a parkland type of vegetation which was more easily cleared than the heavy coniferous forest in surrounding areas. Summer drought was a problem for the early settlers.

Within Central Vancouver Island two areas of major agricultural importance emerged - Cowichan Valley and Comox Valley. Cowichan Valley in 1858 had one settler farming near Quamichan Lake and in the next two years he was joined by an additional nineteen farmers.¹⁰ Farther north around Chemainus, settlement rights were granted to two hundred and twelve persons in 1859 - mainly unsuccessful gold miners returned from the Cariboo region. This settlement was not successful partly due to the lack of sufficient accessible and potentially productive land and probably also to the lack of agricultural skills on the part of the settlers. The twenty-nine farmers settling on Salt Spring Island at the same time were much more successful.¹¹

In addition to clearing the land the farmers had to solve the problem of transporting their produce to Victoria which was the main

market. Cowichan Bay or Maple Bay were the ports of call of the monthly and later weekly steamer which was the only connection with Victoria or Nanaimo. The first road built was to allow settlers at Somenos access to the steamer at Maple Bay. Chemainus did not have a regular steamer call and this lack of communication may have played a part in the difficulties of the settlers there. Meat and butter were the main items which were shipped out from Cowichan and the Gulf Islands.

The second major agricultural area, although very much more isolated due to its location 140 miles north of Victoria was very little later than Cowichan in initial settlement. Evidence as to the date of the first settlers reaching Comox is contradictory. It does seem certain, however, that although there may have been one or two persons in the area by 1860, the first real settlement began in 1862 with two groups of British origin, one direct from Britain and the other, arriving too late for the gold rush, from Australia.¹² By the end of that year there was a population of about sixty almost all of whom were single men. These settlers found that the areas best suited to agriculture were those around the present sites of Sandwich and Comox in areas containing Merville and Lazo soils both of which are associated with parkland rather than forest vegetation. Potatoes and poultry were immediately found to do well and in 1863 a herd of Durham cattle was brought from near Victoria to form the basis of the district's stock. As the numbers of Chinese employed at the Nanaimo mines increased the production of pork in the Comox valley became very profitable. The pigs were allowed to run loose and were

frequently used to clear out the soil before planting.¹³

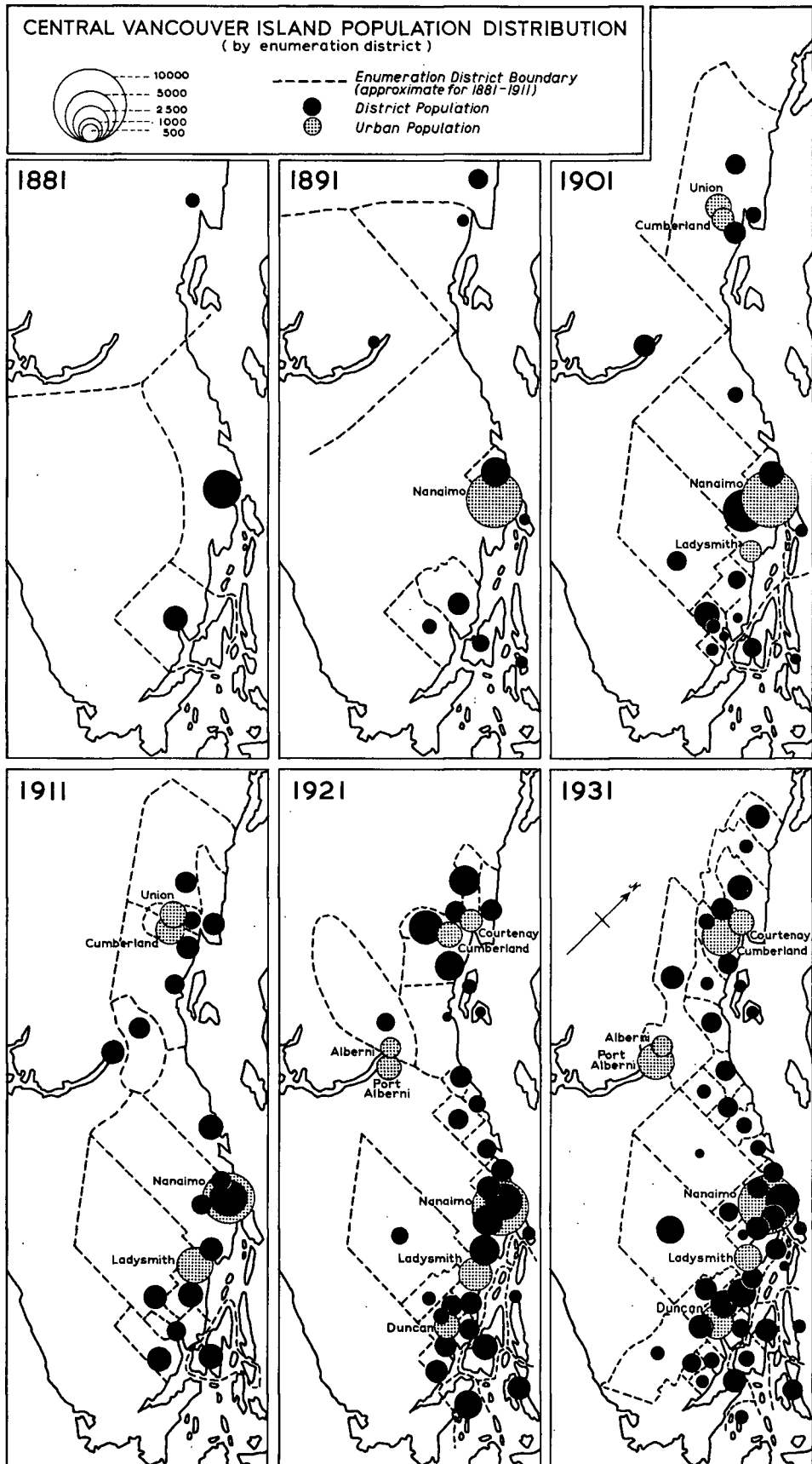
The problem of transportation was greater here than in Cowichan. There were no graded roads prior to 1877 and no regular steamer service until 1870 when the service from Victoria to Nanaimo was extended to call monthly at Comox. In 1875 this was increased to a fortnightly service.¹⁴

Agricultural development in other areas of central Vancouver Island was very limited. The first agricultural settlers arrived in the Alberni area in 1857 followed by a second group between 1861 and 1865, when the first sawmill was in operation, providing a local market for produce. The difficulty of clearing suitable land for agriculture and perhaps the less favourable climate, in comparison with the east coast, restricted the agricultural development and it is unlikely that more than thirty families have at any time made a living from agriculture.¹⁵ In the immediate vicinity of Nanaimo the unfavourable soils and terrain greatly limited agriculture and from an early date small farms were operated on a part-time basis only.

During this early phase the settlement within these agricultural areas had little commercial development associated with it, and settlement was therefore entirely rural.

Coal Mining

The importance of the coal mining areas of Vancouver Island as the focal points for population growth throughout the early years of

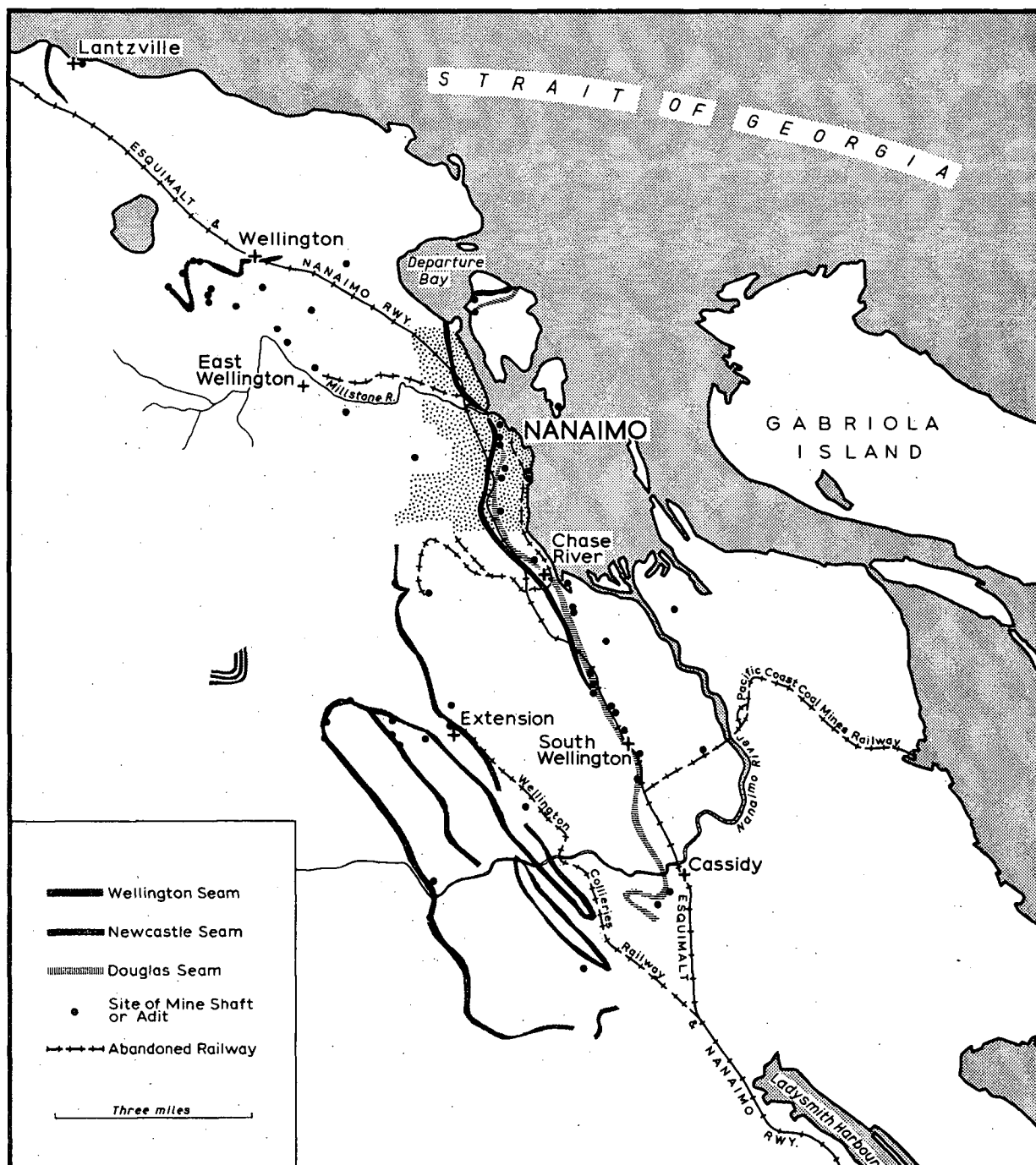


Maps 3-8 Central Vancouver Island Population Distribution 1881-1931. Source: Dominion Bureau of Statistics

settlement is illustrated by maps 3, 4, and 5. Three major coal bearing seams are present in the east coast region, the Douglas, Newcastle and Wellington seams (Map 9) of which the first two were frequently mined in the same areas and were seldom more than fifty feet apart in depth.

Although mining began at Nanaimo in 1852 the big expansion of the industry came in 1869 when Robert Dunsmuir discovered coal at Wellington.¹⁶ Two years later Dunsmuir, Diggle and Company were working at Wellington while the Vancouver Coal Company operated at Nanaimo. These were the only two communities of significant size north of Victoria at the time of the incorporation of Nanaimo in 1874. Nanaimo grew rapidly and by 1877 there were 1,150 adults and three hundred Chinese, while nearby Wellington had a population of 1,000. It is obvious that other immigrants to the area by then had decided that Nanaimo was, or was to become, the commercial centre for the district. In 1877 there were fifty retail and twenty-four service establishments in Nanaimo as compared with one store and an hotel at Wellington.¹⁷

Between 1880 and 1890 the Vancouver Coal Company (later the New Vancouver Mining and Land Company) extended its operations to Chase River and Northfield, while the Dunsmuir interests developed in Millstone Valley. (See Map 9). The building, in 1886, of the Esquimalt and Nanaimo Railway and at the same time the completion of the Canadian Pacific Railway to the west coast provided a more reliable market than any that the Nanaimo mines had previously supplied.



Map 9. The Nanaimo Coalfield. Source: Map 54 A, Accompanying Summary Report, Canada Department of Mines, 1911; and Nanaimo Coalfield, British Columbia, Paper 47.22, Canada Department of Mines and Resources Geological Survey of Canada, 1947.

The depletion of the Wellington mines caused changes in the location pattern of the producing mines and of the miners' dwellings by 1900. In 1895 South Wellington came into production, mining the Newcastle and Douglas seams, followed shortly by a new mine at Extension utilizing the Wellington seam. At first the miners moved near to the pit head at Extension but this was not acceptable to the management for several reasons. James Dunsmuir preferred to have the miners employed by his company live in company towns but the owner of the land around the pit head, although willing to lease to individuals, would not sell in order to allow a town site to be set out. In addition there had previously been trouble with the miners at the Nanaimo mines and it was felt that Extension was too close to Nanaimo. A third problem which faced the Dunsmuir Company was that of transporting the coal to a convenient shipping point. The route originally planned, although partially constructed, had to be abandoned because it had to cross part of the land owned by the New Vancouver Coal Mining and Land Company between Extension and Departure Bay and due to the rivalry between the two companies, access was not granted.¹⁸

For these reasons Dunsmuir decided to construct a company town at Oyster Harbour - later to be named Ladysmith. This town is noticeably different from the others on the Island in that the majority of its buildings were brought by rail either direct from Wellington or from Extension having previously been moved there from Wellington. Many of the hotels and stores which were moved to Ladysmith still exist today

although some of the miners' houses have been demolished. To ensure that his miners had little contact with those at Nanaimo, Dunsmuir made a ruling that all employed at Extension must live in Ladysmith. Thus increase in employment at Extension from 800 to 1,300 from 1900 to 1903 resulted in the rapid growth of Ladysmith to 2,500 by 1903.¹⁹ The town was incorporated in 1904.

The Nanaimo region was not the only area in which the coal bearing seams were of sufficient size to warrant development. The Baynes Sound Colliery had an area of 5,000 acres of coal land ten miles southwest of Comox. This company was formed in 1875 and by 1877 had constructed three and a half miles of tramway and storage and handling facilities at the wharf with a capacity of 300 tons per day.²⁰ The output of the mines was, however, only 50 tons per day. In 1889 the focus of the mining industry in the region shifted to Union and Cumberland, and by 1897 between 700 and 1,000 tons were being produced. By this date Cumberland had grown rapidly and had a department store, nine retail stores, five service premises, four hotels and two sawmills in addition to the mines.²¹

The development of the Cumberland mines resulted in an expansion of agriculture in the Comox district despite the lack of a direct road. The farmers managed to transport their produce by trail until the road was built. Until the development of the mines at Cumberland, most of the settlers in the Comox area were situated on the east

side of the Puntledge River although a bridge had been constructed in the 70's.²²

At the same time as the rapid expansion of Cumberland, a townsite was laid out around the bridge with the larger section to the west.²³ The originator of this site was ridiculed because it did not seem that a town between Comox and the mining area could become a reality. The Courtenay of today is ample proof of Joseph McPhee's foresight. By 1897 there was a hotel on either side of the bridge and about ten other commercial establishments, including McPhee's general store and a post office on the west side.

The building of the Esquimalt and Nanaimo Railroad to Nanaimo in 1886 for use of the coal industry had caused the settlers of Cowichan Valley to demonstrate the need for a station in the Cowichan area. They chose a convenient location at which to halt the train on its inaugural run and the President of the railroad consented to this point, Duncan's crossing, becoming a regular halt.²⁴ The focus of Cowichan Valley almost immediately shifted from Cowichan Bay and the steamer wharf to Alderlea - the first name given to the new townsite at the rail halt. It appears that this name was rarely used. By 1900 there were still only a handful of commercial enterprises.

Forest Industries

All of the settlements along the east coast had by 1900 become engaged, with varying importance, in the lumber industry. In the Cowichan area, Sayward's Mill at Mill Bay had been established by 1862 and there was a second successful mill at Chemainus. A mill at Genoa Bay was unsuccessful.

ful and short lived.²⁵ In 1884 logging operations began at Cowichan Lake. The Chemainus mill, after changing hands several times, passed into the ownership of the Victoria Lumber and Manufacturing Company and had a daily output of sixty thousand feet when a new mill was built in 1890 with a capacity of five hundred thousand feet and having one hundred and fifty employees.²⁶ As the economy in the Cowichan Valley became slightly more diversified, agriculture also flourished and in 1896 the Cowichan Creamery Association was formed and within two years had an annual turnover of \$10,369.²⁷

The Comox Valley saw similar developments at slightly later dates; the first sawmill being established in 1872 on the west side of the Puntledge utilizing some of the very heavy stands of Douglas Fir in the region. Up until this time it appears that the Puntledge River was in some way dammed, probably by logs, in such a way that the area now known as Lewis Park and the present site of the Courtenay Hotel were frequently flooded and consequently avoided by the settlers. When the sawmill began production it was using a diverted stream for power and it appears that there could have been some connection between this diversion and the return, at about the same time, of the Puntledge to its original course and volume. This made possible the substitution of a bridge for the row boat crossing.²⁸ In 1900 the Comox Co-operative Creamery was opened only four years later than the Cowichan Creamery.

Early logging in the Nanaimo area was as a tributary industry

of coal mining and shows the same fluctuations. By 1882 the Millstream Saw Mills had a capacity of forty-five thousand feet per day and employed sixty men and the same firm was also shipbuilding although to that date had only completed one or two ships.²⁹

In the Alberni Valley the first attempt to establish a lumber industry was made in 1860 when a sawmill was constructed. Between 1861 and 1865 thirty-five million feet were shipped - including rough and dressed timber, a large part of it being ships spars for the Clyde shipyards in Britain. The problems of land transport and accessibility forced the mill to close down in 1865 because they could no longer obtain sufficient timber.³⁰ From the 1880's on, several small operations commenced with logging and sawmilling. In 1894 the first paper mill in British Columbia was located in Alberni. There was no chance of success from the outset. It was a rag mill, unsuited to the use of wood pulp, and its isolated location ensured that rags would not be available.³¹ By 1900 Alberni possessed two schools, two churches, six retail stores and three hotels.³²

In addition to these three main economic developments there were few occupations other than in service functions in central Vancouver Island. Around Alberni and in other parts of the Island there were small isolated mines and numerous prospectors. Nanaimo, by far the largest of the settlements north of Victoria, early developed subsidiary industries providing for the local market. In 1882 there was a soda water works, a

brewery, a furniture factory, a tannery, blacksmiths, shoemakers, and a newspaper, the Nanaimo Free Press, established in 1874.³³

Urban Centres

At the turn of the century the mining towns of Nanaimo and Cumberland were the only settlements north of Victoria which could truly be called urban with sizable populations engaged in non-rural occupations. Ladysmith, although a year later surpassing Cumberland in size, had only just had its townsite laid out.

Although there were only the two truly urban centres, the pattern upon which the urban development of central Vancouver Island was to progress was already set. Nanaimo, although a mining town, had quickly established other subsidiary industries and services which early established it as a city of more diversified economy than any other of central Vancouver Island. Ladysmith and Cumberland were completely dependent upon the prosperity of coal mining while another primary industry - lumbering - had resulted in the concentration of settlement in the Alberni Valley.

Duncan and Courtenay showed similarities of development in that each was the collection and distribution centre for an agricultural area in which, prior to 1900, forest industries played a secondary role. In addition, the location of a particular transport facility played a major role in determining the situation of these towns within the region which they serve, i. e. the E. and N. Railroad station at Duncan and the bridge

over the Puntledge at Courtenay.

From 1900 to 1930 there were radical changes in the coal industry. Markets had always been precarious and prior to the First World War several labour strikes had a damaging effect on those which did exist. After the war decreasing markets combined with the depletion of the most accessible and valuable coal seams resulted in a rapid drop in employment in mining. In 1921 Ladysmith and Cumberland were second and third cities in size within the central Vancouver Island area but by this date the population of both was decreasing. Ladysmith's economy was becoming depressed as small industries established in the first ten years of the city's history, (for example, a cigar factory, a stove works, two breweries and a bottling works, a shingle mill and a smelter) had all closed down. By 1928 the mines at Extension had ceased production and although they reopened for short spells several times in the next few years they were never again a major source of employment. The Nanaimo mines which reached their peak production in 1923 showed a slow decline and were later in closing than those at Extension.³⁴ At Cumberland the mine employment dropped steadily from the end of the first World War although one mine was still in very limited production in 1961.

At the same time as this decline in mining, the importance of the forest product industry was increasing steadily throughout the region and in particular in the Alberni Valley with sawmills commencing operations at Great Central and at Port Alberni in the mid-twenties. Only in the

Ladysmith vicinity was lumbering unimportant and there not because of lack of suitable timber but because the company holding the timber rights had not carried out any operations.³⁵

During the period from 1900 to 1930, as illustrated by maps 6, 7 and 8, those towns dependent on coal mining declined in their importance relative to other centres. Nanaimo although not decreasing in population (as in the case of Ladysmith), did not increase at a rate comparable to that of Duncan and Courtenay while the Albernis - in particular Port Alberni - had begun the very rapid growth which was to continue into the 1950's.

Within central Vancouver Island the most significant factor in the settlement pattern prior to 1930 was the coal mining industry. The first phase of settlement was associated with the mines in the Nanaimo region and later at Cumberland. The presence of miners as a market provided the necessary impetus for agricultural development. Early settlement dependent on agriculture was scattered within two main areas, the Cowichan and Comox valleys. As transport facilities improved and the amount of cultivated land increased, two service centres emerged within these farming communities, at Duncan and at Courtenay.

The second phase of settlement in Vancouver Island was characterised by the development of service centres and significant expansion in the forest industry concurrent with a decrease in the importance of coal mining after World War I.

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- 31 Ibid., p. 16.
- 32 British Columbia Directory, 1889-1900, p. 149.
- 33 British Columbia Directory, 1882-83, p. 156-157.
- 34 Report of the Minister of Mines, Victoria, B. C., 1900-1929.
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CHAPTER III

THE URBAN HIERARCHY WITHIN CENTRAL VANCOUVER ISLAND

The period from 1931 to the present has been one of rapid urbanisation on Vancouver Island. A greater number of factors have been at work during this phase of urban development than in preceeding phases. Forest industries take the place of coal mining as the basic economic activity and as the chief factor in the location of several centres. Service functions, however, have become much more important, and are related in part to the total population increase and to the development of a tourist industry. It is because of the apparent importance of service functions in the urban growth of the area, that an attempt to determine whether or not an urban hierarchy has developed was made.

The majority of studies that have been carried out to demonstrate the development of central place hierarchies have used one of two general approaches. Traffic into urban centres from the surrounding area provides one measure of centrality. The second is by the number and size of functions provided in the central places. In the British and European setting, studies of the first type appear to have been the most common, due perhaps to the availability of relevant information, such as the frequency and use of bus services. This type of information is less relevant in North America - and is similarly becoming less meaningful in Europe because of increasing automobile traffic. Statistics for private transport are more difficult to

obtain than those for public transit. The second approach to the development of hierarchies is the more common in North American literature and may be a straightforward classification based on the presence of certain functions or may be a classification dependent upon correlation of several types of data. This second approach appears to have been used, in most cases, where there is considerable homogeneity in the physical and economic setting. The most popular area for this type of study appears to have been the American Mid-West.

It appeared to the writer that a hierarchy of central places might exist and it was decided to use methods similar to those applied to areas of the Mid-West to determine if a hierarchy could be recognised. It was essential that the method used could be projected back in time to make possible a study of changes in the hierarchy. The collection of traffic data, although time consuming, is feasible for a study of the present, but to obtain similar data for past decades is generally impossible. Information relating to the services provided by urban centres can however be obtained throughout the period during which telephones have been in common use.

It has been shown, in Chapter II, that the region under study, Central Vancouver Island, is not an area of economic homogeneity. This study of the central functions of urban areas of Central Vancouver Island while forming an integral part of the thesis study of urban development within the region, can also be considered as a case study, in a region lacking homogeneity, of the relationships between the population and number of central

functions present in the urban centres.

The Urban Hierarchy in 1961

It was possible to conduct a more detailed study of the functions of urban centres for 1961 than for preceeding years because of the availability of more complete population data from the Census of Canada, and also information obtained in the field regarding central functions. The number of types of retail and service functions and the number of times each function was offered within each centre were noted in the field. The twenty-three urban centres which had a population of over one hundred and had at least eight central functions were used in the analysis that followed. All centres listed in the 1961 Census of Canada as having a population greater than one hundred were examined to determine whether or not eight central functions were present.

Using these data and the population statistics from the Census a simple linear regression analysis was carried out to determine what relationships, if any, existed between the three distributions - population, central functions, and functional units. Central function is defined as a type of activity, for example, that of a church, bank or shoe store, without regard to size, while a functional unit is defined as that part of any establishment which provides a single central function. Thus one establishment may have several functional units, for example in the case of a department store.¹ The central functions which are most common in Central Vancouver Island are listed in Figure IV (p. 36).

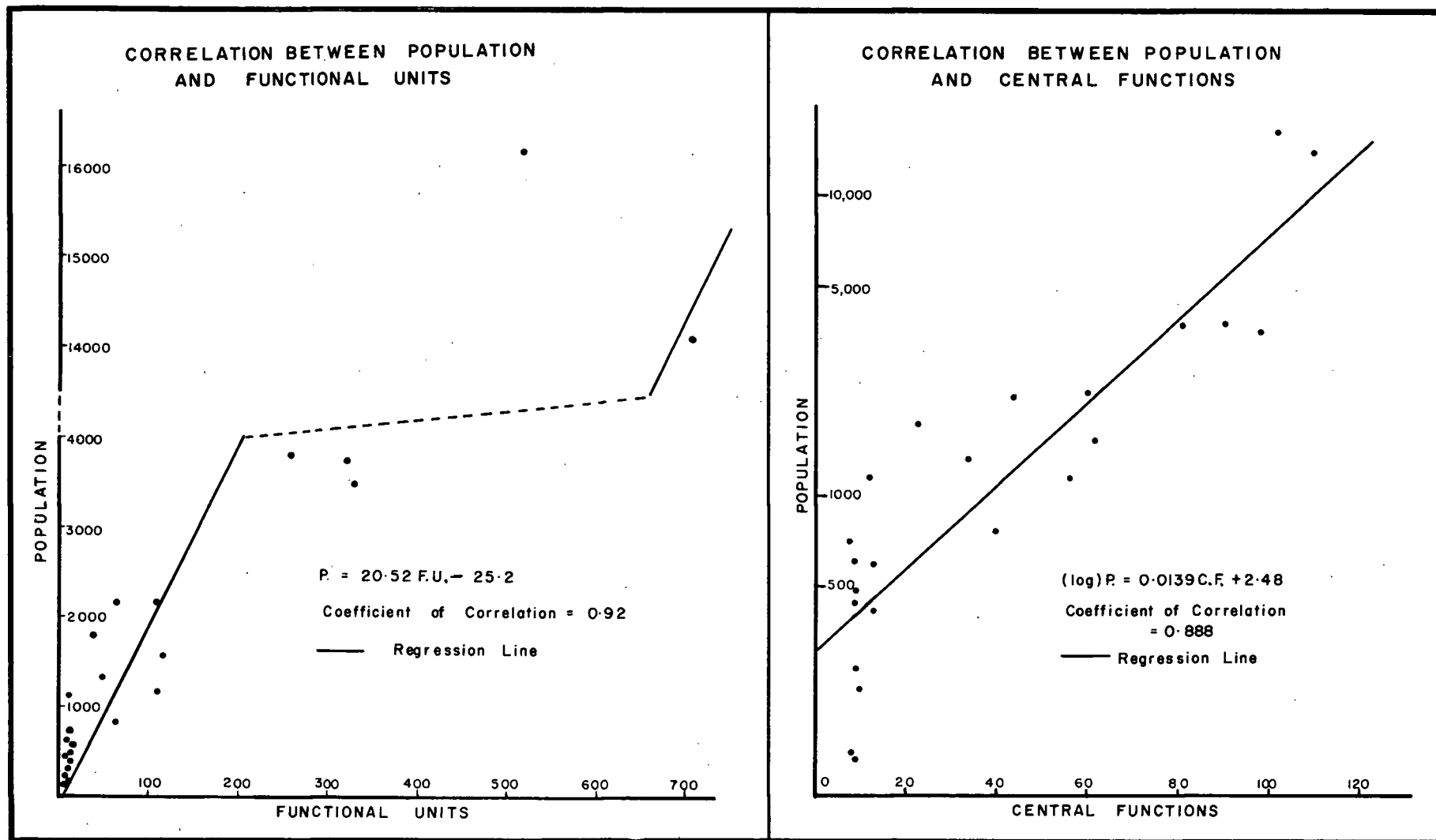


Fig. I Correlation between population and functional units

Fig. II Correlation between population and central functions

The three correlations which emerged as the most significant were between; population and functional units (linear), population and central functions (log-linear), and functional units and central functions (log-linear) as shown by Figures I, II and III.

CORRELATIONS

<u>TABLE I</u>	C. F.	Functional Units (F. U.)	Log F. U. (L. F. U.)
Population (P)	0.76	0.92	0.84
Log Population (L. P.)	0.888	0.74	0.91
Central Functions (C. F.)		0.898	0.987

Regression Lines

L. P.	0.0139	C. F. + 2.81
P	20.52	F. U. - 25.2
L. F. U.	0.0175	C. F. + 0.9507

It is to be expected that as the size of a centre increases, the number of functional units present would also increase. In southwest Iowa, where virtually all urban development is for the purpose of providing services for surrounding agricultural areas, the correlation is high, 0.979 with only two of approximately 70 centres having significant parts of their population dependent upon activities other than tertiary central functions. On Vancouver Island the correlation is still high, 0.92, but there are significant differences. The population of urban centres in Southwest Iowa increases by a factor of 17.6 times the number of functional units $(P = 17.6 \text{ F. U.} - 162.7)^2$, while on Vancouver Island this factor is 20.52. This difference is due to the smaller proportion of the total population of

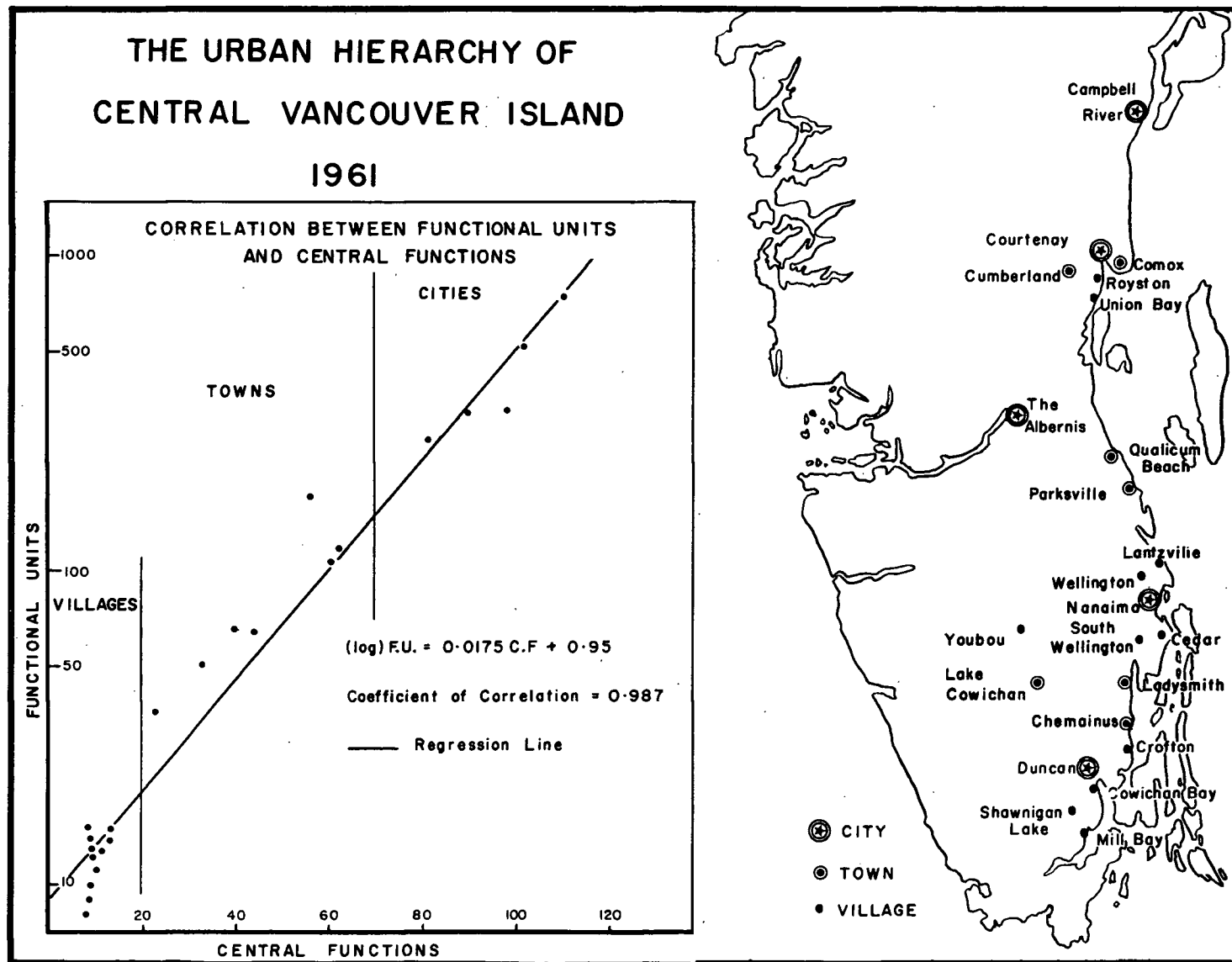


Fig. III and Map 10 The Urban Hierarchy of Central Vancouver Island

Vancouver Island resident outside the urban areas.

Almost all of those urban centres that have lower populations than the number of functional units present suggests, are service rather than industrial centres: Nanaimo, Courtenay, Duncan, Campbell River, Parksville and Qualicum Beach. Nanaimo being both an industrial and service centre is only slightly below the norm while Alberni, the largest industrial centre, deviates greatly with a population excess of approximately 6,000 over that indicated by the number of functional units, and Ladysmith, a dormitory centre, is exactly on the norm.

The correlation between the log of the population and the number of central functions present in the centres of Vancouver Island is considerably lower than that for southwest Iowa, 0.89, as compared with 0.95.³ This is partly due to the presence, on Vancouver Island, of comparatively new industrial centres where the increase in population has far outstripped the development of retail and service functions. In addition, the larger cities of the region under study, Nanaimo and the Albernis, have a higher population than any included in the study of southwest Iowa, and they have fewer central functions per thousand population than the norm. In the development of large cities a point must be reached when very few new central functions remain to be added, although the number of functional units will still continue to multiply. It appears to the writer that Nanaimo and the Albernis have reached the point at which there is a considerable decline in the rate of increase of central functions. Apart from Nanaimo

the service centres of central Vancouver Island have a similar excess of functions in relation to the size of centre as they did functional units.

The only relationship calculated which shows a stronger correlation in Vancouver Island than in southwest Iowa is that between the log of functional units and the number of central functions, 0.987, as compared to 0.976.⁴ The groupings of centres which are apparent in the scatter diagram (Fig. III) bear no immediate relation to the economic base of the centre but indicate certain factors related to the presence of central functions. Where there are less than twenty central functions there seems to be little duplication of services and therefore there are less than the expected number of functional units. In contrast, the greatest duplication of services, shown by an excess of functional units, occurs where the number of central functions exceeds thirty, but not seventy. Centres with more than seventy functions have approximately the expected number of functional units.

These three groupings have been used to develop the urban hierarchy shown on map 10 for central Vancouver Island for 1961. Villages are defined as those centres which have less than twenty central functions and usually have less than the number of functional units expected. Twenty to seventy central functions, and more functional units than the average for the region determine those centres classified as towns. Cities, having developed to maturity have the relationships between functional units and central functions that approximate to the norm for central Vancouver Island.

Although it is on the basis of the groupings shown on figure III that the classification has been made and map 10 drawn, the centres thus classed together do tend to be similarly grouped in figures I and II.

Three broad generalisations based on these three diagrams may be made.

First, that, with the exception of Youbou, the three categories of centre determined from figure III also rank the centres by size of population.

(Reasons for Youbou's anomalous position are discussed on page 45).

Second, all villages tend to have approximately the same number of central functions and functional units, and the number of each which are present bears little relationship to the population of the village. The third generalization is that towns and cities, having a variety of economic base, have a wider range in number of functions and functional units present.

The Development of the Trade Hierarchy, 1931-61.

The method used to determine the changing urban hierarchy for central Vancouver Island between 1931 and 1961 is similar to that applied to urban centres in the American Mid-West by J. Borchert.⁵ In this method the population size of each centre is irrelevant, but the importance of each as a trade centre is considered. The basis of the hierarchy was evolved for 1961 and the same criteria employed for the earlier dates using data obtained from B. C. Telephone Directories. The twenty-three centres upon which the previous analysis is based were again used. Centres which have been excluded were all of the lowest order in 1961, and it does not appear, from a study of the telephone directories that any of them would have had a higher classification between 1931 and 1961.

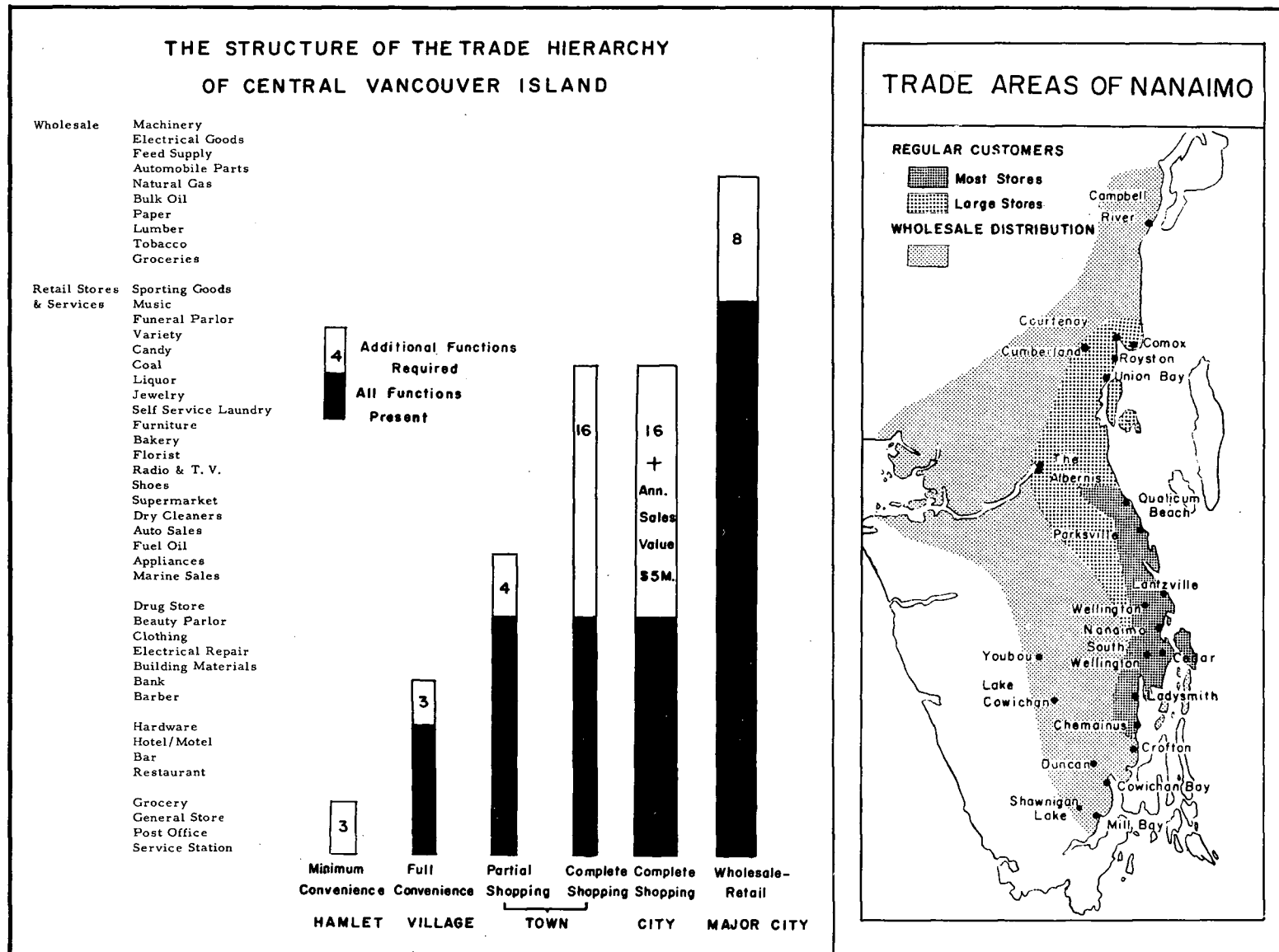


Fig.IV The Structure of the Trade Hierarchy of Central Vancouver Island

Map 11 Trade Areas of Nanaimo

For the purposes of developing a trade hierarchy, only the types of retail and wholesale functions available were considered, that is, it was immaterial to this part of the analysis whether a centre had ten grocery stores or one. The number of different types of retail and wholesale functions which were present in each centre in 1961 was observed in the field. The functions were then ranked according to the number of centres in which they appeared. (Fig. IV) It was observed that the 35 most ubiquitous functions were not the same in Vancouver Island as in either the Upper Mid-West⁶ or in southwest Iowa.⁷ These functions were then grouped as shown on figure IV using natural breaks in the number of occurrences in order to establish ranks in the trade hierarchy.

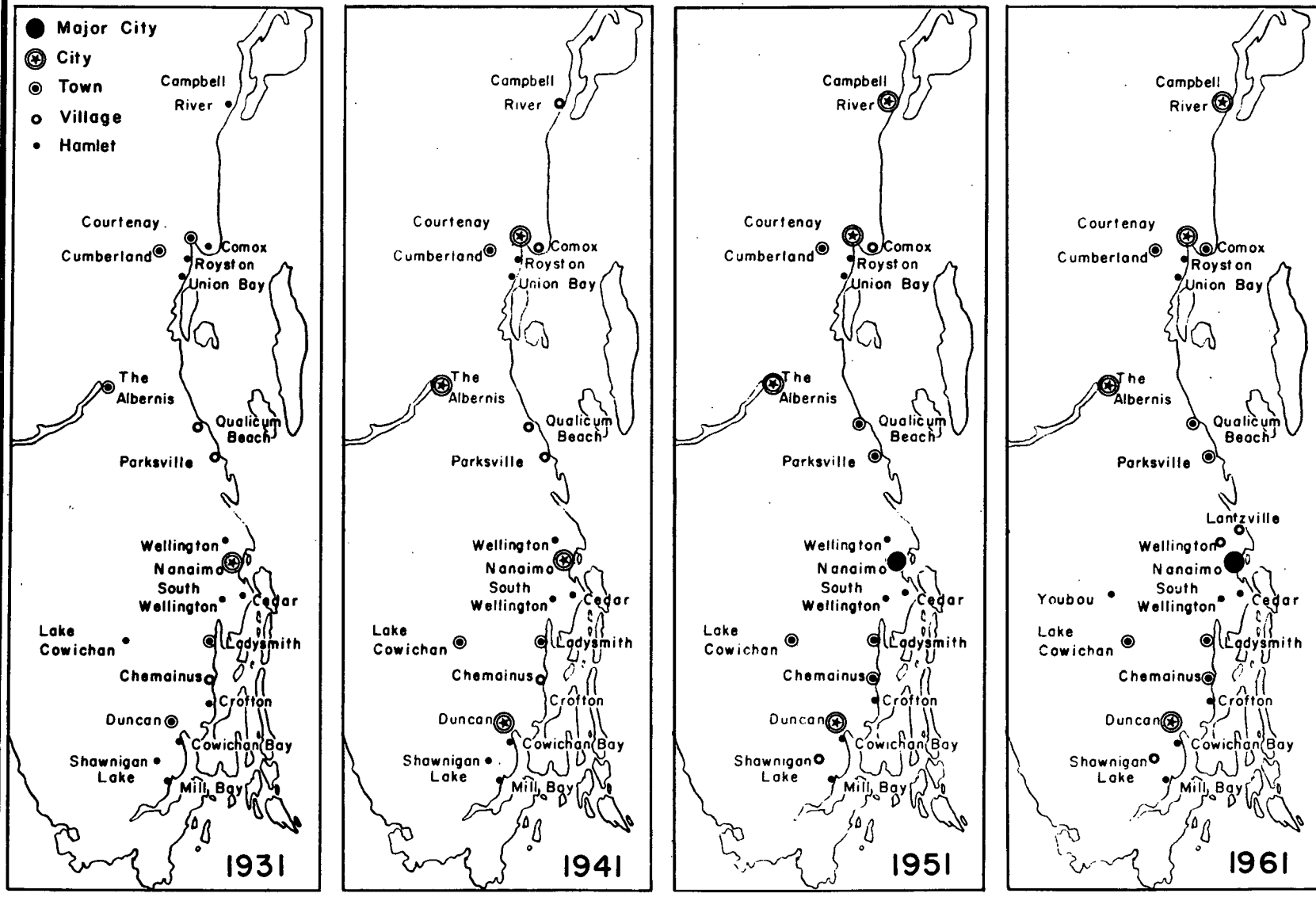
Five levels of trade centre emerged as a result of this analysis and were designated 'hamlet', 'village', 'town', 'city', and 'major city'. The 'hamlet' or minimum convenience centre is one in which at least three of the four most common functions are present, while all four are present in a 'village', or full convenience centre, with the addition of at least three functions from the next group. 'Towns' and 'cities' possess the twelve most common functions. The division between towns and cities for 1961 was not based upon the number of functions present in addition to the twelve. Between the categories of 'village' and 'major city' there seemed to be three groups of centres. First, those having only a few functions in excess of the twelve but having a considerable duplication of existing functions. Second, those having several functions in addition to the twelve but with little duplication and low annual sales value, and the third group which have

several functions, duplication and sizeable annual sales (over \$5,000,000). It was decided that for 1961, only the third group would be classed 'cities' in the trade hierarchy, while the other two groups are 'towns'. For earlier dates all centres having complete shopping facilities, regardless of sales value, have been considered 'cities'. The 'major city' or retail-wholesale centre is one which has more than eight wholesale functions in addition to complete shopping facilities.

The pattern of the trade hierarchy, shown for 1961 on map 15, which emerged as a result of this analysis shows that instead of an areal pattern, such as is present in the American Mid-West, a linear development is present on Vancouver Island. Instead of trade areas which are approximately circular, the restriction of settlement to the narrow coastal plain results in the elongation of trade areas along this plain.

Certain centres tend to stand apart from the hierarchy due to the specialized function of the centre. Chemainus, Cumberland, Comox and Qualicum Beach all possess sufficient functions to be classified as complete shopping centres but have annual sales of less than \$5,000,000. Each of these towns, with the exception of Cumberland has a specific function and the towns which have sizeable populations engaged in non-service occupations appear to be able to support a greater number of functions for the size of population than other centres. The total revenue for the retail functions of the centres tends to be less if the centre is not a genuine trade centre. From this it can be deduced that on Vancouver Island the threshold population required for the entrance of a particular function into an urban centre tends

DEVELOPMENT OF THE TRADE HIERARCHY OF CENTRAL VANCOUVER ISLAND



Maps 12-15 The Development of the Trade Hierarchy of Central Vancouver Island 1931-61

to be lower if the trading population is entirely contained within the centre than where it is more widely scattered.

Within the region under study the trade area of the individual centres has not been determined in detail except in the case of Nanaimo where questionnaires were sent to all wholesale firms and to twenty per cent of the retail establishments. It can be seen from map 11 that the whole of the region under study comes within the wholesale distribution area of Nanaimo. This is true for all of the wholesale firms in Nanaimo except farm supplies which the area south of Nanaimo receives from Victoria, and oil and lumber which are distributed from several points in the region. Map 11 also shows the large area from which over 60 per cent of Nanaimo's stores have regular customers, while weekend customers come to the larger stores, particularly the department stores, from a large area to the north of the city, and, suprisingly, from the Albernis which has the larger population. To the south of Nanaimo the trade area is more restricted, residents south of Chemainus making Victoria their centre for major purchases.

The pattern of the trade hierarchy has become more complex as a variety of stimulants to the economy of the Island have arisen. At the same time the increasing mobility of the population due to private transport has created, in many areas, alternative centres to which access is available. To fully understand the present urban hierarchy, it is necessary to have a knowledge of the changes, and their causes, which have occurred throughout the last few decades.

1931

In 1931 only one centre, Nanaimo, had sufficient retail facilities to be classified as a 'city', that is as a complete shopping centre. Although Nanaimo far exceeded the minimum requirements for this category, there were not sufficient wholesale functions to warrant classification as a whole-sale-retail centre or 'major city'. The mining industry of Nanaimo at this time was still of considerable importance and provided the main base for the economy. Extension mines had recently been closed down and employment at Cumberland mines was declining rapidly, therefore Ladysmith and Cumberland were in an unhealthy economic state as the stores and services within them were dependent upon the mine payrolls. As a result these two cities which were next to Nanaimo in population ranked in the hierarchy with Duncan, Courtenay and the Albernis as partial shopping centres or 'towns'. Duncan and Courtenay were genuine centres of trade with very little basic industry within the urban area, and therefore, existed to provide services for the surrounding agricultural and lumbering population. The forest industries in Alberni had not begun the rapid expansion which occurred in the next twenty years, and although essentially industrial, they did provide services for the surrounding area but the external trade population was small.

The dominance of Nanaimo was due partially to its long establishment but also to the combination of industrial and service functions in a central location within the region. The two centres at 'town' level with important roles as trade centres had developed at almost the furthest extremities of

settlement within the region, that is, outside Nanaimo's retail trade area at that time.

Between the 'towns' or partial shopping centres, 'villages' or full convenience centres had developed. Parksville and Qualicum Beach developed adjacent to each other midway between the Albernis, Courtenay and Nanaimo. The trade area of Parksville extended towards Alberni, that is, including Hilliers and Coombs, while that of Qualicum Beach extended along the coastal plain towards Courtenay. In addition to serving small trade areas, these centres were beginning to perform the functions, now well developed, of retirement and resort centres. Chemainus, mentioned in the previous chapter (p.11) as having been the site of a successful saw-mill had developed as an industrial centre, agricultural settlement in the vicinity having been unsuccessful, and by 1931 had reached 'village' level in the hierarchy.

It can be seen from map 12 that within the immediate trade areas of the three main service centres, Nanaimo, Courtenay and Duncan the other centres were of minimum convenience or 'hamlet' level. For 'city' level functions, the population of the whole area was tributary to Nanaimo except for the residents of the area from Duncan south, where access to Victoria, the largest urban centre on the Island, was as easy as to Nanaimo.

1941

In the period 1931 to 1941 retail functions in Duncan, Courtenay and the Albernis had increased sufficiently to warrant their classification as

complete shopping centres and thus to join Nanaimo at 'city' level on the trade hierarchy. The population of the Albernis had increased considerably due to industrial expansion, and the number of retail functions had grown in order to service this large population, but external trade remained small. Map 13 indicates that, as in the case of Nanaimo, Duncan and Courtenay had at least one 'village', and an industrial 'town' within their respective trade areas. In these two cases the increase in population of the external trade area was of considerable significance as a cause of the higher status of the centre in the hierarchy, and is mainly accountable to expansion in the forest industries. The development of Lake Cowichan from minimum convenience to partial shopping centre was due to the extension of logging and sawmilling activities around Cowichan Lake.

Although three additional centres were in 1941 of 'city' level and Nanaimo did not have sufficient wholesale functions to achieve a higher level, several services, both retail and business, not available in the other cities or only in limited range, did draw trade from the whole of central Vancouver Island with the same area of exception as in 1931.

1951

Between 1941 and 1951 most central Vancouver Island centres had shown a significant movement upwards in the trade hierarchy. Nanaimo increased the number of wholesale facilities to an extent sufficient to warrant the introduction of a separate category of regional wholesale and retail centre, or 'major city'. The development of these wholesale functions followed the rapid increase in population throughout the whole

region principally as a result of the expansion of forest industries.

One of the most significant changes, indicating rapid expansion of industry in the northern part of the region, was that of Campbell River from 'village' to complete shopping centre or 'city'. Like Courtenay and Duncan, Campbell River is a trade rather than an industrial centre. Of the industrial centres Chemainus had reached partial shopping level by 1951 as had the two resort and retirement centres of Parksville and Qualicum Beach. Interviews with residents of the area indicate that while Chemainus remained at the level of a convenience centre, the population looked to Duncan for 'town' and 'city' level functions. The expansion of facilities in Chemainus to partial shopping had the effect not only of providing residents with 'town' level functions but by so doing detracted from Duncan's economic influence to such an extent that Duncan ceased to be the main centre for 'city' level functions. That is when Duncan ceased to provide both 'city' and 'town' level functions for Chemainus the lack of choice of goods plus increased private mobility caused the residents of Chemainus to travel north to Nanaimo for higher order services.

Developments to 1961

The last decade has seen virtually no change in the pattern of the trade hierarchy. Although several centres, Parksville, Qualicum Beach, Ladysmith and Chemainus developed sufficient retail functions to become complete shopping centres, the value of retail sales was less than \$5,000,000 and therefore did not warrant inclusion in the hierarchy at

'city' level. The smaller centres tend to have remained as minimum or full convenience centres with the exception of Comox which has changed status to a partial shopping centre. This development within the Courtenay 'city' trade area is attributable to the influence of the R. C. A. F. base at Comox, which had a payroll of approximately 2,000 persons in 1961.

Two towns whose history has been similarly influenced by the fate of coal mining, have now become very different in their economic status. Ladysmith is now a thriving residential community for workers in forest industries, while in Cumberland little employment has replaced mining. It is surprising that Cumberland has retained the majority of the central functions which were present in 1931, although the number of functional units has decreased greatly.

One centre which is lower in the hierarchy than might be expected is Youbou, a forest industry centre on Cowichan Lake. Its population (1,153) is much greater than that of Qualicum Beach (759) and almost the same as that of Parksville (1,183), both of which are 'town' level. Despite the size of the population, the proximity to the 'town' functions of Lake Cowichan appears to have restricted to 'hamlet' level the growth of service functions in Youbou.

Conclusion

It is evident from the preceeding analysis that a trade hierarchy has developed within central Vancouver Island but that there are differences between this hierarchy and those developed in an area chiefly

dependent upon agriculture. The hierarchy in Vancouver Island is a result of a combination of two types of centres:

- a) Population concentrations due to industrial development.
- b) Service centres for external population.

Most of the urban centres in central Vancouver Island fall into one or other of these two categories but the one centre which plays an important role in both capacities, Nanaimo, is the one which has far outstripped the others - not in population, the Albernis being larger in 1961, but in number and variety of services offered.

It would appear that Vancouver Island centres which develop as a result of expansion of a specific economic base such as industry, tourism, or armed forces and which for these purposes have a closely congregating population, develop more retail functions that would appear probable from the annual retail sales value. This suggests that where a fairly large resident population provides a market, many types of retail services are established, but with a total sales value which is fairly low. Where customers from rural areas have to travel several miles to have access to the majority of retail functions, the tendency is to bypass the lower order centres in the hierarchy and to accomplish all or the majority of retail transactions in 'city' level centres. The Vancouver Island trade centre which serves an external population in addition to its residents while it may provide only the same number of types of service as an industrial centre has duplication of these functions thus providing a greater degree of selection which is influential in the customers choice of shopping

centre. This is exemplified in the case of the residents of Chemainus, whose change of custom for 'city' level goods from Duncan to Nanaimo has previously been discussed. It appears that the greater the selection of merchandise available the longer the distance the external trade population is prepared to travel. This is particularly evident in the case of the customers to Nanaimo stores who are residents of the Albernis.

Despite this tendency to travel further to accomplish major purchases, the population growth of the entire region under study has been such that no centres have been bypassed by local population to such an extent that they have descended to the hierarchy. However, several centres have not developed beyond the level attained in 1931, and therefore have dropped in their relative position in the hierarchy. These 'static' places are of two types - the hamlets near larger trade centres, for example, around Nanaimo, in the Courtenay area and near Duncan, and towns such as Cumberland where the economic base has not been stable and the town therefore in depression.

Different approaches have been used to determine the urban and trade hierarchies. For 1961 maps 10 and 15 indicate that the results obtained are similar. The first and more complex method does provide more information in addition to the actual hierarchy. The correlations between size of population, number of central functions and functional units make it possible to compare the urban growth patterns of this area with the patterns for other areas in similar or different environments. Due to the difficulty of obtaining population data, the second method,

based on levels of trade activity and requiring less initial data, is a more appropriate approach for an historical study of urban growth within a region.

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- 4 Ibid.
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CHAPTER IV

URBAN LAND USE DEVELOPMENT

The third phase of urban development on Central Vancouver Island is one in which forest industries have taken over the role formerly held by coal mining. Within the thirty year period from 1931 the advances in the forest industry have been as striking as those in the coal mining industry prior to 1900. During this time forest products have become the most important item in the British Columbian economy and on Vancouver Island the establishment of sawmills, shingle mills, and in particular pulp and paper-mills have been the most dominant feature of economic growth. Many of these have been located away from existing centres and have resulted in the establishment of new settlements, and all have caused a growth of the labour force not only in manufacturing but also in logging and in service industries.

Those centres which were entirely dependent upon coal mining have either changed their economic base to forest industry or have become relatively insignificant. Settlements which originated as trade centres increased as the logging operations created growth in the population of their tributary areas.

Of the urban centres which had emerged by 1931 five have remained comparatively important till the present day. These centres, although not today the five largest urban areas, have been studied in detail, to

TABLE II

Vancouver Island - Selected Cities - Population 1921-61

	1921	1931	1941	1951	1961
Nanaimo	6,304	6,745	6,635	7,196	14,135
Duncan	1,178	1,843	2,189	2,784	3,726
Courtenay	810	1,219	1,737	2,553	3,485
Albernis	1,596	3,058	6,391	11,168	16,176
Alberni	540	702	1,807	3,323	4,616
Port Alberni	1,056	2,356	4,584	7,845	11,560
Ladysmith	1,967	1,443	1,706	2,094	2,173

Source: Census of Canada, 1951 Vol.1. Table 9, 1961 Vol.1. Table 9.

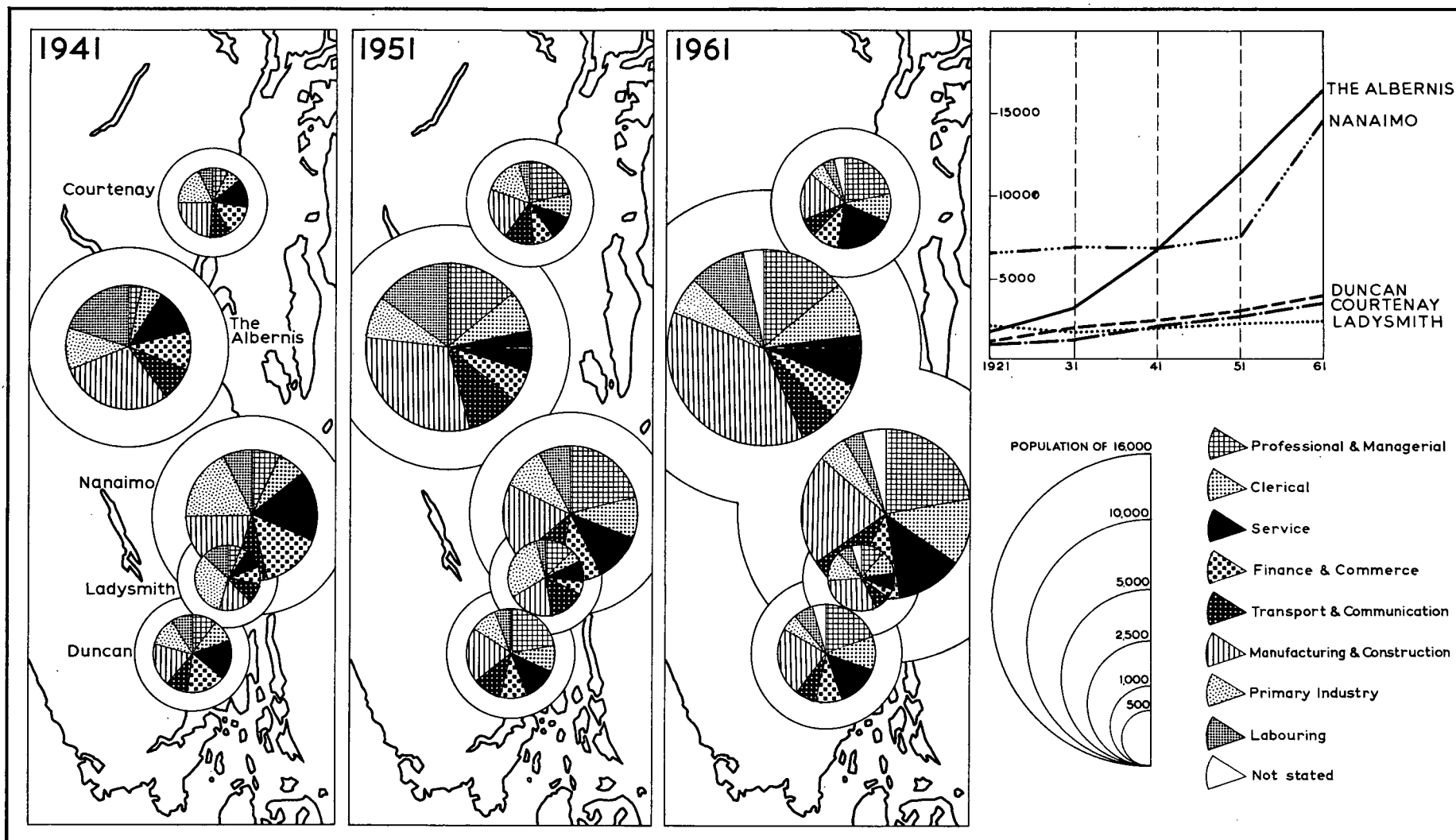
TABLE III

Vancouver Island - Selected Cities - Retail Trade

	Number of Stores				Sales \$'000			
	1931	1941	1951	1961	1931	1941	1951	1961
Nanaimo	177	176	169	173	4,327	5,858	19,016	24,008
Duncan	76	98	85	103	1,725	2,511	8,380	12,982
Courtenay	x	x	74	81	x	x	9,319	11,401
Albernis			155	156			13,737	7,050
Alberni	x	x	47	39	x	x	3,104	5,467
Port Alberni	58	97	108	117	1,070	2,341	10,633	15,283
Ladysmith	x	x	45	33	x	x	2,619	2,795

Source: Census of Canada 1951 Vol. VII Table 5, 1961 Vol. VI Table 6.

x Not available



Maps 16-18 The Structure of the Labour Force for Selected Cities 1941-1961. Outside circle represents total population; inner circle represents total labour force. Fig. V Population growth for Selected Cities; 1921-1961. Source: Census of Canada 1941, 51 and 61

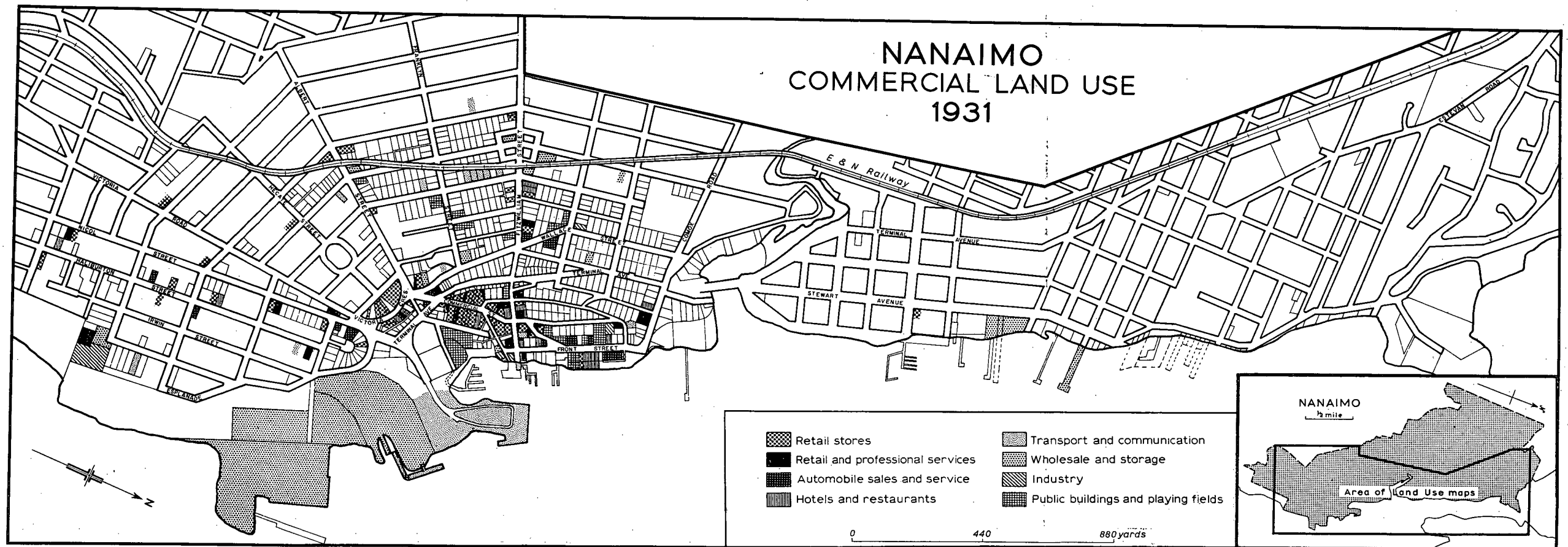
determine both the changes in location and amount of land used for commercial and industrial purposes and some of the reasons for these changes.

Three factors have played major roles not only in determining the location of urban areas, but also the patterns of land use within each; transport facilities, character of the site, and function of the centre. Thus three of the centres, Nanaimo, the Albernis and Ladysmith, that developed in port locations show certain similarities. Duncan, Courtenay and Nanaimo which are the main trade centres of the region also have similar characteristics.

Nanaimo

Nanaimo, unlike Duncan and Courtenay, did not develop initially as a service centre and up to the present time a large proportion of the labour force, as can be seen in maps 16-18, has been employed in industry. The majority of industrial employers, first the coal companies and subsequently the forest industries, have been located outside of the city. Due to the presence of the first coal mines at the Nanaimo waterfront dock facilities were established early and Nanaimo continued to be the main shipping point for coal and forest products from the surrounding area. It has also remained the main residential area although since 1931 much of the expansion has been outside the city limits.

The decline in employment came later in the Nanaimo mines than in those at Extension and Cumberland. The peak production year was

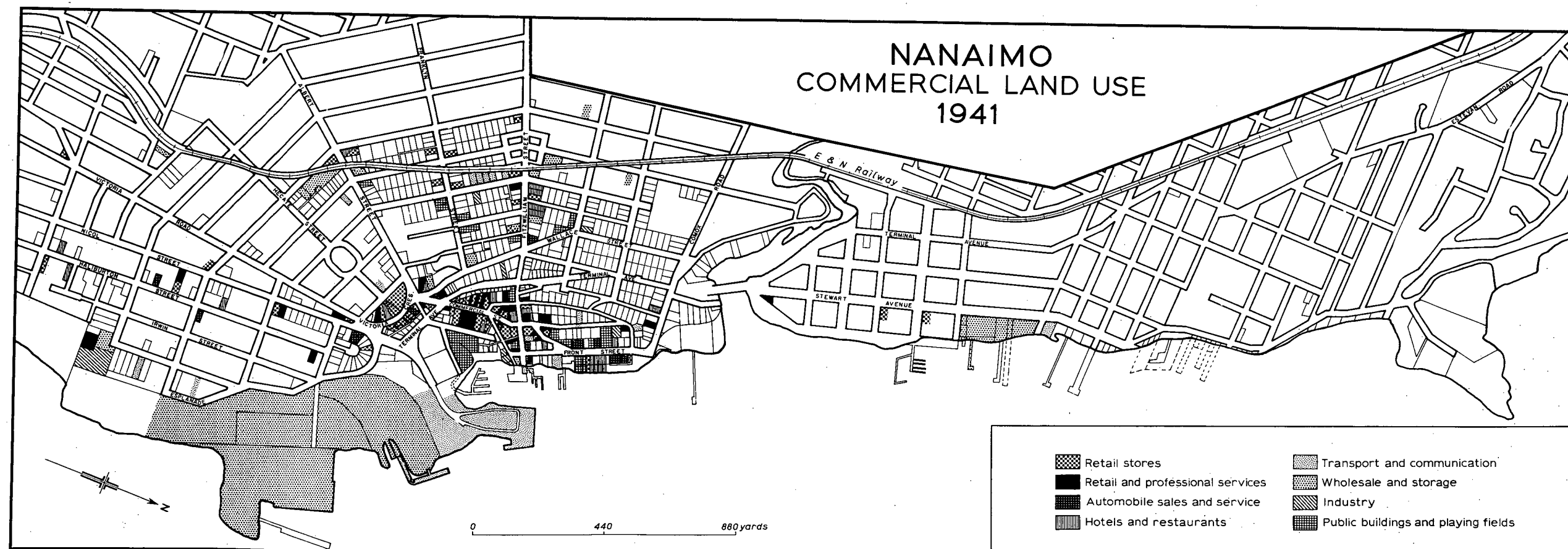


Map 19 Commercial Land Use of Nanaimo, 1931

1923 when over 1.2 million tons were produced, and at that time 3,400 miners were employed by Western Fuel Company and it was not until 1929 that there was a significant decline. The closure of all Western Fuel mines came in 1939. Smaller companies continued production but between 1945 and 1949 the total annual production of all mines in and around Nanaimo was between 300,000 and 350,000 tons which was similar to the annual production prior to 1880.¹

The area most suited to the development of dock facilities and also the site of the original mines was virtually an island, only connected to the mainland near the present location of Comox Road and the Ravine, now Terminal Avenue, was an arm of the sea. The settlers built their town along the waterfront and a causeway was constructed to span the Ravine at Commercial Street. The dumping of coal slag gradually filled up the depression and Cameron Island became completely joined to the mainland. The laying out of the second section of the town in an unusual radial pattern took place in 1864, having been planned in England and drawn out on contour maps, with the result that instead of the North American grid pattern this section of the town has a distinctive pattern similar to that of many British towns of the same period.² The problem which confronted the planners was considerable as at that time the Ravine had not been filled in and the commercial area was already congested.

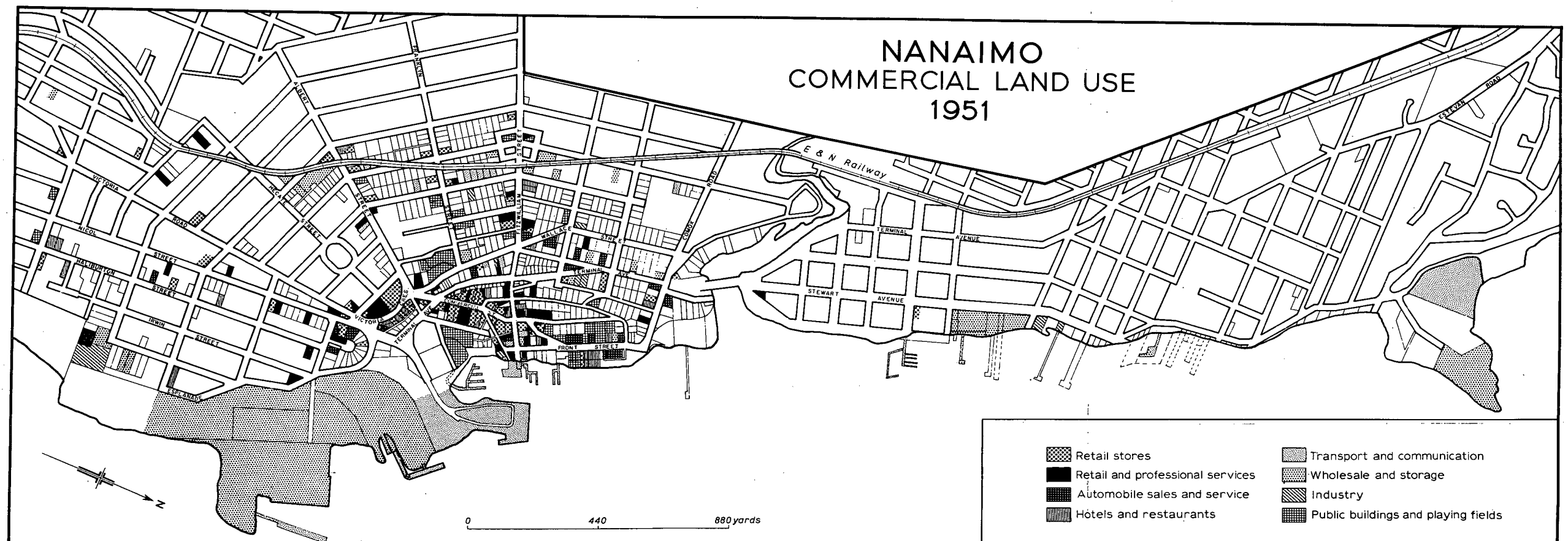
By 1931 four distinct sections of the town were apparent; the original area of settlement on Cameron Island; the residential mining



Map 20. Commercial Land Use of Nanaimo 1941

town consisting largely of miners' houses laid out in the radial street pattern; the Harewood or Five Acres district where a farm belonging to the Vancouver Coal Company had been divided into five acre lots for miners' smallholdings (not shown on map 19); and the Newcastle district north of Millstone River which was the most recent residential development.³ It can be seen from map 19 that the commercial development in 1931 was largely restricted to the area of the original settlement along the waterfront between the Indian Reserve and Millstone River, and extending two or three blocks inland.⁴ Commercial Street contained the great majority of the stores and many of the service functions while the waterfront had most of the wholesale, storage and transportation premises. The early date of development and the restricted site has resulted in very small lots in the main commercial area. Beyond the Cameron Island section only a few scattered stores and services appear along the radial streets of the newer town, extending westwards towards the Esquimalt and Nanaimo Railway. Although mining was still the main basis of the economy at this time, Number One Mine, shown on map 19 at the south end of Esplanade, was the only mine operating within the city limits.

Between 1931 and 1941 the number of retail premises stayed more or less constant (Table III), but the annual sales increased 36 per cent indicating that although little change had occurred in the area used for retail purposes, the businesses had expanded within their existing premises. The changes which had occurred were the increase in

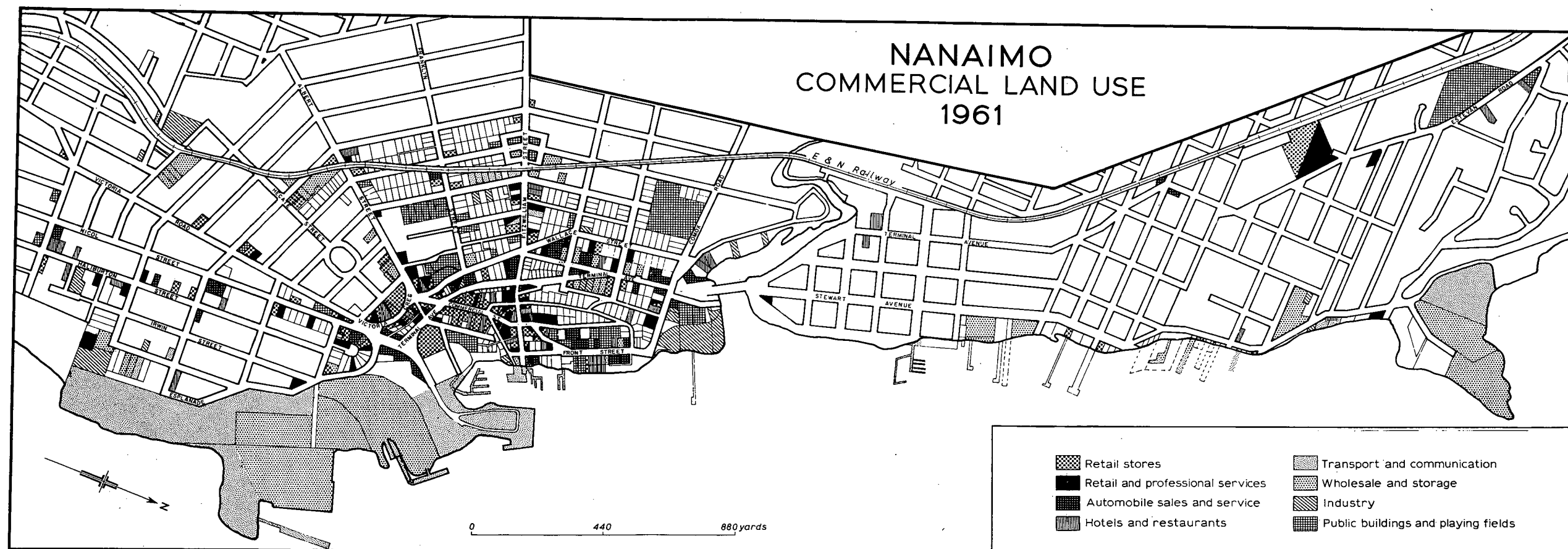


Map 21 Commercial Land Use of Nanaimo, 1951

importance of the E. and N. Railway area as a location for wholesale firms, and also the change in the use of waterfront property from coal storage and shipping to lumber storage. During the 1930's despite the depression, Nanaimo's role as the service centre for central Vancouver Island became well established as several wholesale firms, the majority of which handled food products, were located there.

After World War II, a period of rapid expansion occurred as the forest product industries increased their employment to such an extent that they became almost as important a factor in the Nanaimo economy as coal had been twenty years before. The sulphate pulp mill at Harmac, southeast of Nanaimo, was the most significant single development. The population increase within the City of Nanaimo was not large, 561, between 1941 and 1951. This was due mainly to the fact that the area within the city boundary was almost entirely occupied and new suburban development was forced outside the boundary. There was not a significant change in the amount of land used for retail or service purposes, but there was a very significant, 225 percent, increase in the annual retail sales which would indicate a marked increase in the importance of existing stores. Increase in the amount of land occupied by wholesale establishments, however, was more noticeable, mainly near to the E. and N. Railway and was an indication of the increasing importance of Nanaimo as the wholesale centre.

The next decade brought several changes. An increased use of the land in the vicinity of both the waterfront and the E. and N. Railway for small industries, wholesale and storage occurred at the same time as



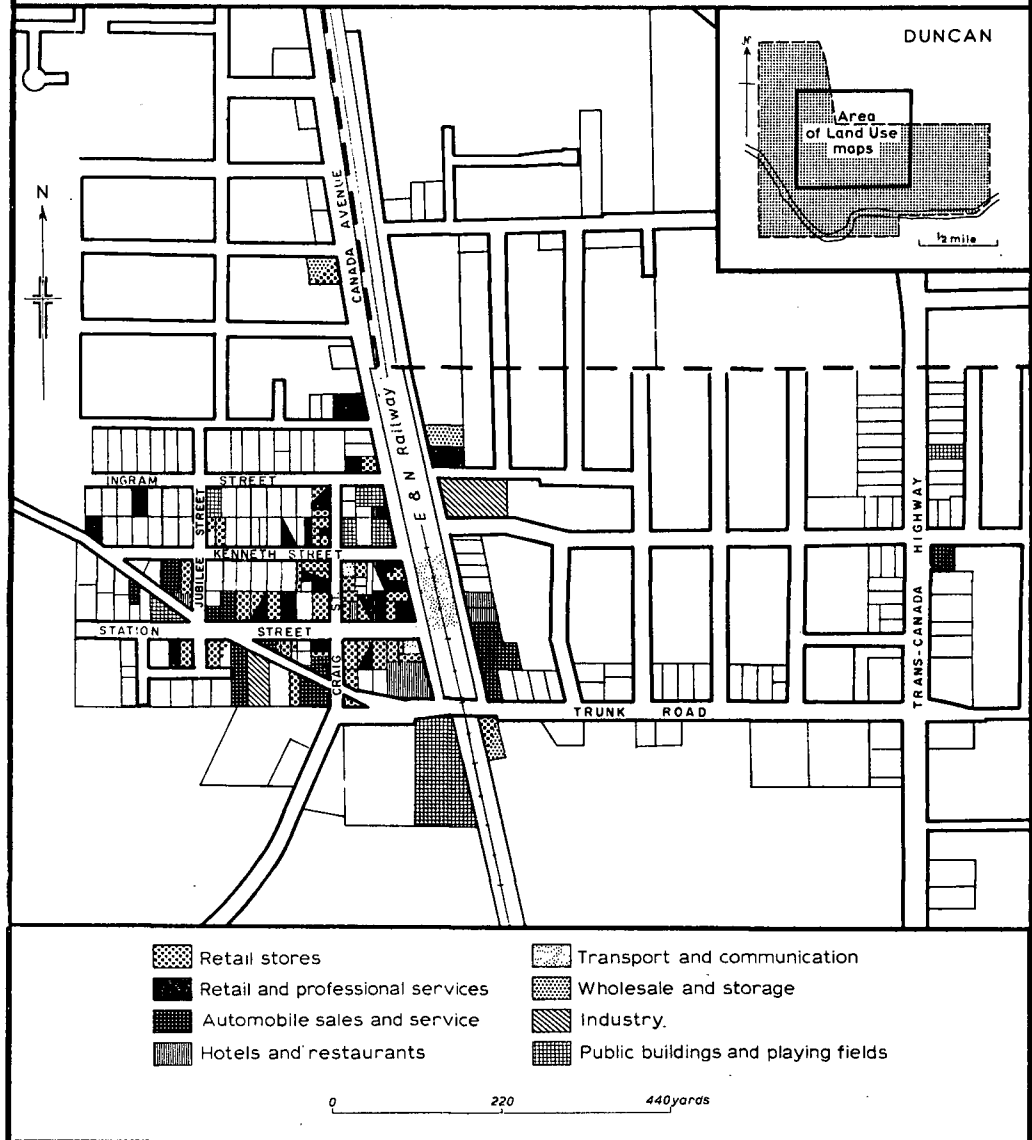
Map 22 Commercial Land Use of Nanaimo, 1961

the Island Highway attracted the development of a shopping centre in the Newcastle district. Despite this development, and the location of a Safeway supermarket and Simpson Sears on large sites on Terminal Avenue, there was again no significant change in the number of retail stores nor was the rate of increase in sales comparable to that of the previous decade, 26 per cent as compared to 225 per cent. During this time there was a distinct increase in the importance of wholesale activity not only in food products but also automobile parts. Most of these establishments are located on Terminal Avenue where many of the sales and service premises are also located.

Until the introduction of the British Columbia Ferry service to Victoria in 1960 the ferry crossing from Vancouver to Nanaimo, either by Canadian Pacific or Black Ball Ferry, was the fastest and most direct route to Vancouver Island. Many Vancouver wholesale firms distributing goods on Vancouver Island made use of these ferry crossings and, as the volume of goods increased several firms have opened branch outlets in Nanaimo. By 1961 Nanaimo was well established as the main wholesale outlet for most of Vancouver Island, as shown on Map 11. Several firms, for example, Safeway, still continue to send their produce by trailer from Vancouver via the Horseshoe Bay to Nanaimo ferry now operated by British Columbia Ferries.

The restricted and hilly site on which the first settlers constructed their town remains today as the congested commercial core of Nanaimo. This, in conjunction with the surrounding radial street pattern, makes

DUNCAN COMMERCIAL LAND USE 1931



Map 23 Commercial Land Use of Duncan 1931

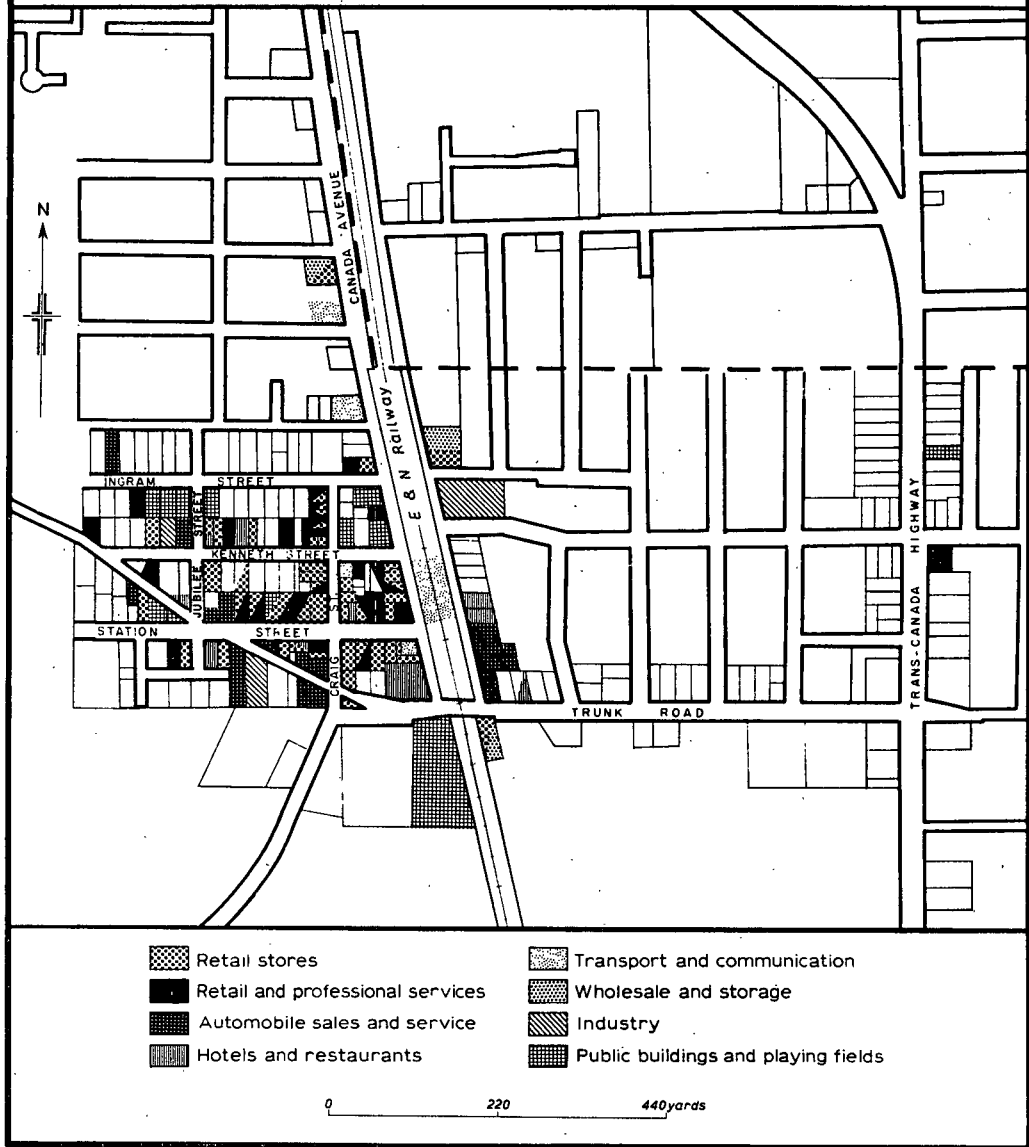
Nanaimo distinctive among the towns of central Vancouver Island in that the traditional North American rectilinear pattern has been avoided except in the more distant residential areas.

Duncan

Forty-five years after the opening of Duncan Station on the railway, the commercial land use of the city was still located close to the railway and restricted to approximately eight blocks of the original townsite. The selection of the site of Duncan, being due to its suitability for halting the inaugural run of the railway, was fortuitously on an area suitable for the development of a town.⁵ However, although the area immediately around the railway is flat, an Indian Reserve, located one block south of the station, and a steep bluff beginning three blocks west of the station did limit the early residential development to the areas east and north of the commercial district.

On the land use map for 1931 (map 23), it can be seen that the majority of the retail and service functions were located within two blocks of the railway station and to the west of the tracks, on Craig and Station Streets. The junction of these two streets was the location of three of the original retail establishments, Cowichan Merchants, Island Drug Company and Jaynes Hardware.⁶ Service establishments such as laundries and medical offices were less centrally located than the retail establishments while the automotive sales and service firms congregated along Government Street and its continuation on Trunk Road

DUNCAN COMMERCIAL LAND USE 1941

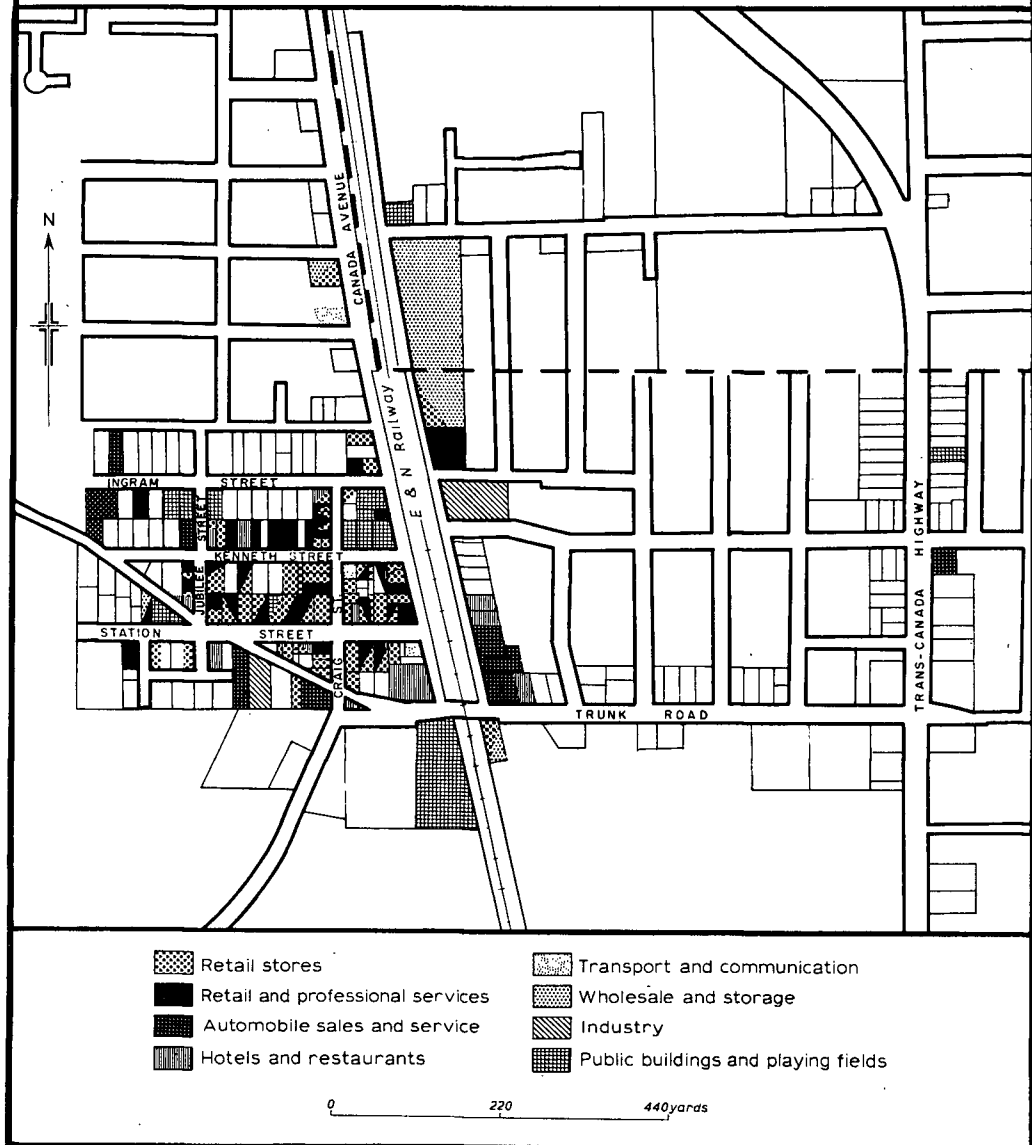


Map 24 Commercial Land Use of Duncan 1941

where they were more likely to attract custom from through traffic. Such industry and wholesaling as there was within the city bounds was situated beside the railway. The main industry, Cowichan Creamery (established 1895), supplied butter for the Victoria market, manufactured food supplies, and processed poultry. The Creamery although important in the services it offered for the surrounding farm population had a payroll of only twenty-eight persons.⁷

By 1941 the population of the town had grown by 346 to 2,189, while that of the total service area increased by 3,900 to 13,835. Within the central district of the town, that is the area of the land use survey, the increase in land used for commercial purposes was not large although there was a considerable increase in the number of service and retail businesses within the town. There are at least two apparent reasons for this. The new residential development within the city at this time being on the periphery several small general stores and other businesses, for example a motel, had been established outside the land use survey area. Secondly, during the ten year period prior to 1941 several new businesses located not on the fringes of existing commercial development but within the central area where the use of city lots became more intensified, many premises being subdivided to accommodate more than one use. The developments within the town, while obviously reflecting more growth than that of the population of the city, would most probably have been considerably larger but for the expansion of some of the smaller centres such as Chemainus to serve their own population.

DUNCAN COMMERCIAL LAND USE 1951

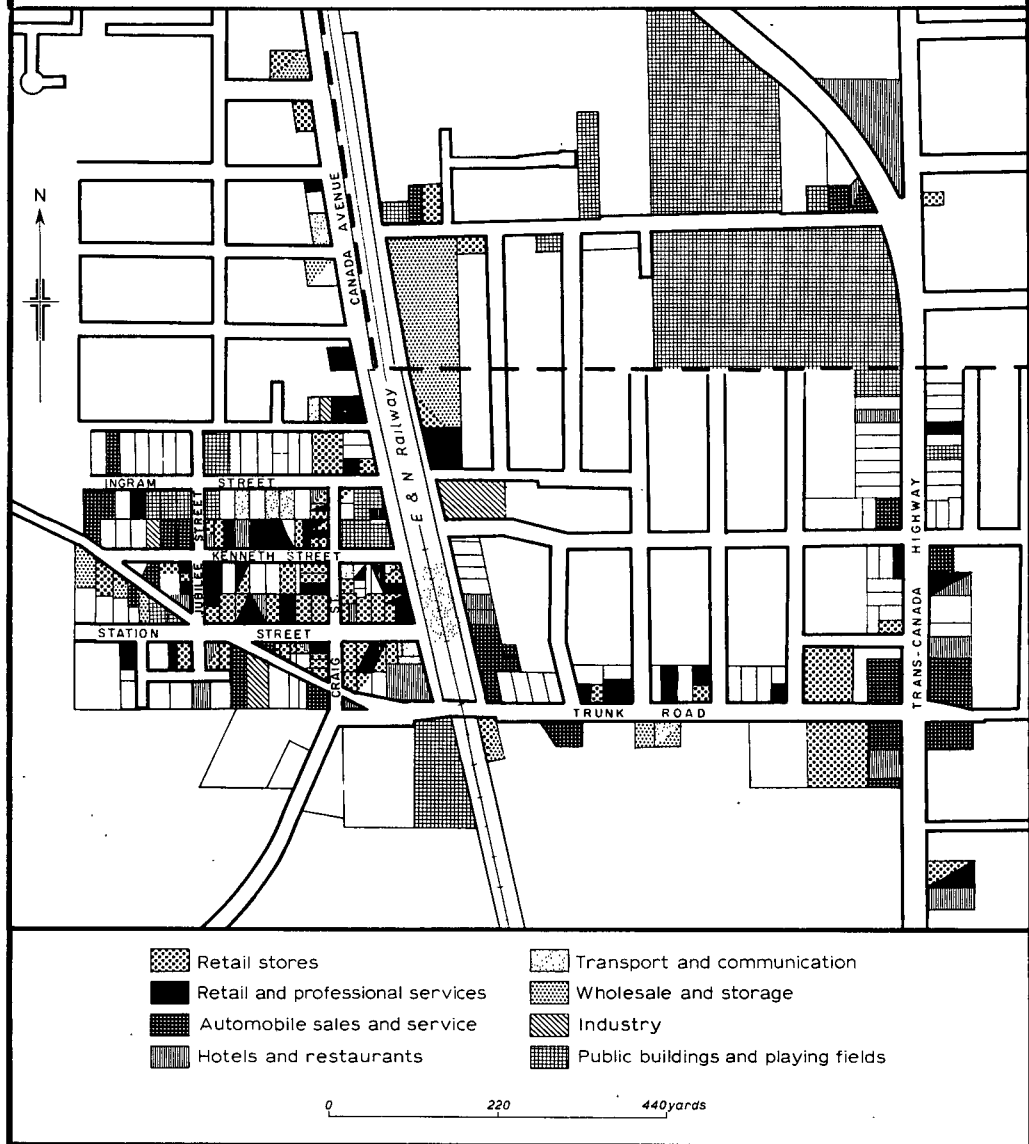


Map 25 Commercial Land Use of Duncan 1951

The pattern of intensifying commercial activity within approximately eight city blocks continued between 1941 and 1951. This is apparent not only from a study of the land use at this time but also from the fact, that although the actual number of retail outlets decreased from 92 to 85, there was a sales increase of 234 per cent from 1941 to 1951. Although part of this may be accounted for by the increased cost of merchandise, it still gives evidence of a substantial increase in the retail trade of the city. It would appear that the rapid increase in retail stores in the period 1931 to 1941 was followed by a period of consolidation while the rapid increase in numbers of retail services did not occur until the 1941 - 1951 period. The city of Duncan, being the route and service centre of Cowichan Valley, has become the administrative centre. In addition to the municipal offices several government offices are located here, for example, the Departments of Indian Affairs, Welfare, and Agriculture.

Throughout the history of the city of Duncan the original townsite around the railway remained the focus of development. Residential construction occurred to the east of the railway and also to the northwest, while the Indian Reserve to the south and, to a lesser extent, the North Cowichan municipality in the north had a restricting effect on expansion in those directions. The morphology of the city was drastically altered by the construction of the Trans Canada Highway, as can be seen on map 26. Intended to bypass the bottleneck of the commercial centre of Duncan, the highway was sited five blocks east of the railway. By

DUNCAN COMMERCIAL LAND USE 1961

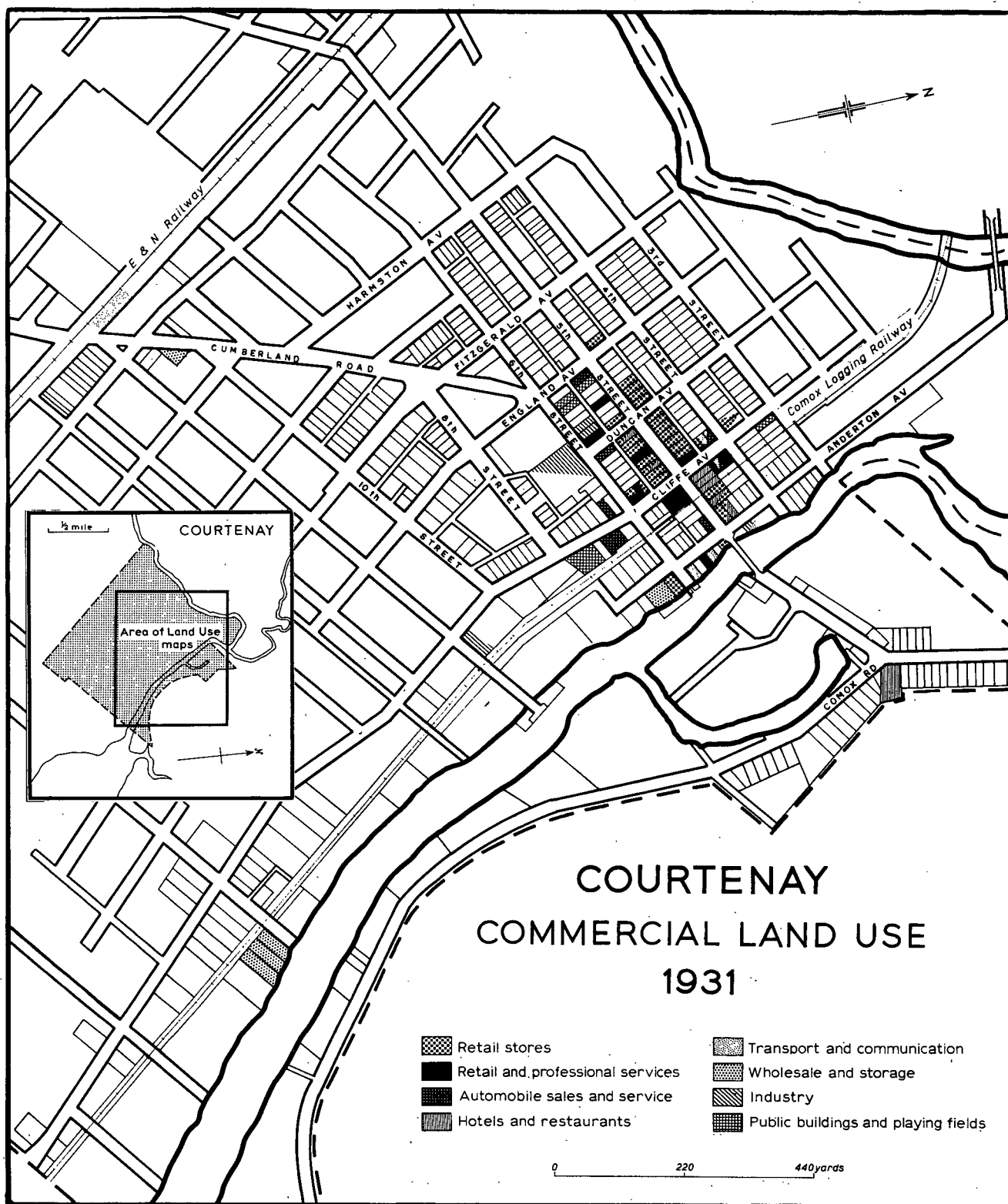


Map 26 Commercial Land Use of Duncan 1961

1961 the effects of this highway location were very apparent. The establishment of six new service stations on the highway had obviously begun to affect the prosperity of the service stations on Government Street, although none of these had yet been forced out of business. In addition to service stations, other highway oriented businesses, for example, restaurant, drive-in eating places and supermarkets were attracted to sites on or near the highway, where more adequate parking facilities could be developed than in the city centre.

The next phase in the commercial development was along Trunk Road, the main connection between the old and new concentrations of commerce. The firms established here tended to be either branches of firms still functioning within the central area or else relocating firms from the older buildings. Within the land use survey area but in North Cowichan to the north of the Duncan city boundary the Cowichan Junior-Senior High School and a stadium were the main non-residential land users but some commercial development had begun to extend beyond the city limits. The lack of industry in Duncan and the provision of many services from a comparatively early date have probably been the factors which have led to the development of Duncan as a retirement centre. Although not as important in Duncan as in Victoria this segment of the population is significant.

Despite the fact that the railway was the causal factor in the location of the service centre for the Cowichan Valley, within Duncan it has not had a major effect on the subsequent land use development.



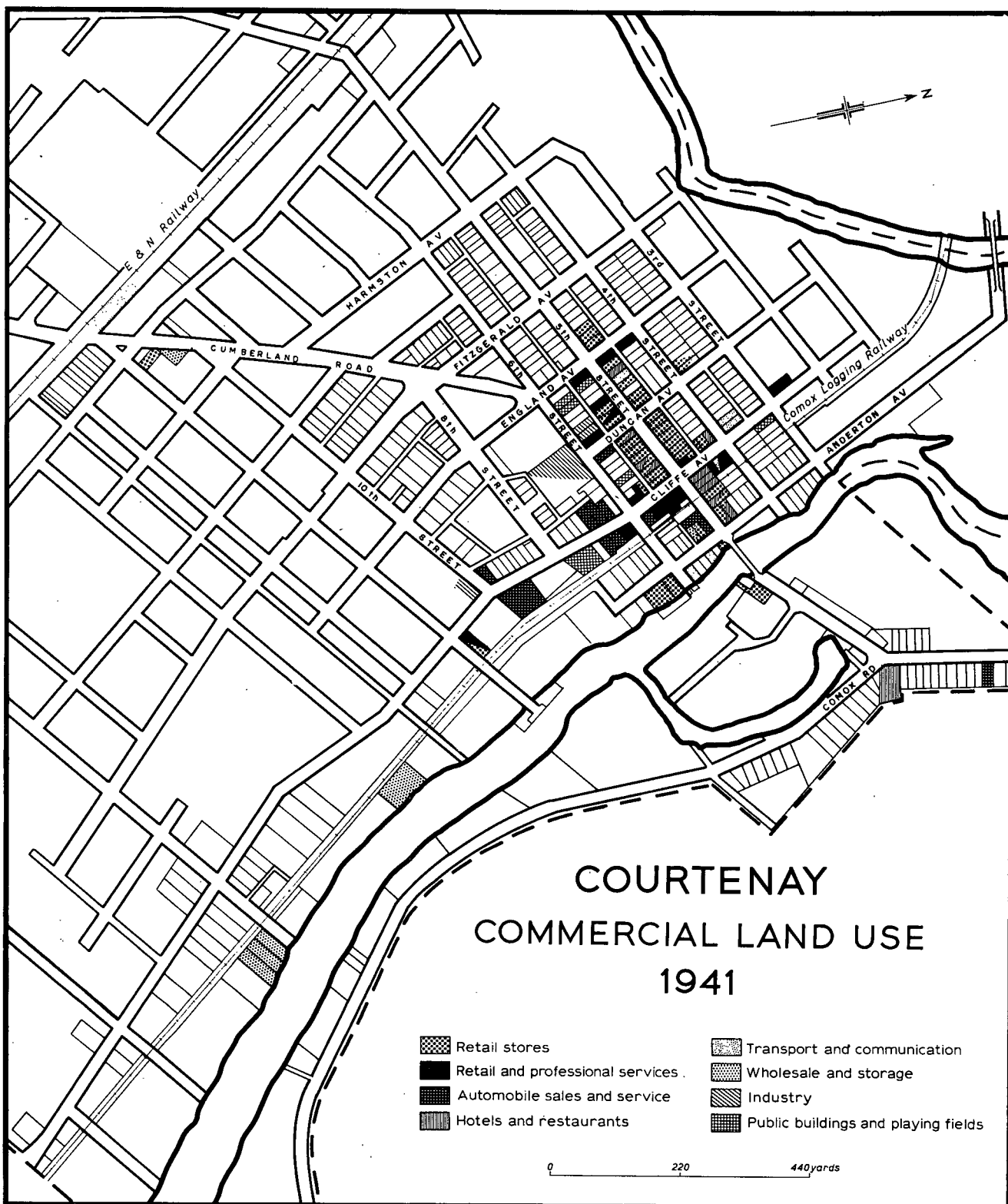
Map 27 Commercial Land Use of Courtenay 1931

The location of highways has had far greater influence upon land use development than any other factor.

Courtenay

The Courtenay townsite, like that of Duncan, was laid out on a comparatively flat site, to the west of the bridge over the Puntledge river which was the chief locating factor. Although Joseph McPhee owned the greater part of the townsite which he had laid out the site he chose for his own store was on the steep river bluff, as were the other original stores. The first store to locate on the flat land was Lavers at the junction of Fifth Street and what is now Cliffe Avenue.⁸

The concentration, by 1931, of retail and service functions along the main street, Fifth Street, and the three cross streets immediately west of the river can be seen to be similar to the Duncan pattern by comparison of maps 27 and 23. So too was the comparatively large number of service stations, six, located around the central area. There was little industry, or wholesale and storage facilities within the city in 1931 and the only significant industry, Comox Co-operative Creamery, was the counterpart of Cowichan Creamery in Duncan and served the same purposes. The terminal of the E. and N. Railway appears to have had little influence on the location of commercial establishments prior to 1931. The second railway appearing on map 27, the Comox Logging Railway, was a one-purpose facility conveying logs from the Headquarters area to booming grounds near Union Bay.

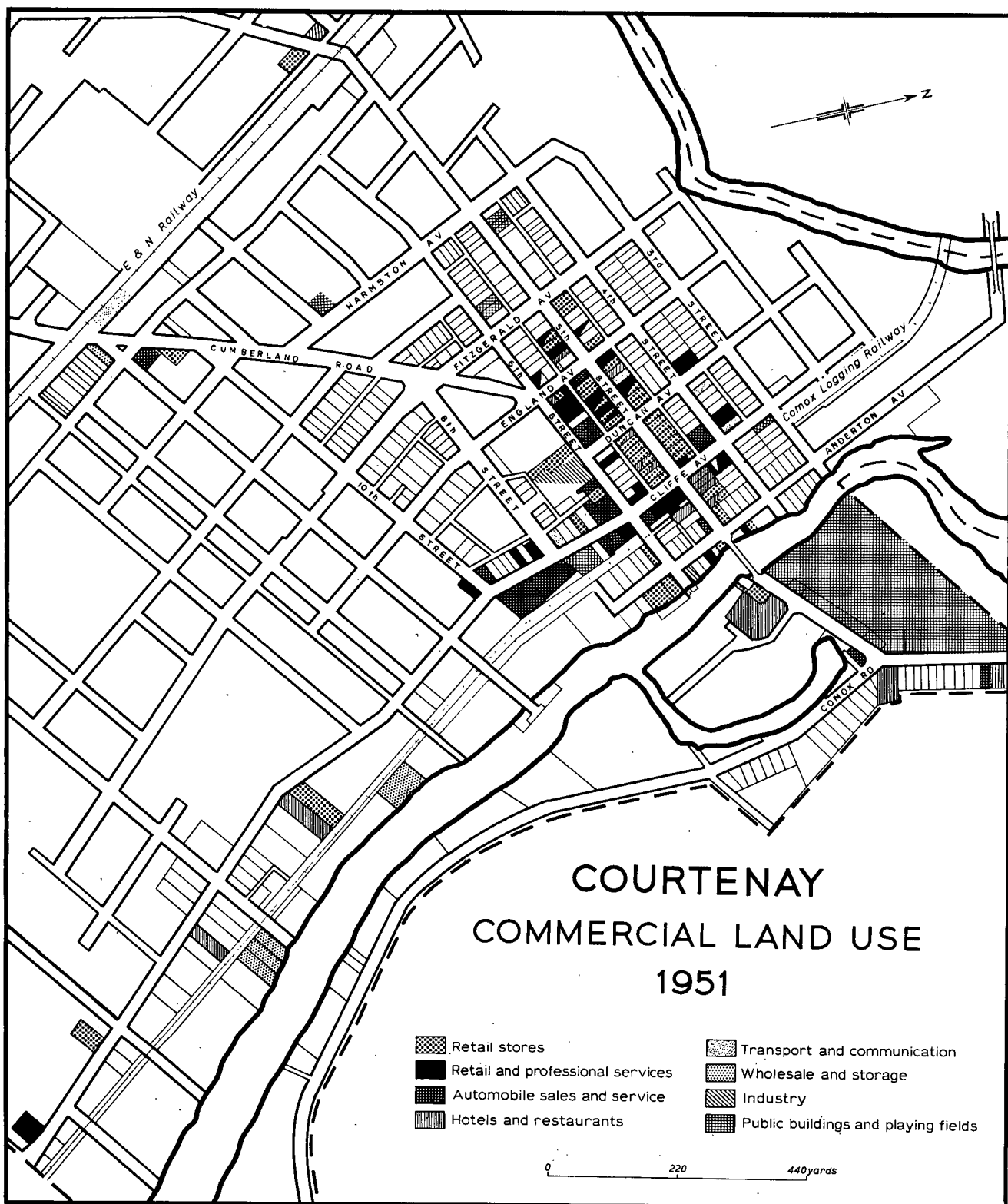


Map 28 Commercial Land Use of Courtenay 1941

Between 1931 and 1941 although there was considerable increase in the total number of retail stores and services, the commercially developed area did not increase significantly but rather became consolidated and the lots more intensively utilised. The increase in service stations began the extension of the commercial area along Cliffe Avenue.

The rate of growth of the population of Courtenay from 1941 to 1951 was much greater than that of Duncan, 109 per cent as compared to 51 per cent, but there is not a correspondingly large increase in either the amount of land used for commercial purposes or the number of retail sales and service establishments. This is probably due to the fact that although Courtenay grew very quickly, the population of Comox Valley did not increase as rapidly as that of Cowichan Valley. In addition, the precarious state of the coal mines at Cumberland caused considerable unemployment in the Courtenay trade area.

By 1951 considerable increases in service functions can be seen on map 29. The concentration of retail stores is on Fifth Avenue with service functions on Sixth and on cross streets, and hotels and motels in more outlying parts but still on main routeways - in particular the Island Highway. At the same time some commercial development near the railway terminal occurred. The main post-war development has been since 1951 with considerable expansion of wholesale and retail establishments near the E. and N. Railway, more motels locating along the Island Highway, the lumber industry developing on the east side of

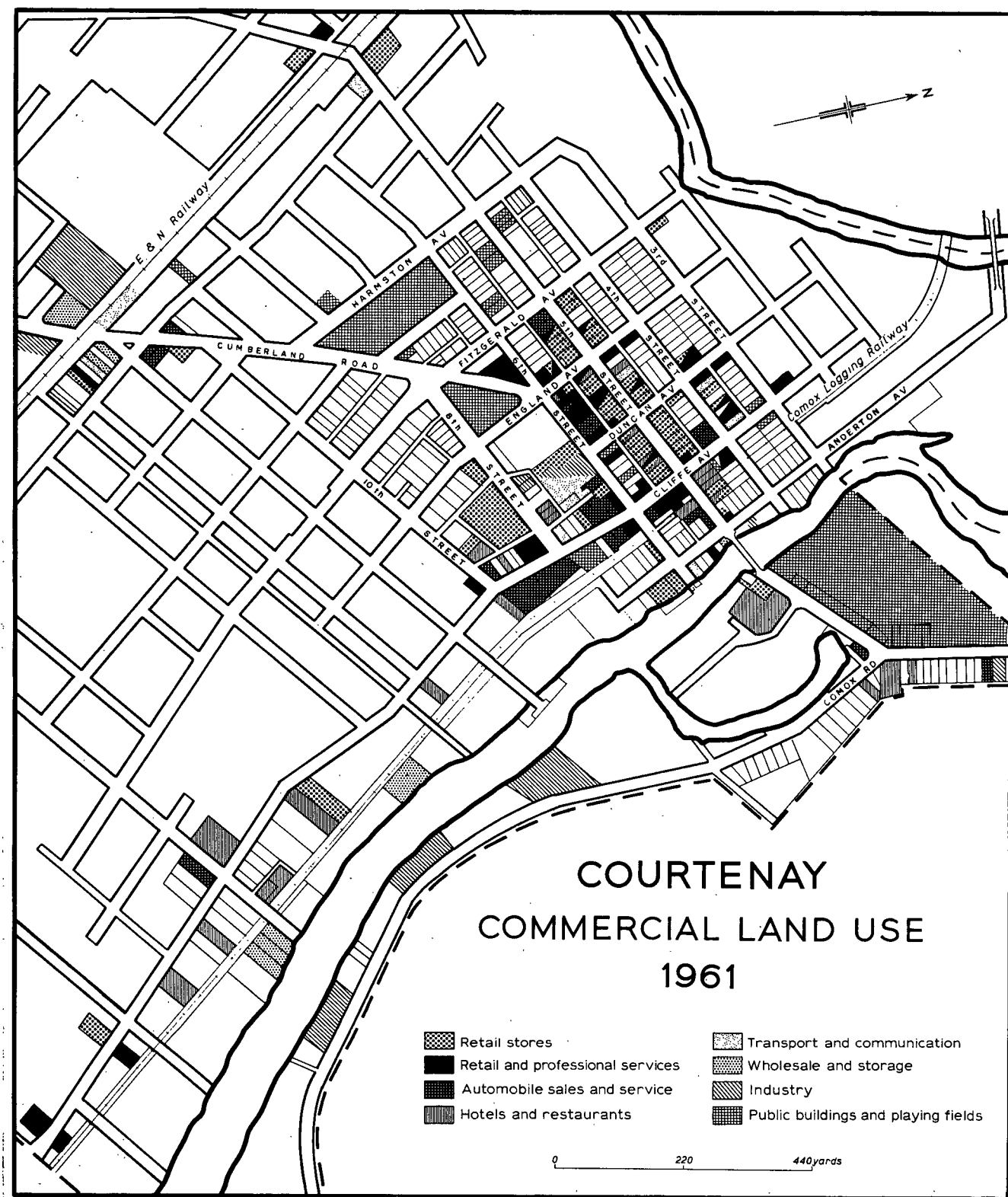


Map 29 Commercial Land Use of Courtenay 1951

the river and the main commercial core expanding south. A considerable increase also occurred in civic building, and Courtenay like Duncan has become a regional administrative centre.

As has been shown, the development of Courtenay has been very similar to that of Duncan and is largely dependent on the same factor; the prosperity of the lumber industry. Neither town is industrialized but both provide services for an extensive area in which logging and other forest industries are of primary importance. Each serves as collection and distribution point for produce from a well developed agricultural area. In addition, Courtenay prior to World War II had within its service area many small mining communities and Cumberland. The location of the Comox Air Base within the Courtenay trade area has provided an important additional revenue to the area, and the Federal Government has become the largest employer in the region. In addition, the popularity of the region for both winter and summer sports has created a demand for additional hotel, motel, marina and transportation services.

Courtenay, like Duncan, has never known a time of real depression. At the time when the coal industry was dying out, which it did much more gradually than in the Wellington and Extension mines, logging activity was at its peak in the immediate vicinity of Courtenay. As logging moved further into the hinterland, the importance of the Comox Air Base has increased. The comparatively stable economy has resulted in the steady growth of the commercial core of the city. The present uncertainty about the future of the armed services must be a



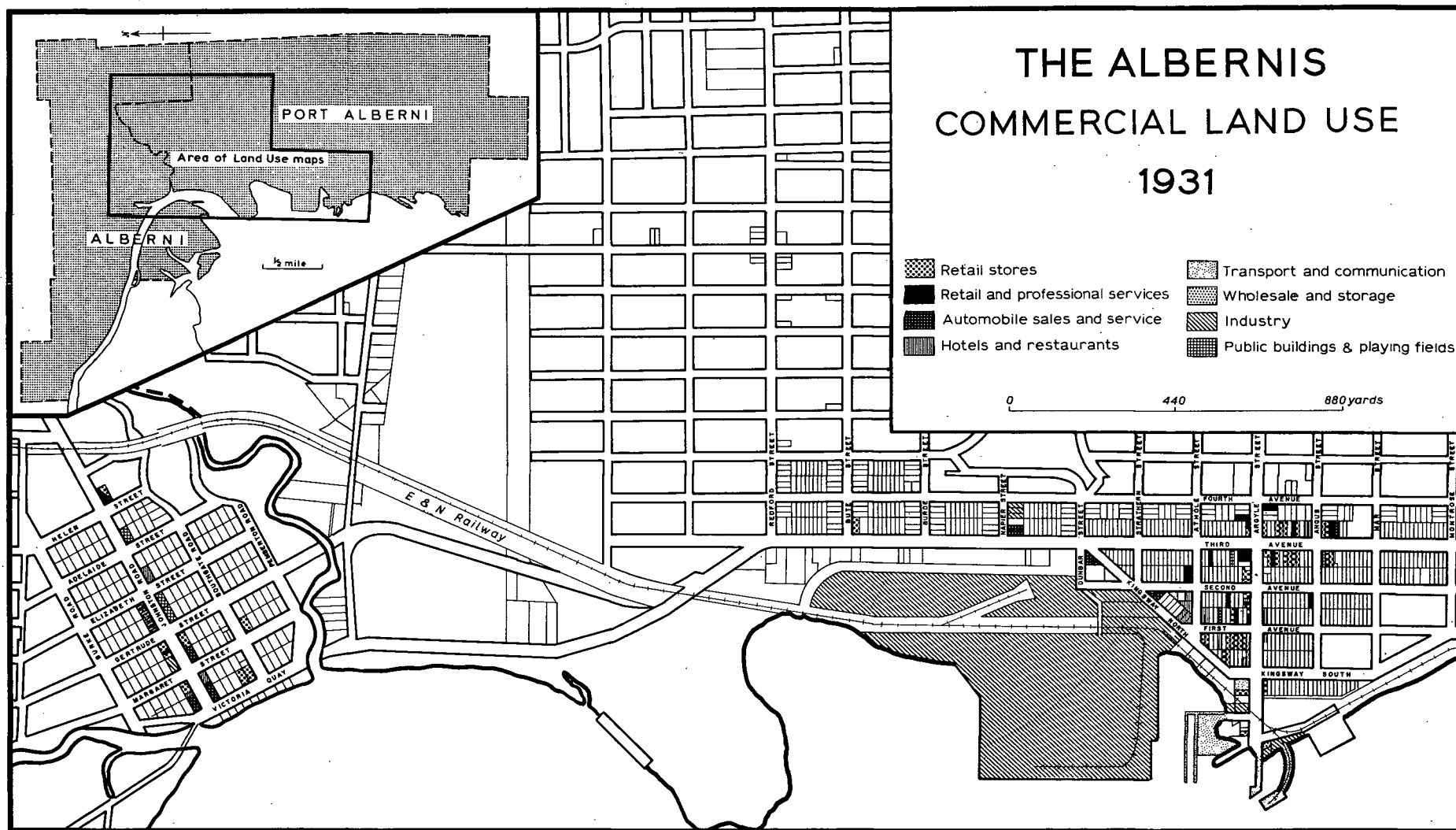
Map 30 Commercial Land Use of Courtenay 1961

source of concern to commercial establishments in the locality. If a decline in personnel at the base does occur the rapidly developing tourist industry may succeed in sustaining the economy through a difficult period.

The Albernis

The townsites of Port Alberni and Alberni are both located on the Alberni Canal, a sea inlet navigable by ocean freighters. Alberni appears to have been the original settlement, having the oldest post office, and yet the site of the Anderson Sawmill, established in 1860, was on the waterfront near the present location of the Government Wharf in Port Alberni. From 1900 to the present day Port Alberni has exceeded Alberni in size and commercial activity. The only apparent reasons for this are the deep water and less restricted harbour at the site of Port Alberni providing easy docking for ships, and the location of the first mill at this point. Alberni had the flat townsite where residential and commercial building was easier, but despite this the hilly Port Alberni attracted the great majority of the commercial development and most of the population expansion.

As already stated (p.21) the lack of available timber caused the early failure of the first sawmill. It was not until the 1920's that the lumber industry gained a strong foothold in the Alberni Valley. The key to the expansion of the industry then and the continuous expansion since, lies in changing transport technology which has continuously expanded the

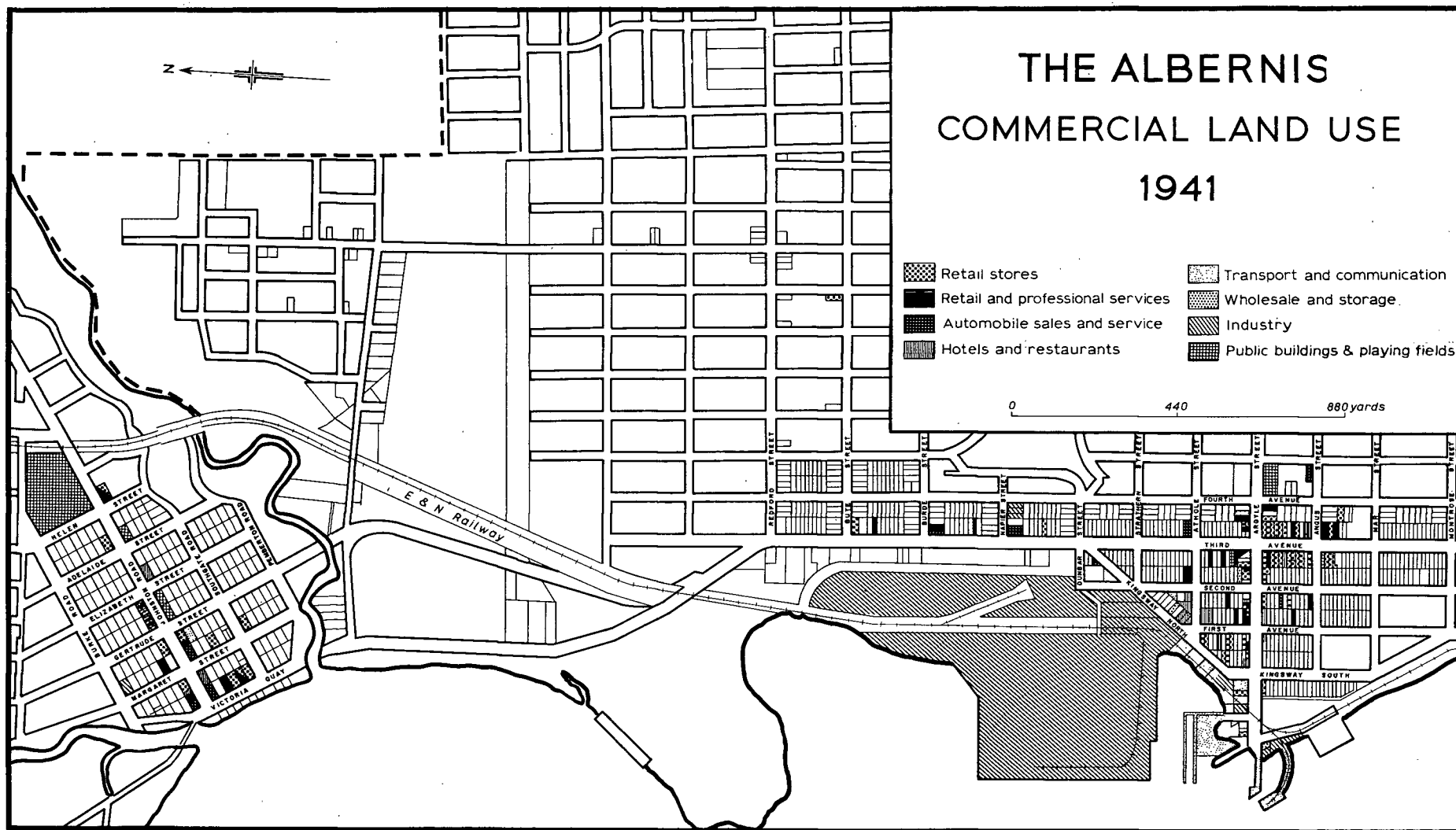


Map 31 Commercial Land Use of the Albernis 1931

area from which lumber is accessible to the mills at Port Alberni.

The increasing use of mechanised transport on land and several means of ocean transport for the logs has resulted in a continuous increase in the utilization of the vast forest resources of western Vancouver Island. Until the last decade the Albernis have been the only west coast settlements with comparatively easy access to the populated east coast of the Island and as a result the twin cities have grown to be the largest urban settlement of B. C. outside the lower mainland and Victoria.

Port Alberni had much more rapid rates of growth of population and commercial activity between 1921 and 1931 when Port Alberni's population increased 123% and Alberni by 30% (Table II). It can be seen on map 31 that in 1931 the two cities were fairly self contained as to the services provided. Johnston Road which runs at right angles to the Somass River was the location of almost all the commercial establishments in Alberni while in Port Alberni many of the well established firms were in the process of relocating along Third Avenue. The early commercial development took place around the site of the old Anderson mill, that is, near the waterfront on Argyle Street and on Kingsway and First Avenue. The number of transient workers employed in the mills is reflected in the large number of hotels located around the original commercial core of Port Alberni. The site of Alberni was flat and easily developed and the townsite had been laid out with wide streets and large lots, with the exception of one block on Johnston where two lots had been subdivided to provide thirteen lots for retail purposes. In Port Alberni



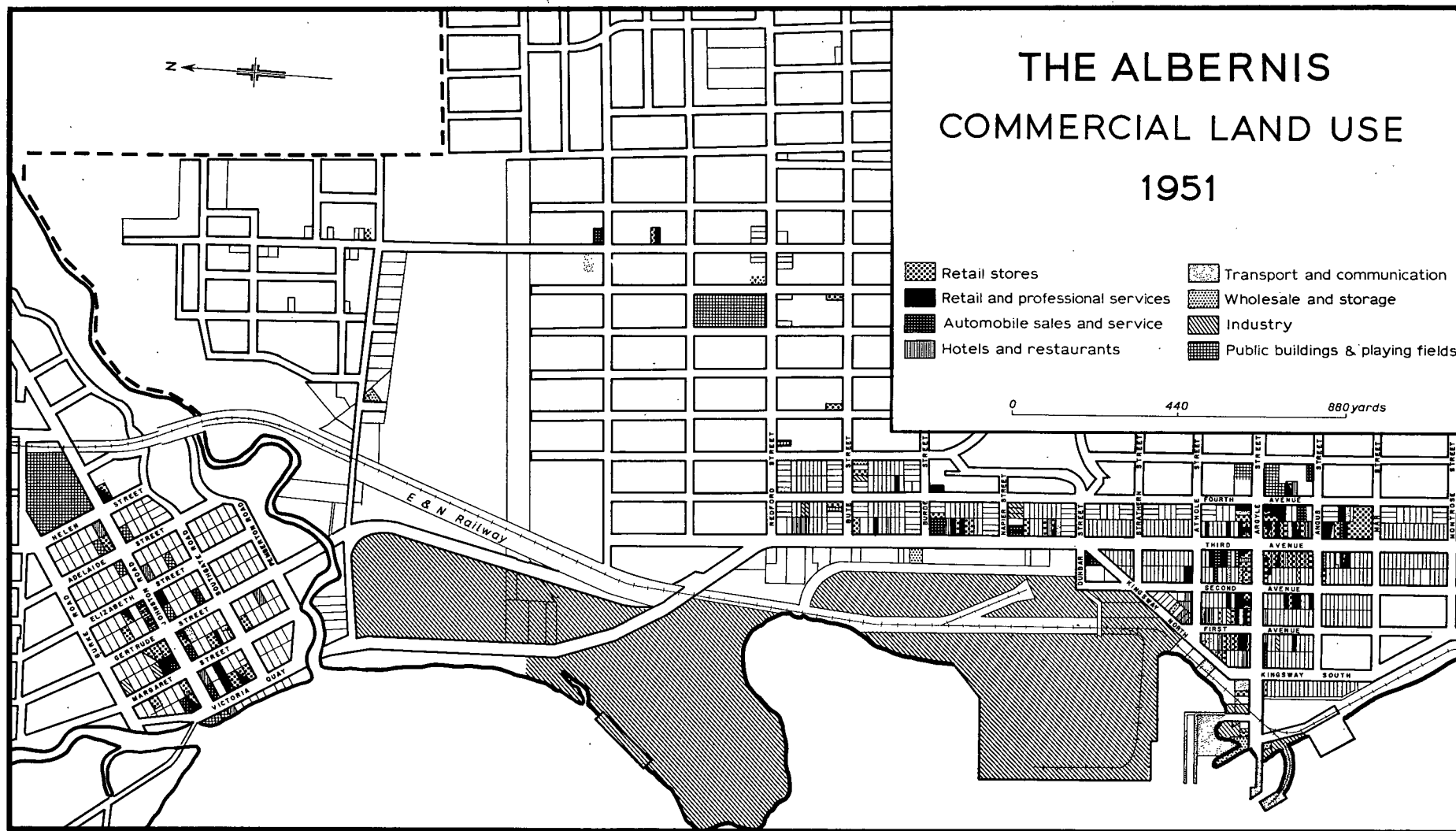
Map 32 Commercial Land Use of the Albernis 1941

the lots were half the size of those in Alberni, thirty-three feet wide as compared to sixty six feet. One result of this smaller lot size is that less land has been taken up for commercial use than the number of establishments would suggest and thus served to prevent extensive sprawl of the commercial area.

The commercial activity in Alberni was strictly limited to providing services for the resident population, retail stores and services, three service stations, an hotel and a couple of coffee bars. Port Alberni, in addition to providing for its own population, had some services, for example the Credit Bureau and poolroom, which catered for the whole district.

From map 16 it is apparent that the labour force of the Albernis was very dependent upon industry, both manufacturing and primary. In addition to the main sawmills, subsidiary industries such as shipbuilding, sash and door, and metal working were developing although of minor importance. Most of the shipbuilding was concerned with fishing boats.

The next decade saw rapid expansion of the forest industries. In 1934 Bloedel, Stewart and Welch acquired ownership of the sawmill at Great Central Lake and then extended the work in Port Alberni at the Somass Saw and Shingle Mill. The following year H. R. McMillan took over the Alberni Pacific Saw Mill and expanded into plywood production. All of the forest product plants have been located on the

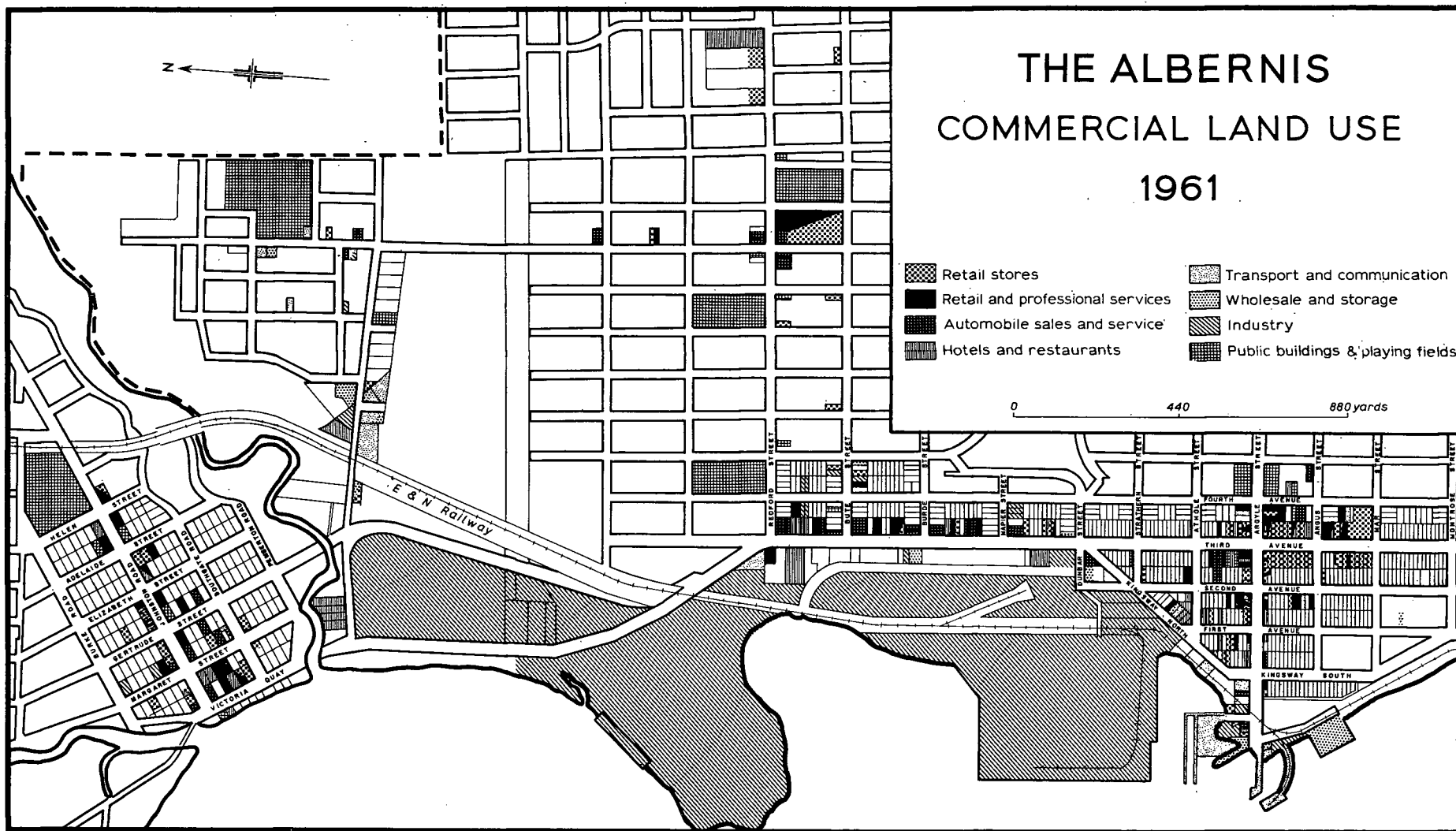


Map 33 Commercial Land Use of the Albernis 1951

waterfront to facilitate collection and export of the finished products. Population increase accompanied this expansion but unlike the previous ten year period, Alberni grew at a faster rate than Port Alberni, 158 per cent as compared to 95 per cent. In absolute terms Port Alberni was still growing more rapidly but the tendency of employees to locate further from their place of work was noticeable and Alberni's role as a dormitory area for industrial workers was established at this time.

Most of the commercial expansion during this time as in all the other cities in central Vancouver Island seems to have been within the existing commercially developed area, that is, some lots were subdivided to accommodate a larger number of businesses and there was also expansion of existing firms. The only significant land use change was the movement of a few establishments north away from the centre of commercial development (i. e. Third Avenue and Argyle) along Third Avenue North which is the main connecting street with Alberni. This was the beginning of a trend which has continued to the present time.

It would appear that rapid increases in population take five to ten years to be reflected in land use changes because, although the rate of population growth had decreased for the Albernis from one hundred and nine per cent, 1931-1941, to seventy-five per cent from 1941-1951, there was considerable expansion in the number of commercial establishments both in Alberni and Port Alberni. Those in Port Alberni continued the trend of developing towards Alberni and at the same time

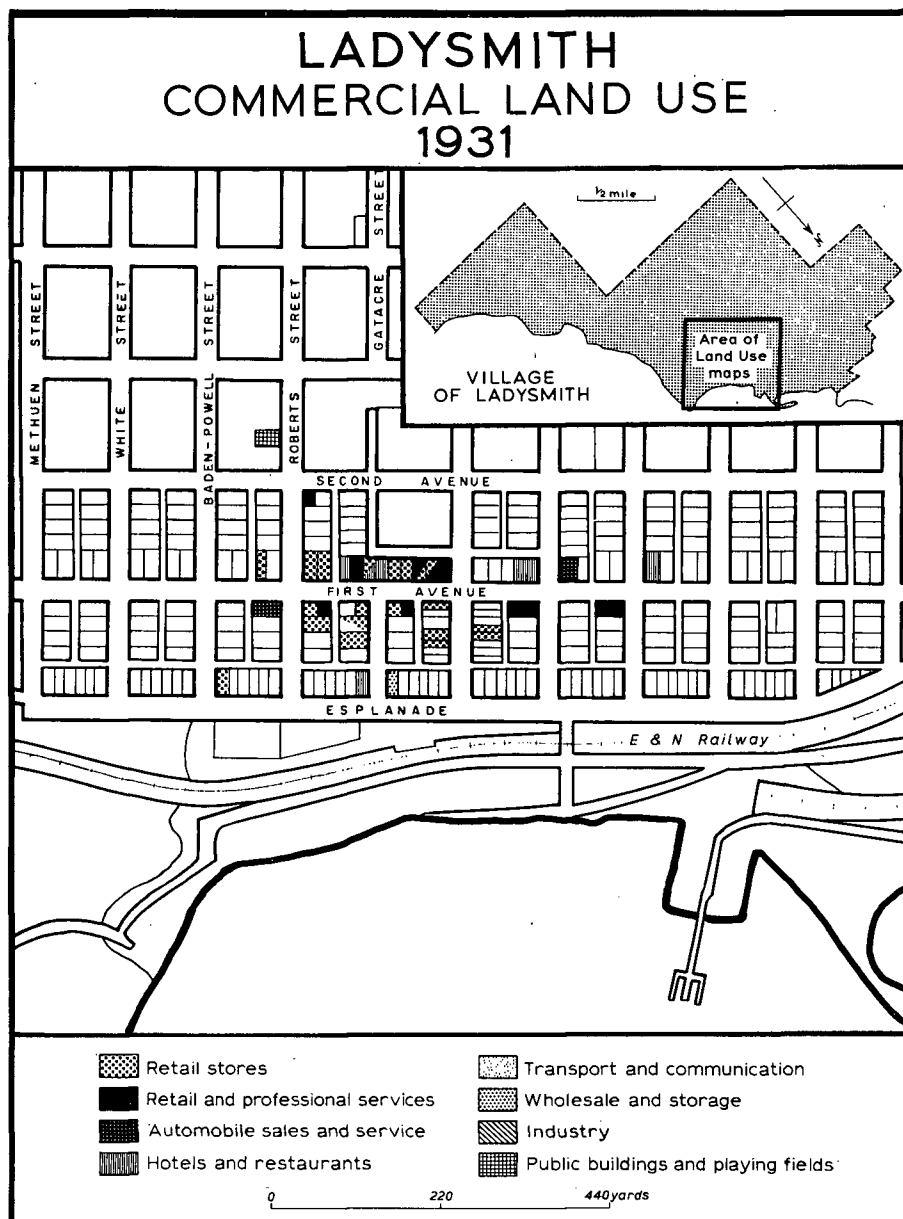


Map 34 Commercial Land Use of the Albernis 1961

there was an increase in the number of local corner stores. With the increase in retail businesses a small number of wholesale establishments also located in Port Alberni, the majority adjacent to the railway.

Each decade during the period of study has had significant expansion in the forest industries resulting in the increased population of the cities. First the establishment of the sulphate mill in 1947 and then the doubling of the sulphate paper capacity between 1955 and 1956 have been the major factors resulting in the growth of population. In addition to the increased number of services located along Third Avenue North, the majority of which were automobile sales and service, two other areas of Port Alberni emerged as locations for new development. The first, Redford Avenue, shows a development similar to that in Duncan and Nanaimo along the Trans Canada Highway. This has been along Redford Avenue, the main route out of the Albernis, where service stations and a shopping centre have located. Here parking space could be more readily made available and the eastward expanding residential areas served. The second area of new expansion was in a district rather isolated from the main commercial areas of Port Alberni to the northeast. Here rather than retail stores and services the development has been of wholesale, storage and transport services and some small industries.

The land use pattern of the Albernis is quite unlike that of any of the other towns under study. There are two factors which account



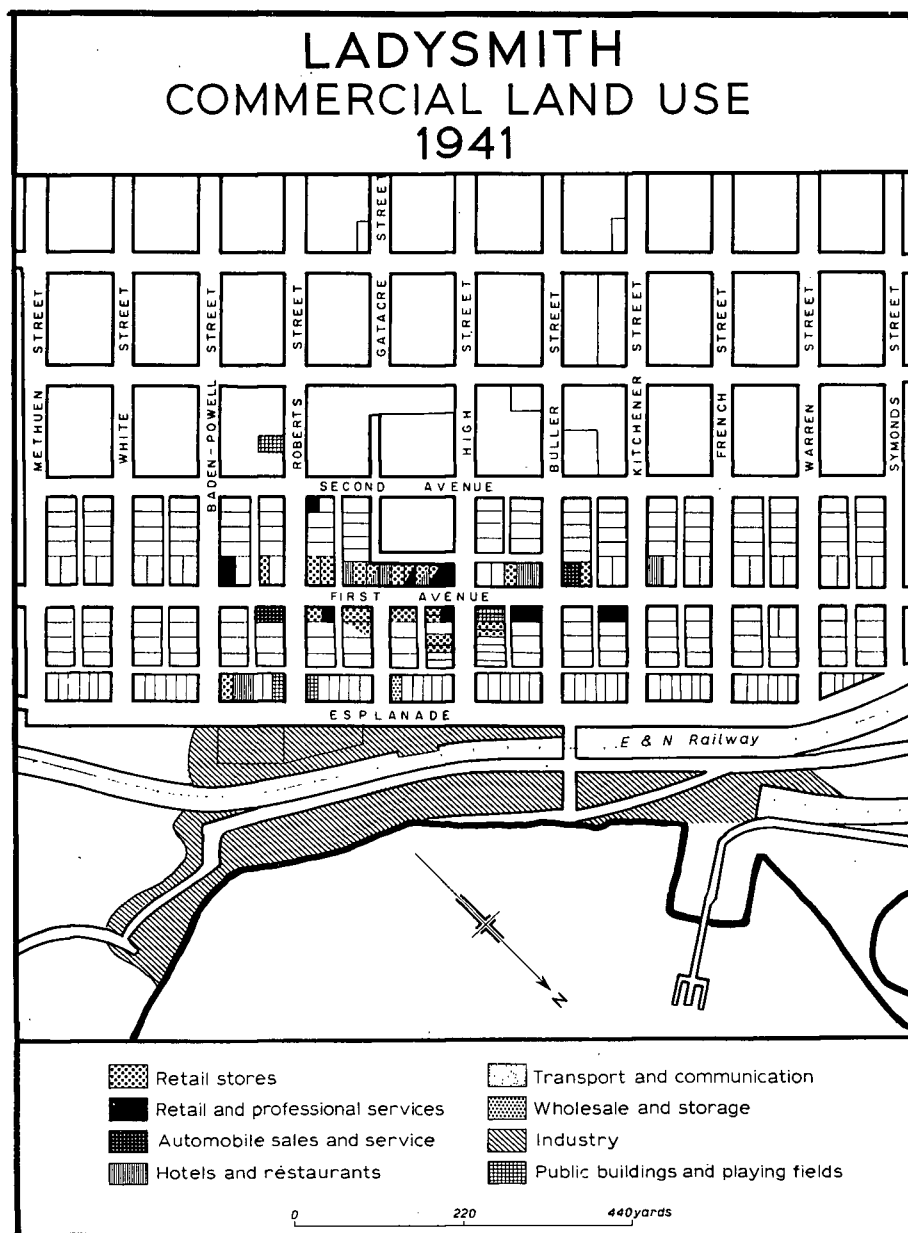
Map 35 Commercial Land Use of Ladysmith 1931

for this. The development of two separate centres at Alberni and at Port Alberni has given rise to a pattern of multiple nuclei in contrast to the other towns of the region which show a tendency to develop in concentric zones with some sector development. In addition, Port Alberni is the only one of the five urban areas where a substantial amount of land area within the city is used for industry.

Ladysmith

The economy of Ladysmith was at its lowest ebb in 1931, the date for which the land use map (Map 35) was prepared. Coal mining had ceased at Extension and little other alternative employment was available for the inhabitants of the Dunsmuir company town. The previous decade had seen a decrease in population of 27 per cent, from 1,967 to 1,443. This seems all the more remarkable at a time when the average increase of population in all other incorporated centres in Central Vancouver Island was 30 per cent.

The townsite of Ladysmith was laid out with little regard for the convenience of the residents. Despite the fact that several areas in the vicinity would have provided flat sites for development, the one chosen is almost entirely steeply sloping. It can be seen from map 35 that the original site was laid out in a completely rectilinear pattern with the commercial development along First Avenue which runs northwest to southeast one block up from the foot of the hill. This was also the street used by throughtown traffic. Between Baden Powell and Kitchener Streets the five blocks of First Avenue



Map 36 Commercial Land Use of Ladysmith 1941

consist mainly of buildings transferred there from Extension. In 1931 despite the depression it appears that most of these buildings were in commercial use, most establishments being used for retail rather than service purposes. With a population only four hundred less than that of Duncan, Ladysmith had only two service stations in contrast to eleven at Duncan. One striking feature is the fact that only three hotels remain of the thirteen hotels and boarding houses present in 1904. However, even three hotels was out of proportion to the size of the population in view of the fact they were not products of an attempt to attract tourists.

The commercial land use in 1941 gives little indication of the improved economic circumstances of the town and it is probable that by that date those firms which had remained in business but on the verge of bankruptcy, were once again serving a population sufficiently large and prosperous to sustain them but not yet attracting new business.

The improvement in the town circumstances came about due to a severe gale which in 1933 blew down large stands of timber in the area west of Ladysmith. Up to that time no attempt had been made to utilize the available timber resources. The realization that the wind-felled timber would soon become worthless caused the owners to sell their holdings to Comox Logging and Railway Company (a subsidiary of Canadian Western Lumber Company) in 1936.⁹ Operations began immediately in the vicinity of Ladysmith and within two years three

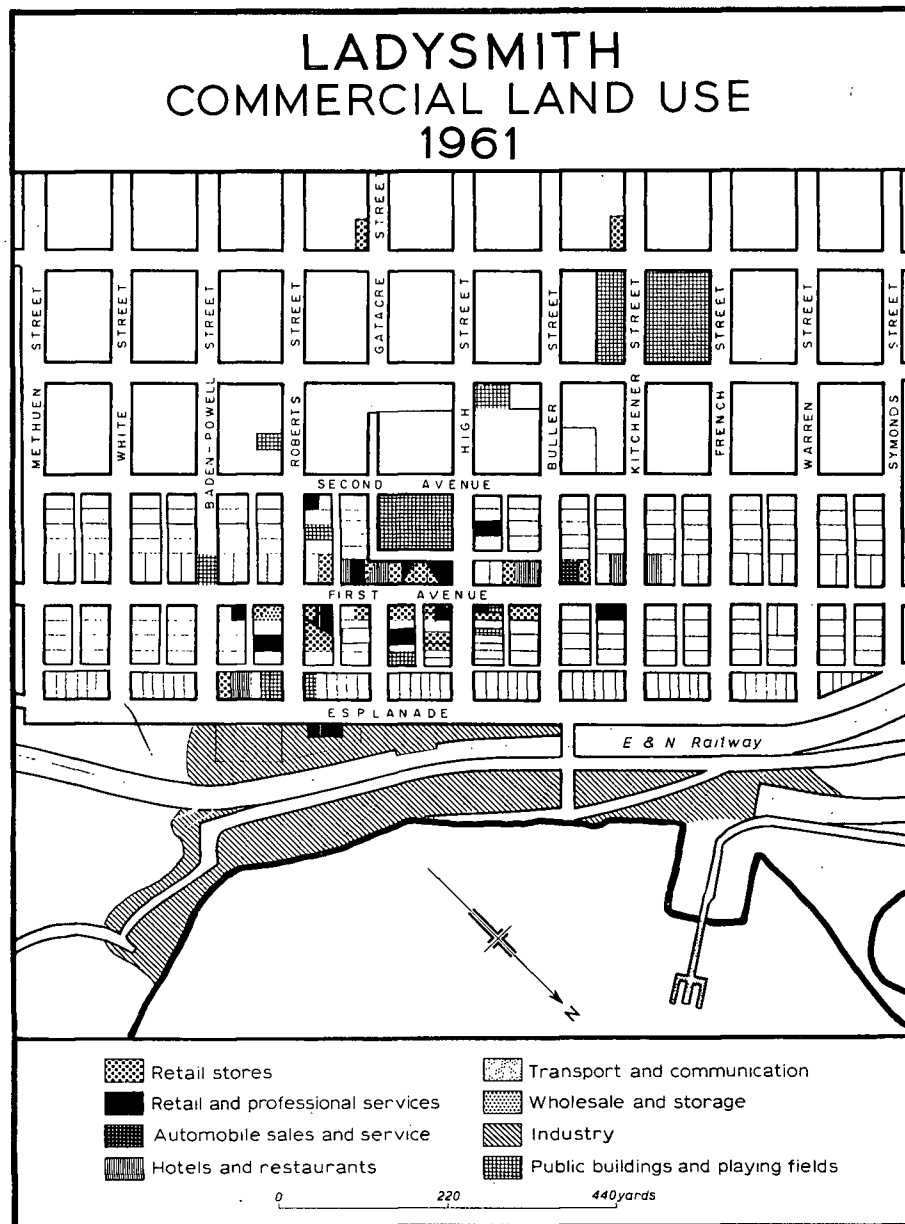


Map 37 Commercial Land Use of Ladysmith 1951

hundred men were employed and by 1941 the population of Ladysmith was approaching the 1921 figure. During the second World War considerable expansion took place and a railway was built to the Nanaimo Lakes area. Until then all work was carried on using trucks and tractors which was unusual at that time.

When the original townsite was laid out the majority of the lots were larger than in other towns on the Island, and although there was a significant increase between 1941 and 1951 in the number of commercial establishments and in the types of service offered this is not apparent from the land use maps. Many of the lots in the commercial district were subdivided and more extensively used.

The statistics for the city from 1941 to 1961 would appear to indicate that the population increase in the first ten years of this period, twentythree per cent, was not sustained after 1951 (table II). By 1951 the area within the city boundary was almost entirely occupied and some residential development had already spread beyond. The subsequent increase in population is in the unorganized territory adjacent to the city. In 1961 an estimate gave the population of the contiguous residential area as 800, making the total population of the urban area approximately 3,000.¹⁰ The boundaries of the Village of Ladysmith have been re-located since the 1961 census and the new boundary is shown on the inset in map 35. The previous boundary includes little more than the area shown on the land use maps 35-38.



Map 38 Commercial Land Use of Ladysmith 1961

Ladysmith is now a residential town for the employees of the forest industry. The Comox Logging and Railway Company, now a subsidiary of Crown Zellerbach, in 1961 employed four hundred, the majority living in Ladysmith. McMillan Bloedel and Powell River have logging operations near Chemainus and Ladysmith and have a sawmill at Chemainus and a pulp mill at Harmac, north of Ladysmith. All of these have many employees resident in the Ladysmith area. Other industries are still few and small. Since 1955 oyster culture has been increasing but employment in 1961 was only between twenty and thirty. Ladysmith harbour provides suitable facilities both for commercial fishing and for pleasure craft.

The most striking feature of the commercial land use pattern is the lack of change from 1931 to 1961. A study of the establishments listed in the B. C. Directories indicate that if it had been possible to compile maps for 1911 and 1904, it is probable that they would show little variation. The changes from a mining town to a centre of unemployment and then to a residential area for the various aspects of the lumber industry do not seem to be reflected in the urban land use. At no stage in the town's history has it provided services for more than a very small area around the town, and during the period of growth since 1941 more and more of the residents travel north to Nanaimo for major purchases and services.

Summary

Each of the central Island towns which has developed because

of the need for port facilities has been on a site which is steeply sloping with the result that there is deep water immediately offshore but the townsite has been inconvenient to its residents. The early retail and service areas were all located near to the waterfront. In the case of Port Alberni these services have relocated on the wider and more convenient Third Avenue higher up the hill. The commercial area of Nanaimo has expanded but Commercial Street remained the location of the major retail and service establishments because of the central nature of this street, in a town which is semi-circular in site, and the proximity of the wharfs which are the supply points. This street probably has the largest retail sales of any on the Island outside of Victoria despite being one of the most inconvenient and congested from the point of view of traffic. The waterfront areas of the three ports have not developed in similar ways. Storage, wholesale and transport facilities occupy most of the Nanaimo waterfront with only a few small industrial sites. Alberni, in contrast, has almost all its waterfront property in industrial use and Ladysmith, no longer significant as a port, has virtually unused waterfront apart from log storage and pleasure craft.

The Esquimalt and Nanaimo Railway was the locational factor for many of the wholesale and storage premises particularly in Duncan where there is no waterfront but also in Nanaimo where the waterfront is very congested and in Port Alberni where the waterfront has little influence on any goods other than forest products and oil which are

commodities moved by sea rather than by road or rail.

The streets or highways carrying traffic, other than the local urban traffic are those on which automobile sales and service functions and tourist accommodation tend to locate, frequently on the periphery of the commercial core area. In addition with the growing congestion of these core areas shopping centres tend to develop on or near the highways and removed from the original retail and service locations.

On only two towns do these changes in transport facilities seem to have had little dynamic effect. The commercial land use patterns of Ladysmith and Alberni have changed very little during the period of study despite residential growth that has been quite considerable in both towns within and without their boundaries. In these cases it would appear that the towns have become residential areas with commercial cores which do not provide services for a population from outside the town, nor do they provide more than the basic services for their own inhabitants being overshadowed by the development of their neighbouring towns, Nanaimo and Port Alberni.

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- 1 Matheson, M. H. , Some Effects of Coalmining upon the Development of the Nanaimo Area, M. A. Thesis, University of British Columbia, 1950, p. 76.
 - 2 Johnson, P. M. , A Short History of Nanaimo, Evergreen Press Ltd., Nanaimo, B. C. , 1958, p.17.
 - 3 Ibid. p. 18.
 - 4 Due to the fact that no city maps, other than the current issues, were available the commercial land use for each centre at all dates has been plotted on the 1961 base.

5. Chapter II, page 17.
- 6 Information obtained from photographs in Provincial Archives, Victoria, B.C.
- 7 7 Manager, Cowichan Creamery - interview 1961.
- 8 Hughes, Ben. History of the Comox Valley 1862-1945, Evergreen Press Ltd., Nanaimo, B.C., p. 37.
- 9 Davis, Isabelle Fortyninth Parallel City: An Economic History of Ladysmith, B. A. Essay, University of British Columbia, 1953, p. 39.
- 10 The City of Ladysmith 50th Anniversary, Ladysmith Chamber of Commerce, 1954, p. 34.

CHAPTER V

SUMMARY AND CONCLUSION

The growth of settlement on Vancouver Island has been largely dependent upon the utilization of three major resources; coal, forests and land suitable for agriculture. The distribution of these resources and the pattern of transport facilities which emerged in conjunction with their use have been largely responsible for the location of settlements, for their growth in population, for the type and increase of land use within the settlements and for changes in the relative importance of centres within the region.

Stages of Urban Development

Three phases of urban development can be determined:

1. Prior to 1900 urban settlement of Central Vancouver Island was entirely restricted to the three coal mining communities of Nanaimo, Cumberland and Wellington. Although agriculture was well established by 1900 in both Cowichan and Comox Valleys, the service centres of Duncan and Courtenay were still in their infancy. Logging occurred during this early phase mainly in order to clear the land but sawmills had been established at Mill Bay, Chemainus, Nanaimo, Courtenay and at Port Alberni. The last of these was unsuccessful.
2. Between 1900 and the mid-1920's, the second phase of urban development occurred. Many of the early coal mines were worked out

and shifts in location of the mining population took place, for example, from Wellington to Ladysmith via Extension. Despite the opening of new mines, the depletion of reserves and uncertain markets resulted in a rapid decline of the coal industry commencing immediately after the First World War.

At the same time as these developments in the mining industry the service centres of Cowichan and Comox Valleys, Duncan and Courtenay, grew rapidly as both agriculture and forestry expanded in their respective hinterlands. The re-establishment of sawmilling gave the impetus necessary for urban settlement within the Alberni Valley.

3. The third phase, of which the present pattern is a continuation, began in the 1920's when coal resources were dwindling and mine employment was becoming increasingly unstable. Fortunately, for the welfare of the miners, at approximately the same time the utilization of forest resources was increasing rapidly and many miners were able to turn to logging or sawmilling for employment. Ladysmith, in particular, is an example of a mining community which completely changed its economic base to logging. Not all the towns which grew with the forest industry were old mining towns. Port Alberni, the largest centre of forest industry within the region, from its earliest origins had forest products as its reason for existence. New towns such as Chemainus and Lake Cowichan developed in this boom of expansion of the forest industries. A characteristic of this

third phase of development is that the economic base of settlement of central Vancouver Island became more diversified with the increasing importance of the tourist industry, retirement into the area, and the Royal Canadian Air Force Base at Comox.

Transportation

The role of transportation in the urban development of this region has been threefold. Transport facilities have been influential in the choice of the original location for urban centres, and have affected the rate of growth of many centres and the morphology within the centres. Transport is not by any means the only factor involved in the urban development, but it is the one factor which is most commonly important in this region.

1. Transport as a Locational Factor

Water transportation was the only type of public transport available to the settlers of Central Vancouver Island until 1886, and therefore the steamers plying between Victoria, Cowichan Bay, Nanaimo and Comox were a vital lifeline. The earliest settlements at Nanaimo and in Cowichan and Comox Valleys were restricted to an area from which it was possible to reach a steamer wharf in one day's journey. The produce from the two agricultural settlements were conveyed by steamer to the markets at Nanaimo and Victoria, while coal was exported to San Francisco from Nanaimo and later Union Bay and Ladysmith. The lack of regular steamers to Alberni Valley made the position of settlers there very precarious, and therefore

their numbers were very limited.

Land transportation in the form of the Esquimalt and Nanaimo Railway, which in 1886 was opened from Victoria to Nanaimo, provided a much needed link between Victoria and the rest of the settled part of the Island and was instrumental in the choice of locations, initially, for the city of Duncan and later Ladysmith. Following the railway development the highway network began to expand from local service roads to provide connections between all the settled parts of Vancouver Island and in so doing opened up new areas for settlement and also encouraged the development of service centres such as Courtenay.

The advent of the private automobile and the resultant mobility of private individuals has resulted in growth of the tourist industry in North America and in Central Vancouver Island towns such as Qualicum Beach and Parksville are an outcome of this growth in British Columbia.

2. Effect of Transport upon the Growth of Urban Centres

The influence of transport facilities upon the location of early communities has been mentioned. Variation in the rates of growth of early settlements was partially due to the extent of coal reserves, but also in the case of Nanaimo to its advantageous situation in a central position, within the settled region of the Island, where port facilities could be developed. Nanaimo and other towns which have developed mainly to provide services for rural residents, for example Duncan and Courtenay, or for tourists, as in the case of Qualicum Beach,

have been very dependent initially upon public transport such as the railway and latterly upon good highway connections.

The development of several urban centres has been dependent upon transportation aspects of forest industries. Some forest industry centres located either for easy collection of raw materials, as for instance Lake Cowichan, or for easy shipment of the finished product, for example, Chemainus. The Alberni Valley, the west coast area with relatively easy access both to vast supplies of raw materials and to the settled area on the east coast plain of the Island was advantageously placed for urban development based upon forest industries.

The mobility of population today, due to the automobile, has had an effect upon the development of urban centres. Those concentrations of population in central Vancouver Island which occur due to resource development are slow to develop retail services if they are located in close proximity to an established centre, for example, Youbou and Crofton. In contrast to this is the growth of Comox, very close to Courtenay, to provide services for personnel at the R. C. A. F. base.

3. Effect of Transport Facilities upon Urban Morphology

Within the urban places in central Vancouver Island, transport facilities are a fundamental part of the morphological development. As can be seen from the maps of commercial land use the original commercial cores were all located beside the most important transport

function of the day. In the case of Nanaimo, and of Port Alberni, this was the waterfront, in Duncan the railway station, in Courtenay the bridge, and in Ladysmith the main road. Later communication developments have caused changes in this pattern due to alteration in accessibility, type of transport, and parking requirements. The most important changes which can be seen on the land use maps have been associated with the development of the Trans Canada Highway. Of the five towns under detailed study, the land use changes in association with the highway have been most striking at Duncan, illustrated by a comparison of maps 25 and 26, but maps 22, 30 and 34 indicate that Nanaimo, Courtenay and Port Alberni also have notable developments along the highway. Where a new highway is built, space can be obtained for large parking areas, and these sites are advantageous for functions serving population outside of the centre in question and often also the suburban residents. In Nanaimo, the orientation of large space using services such as supermarkets and service stations is not only evident in the less central parts of town but also near the waterfront along Terminal Avenue.

The Urban Hierarchy

Prior to 1930 settlement developed independently in several areas within the Central Vancouver Island region but with comparatively little interaction between these. By 1931 transport facilities had so developed that interaction throughout the whole region was comparatively easy and the development of a trade hierarchy can be

distinguished. Although the boundaries of commercial activity of individual centres are difficult to determine it would appear that there have not been many major changes in the patterns of trade movement since 1931.

Around the larger 'cities' small 'villages' have not tended to increase their trade functions unless great economic base expansion has taken place, as in the case of Comox. This is due to the preference of the majority of shoppers for as large a selection as possible and thus, the accessibility of a 'city' offering this selection and in addition other services not provided in lower order 'towns', tends to inhibit growth of services in smaller centres. Although travel has become faster and easier since 1930 the total population growth of the region has been such that despite the fact that these smaller centres have not increased their functions neither have they lost many. They and the mining 'towns' of Cumberland and Ladysmith became less important in the region as a whole; and have remained in the same classification in the hierarchy while being surpassed by others.

The statistical analysis of central function and population data suggests that, while between these factors the relationship present in areas with considerable urban development tends to be similar, whether the main basis of the economy is agriculture or industry, this relationship is not quite as clear cut in a non-

agricultural area. The correlation factor between population size and number of central functions or functional units is not as high in Vancouver Island as it is in the American Mid-West due to the fact that two types of towns exist; those which are largely dependent upon industry and those which provide services for surrounding population in addition to that of the centre.

As the population of Central Vancouver Island has grown and transport facilities have been improved, the interaction of population within the region has also increased and in such a way that although not homogeneous, the region has achieved a degree of unity. Nanaimo has developed as the focus of much of the trade movement and of transport routes, and has maintained its position as the most important if not the largest centre in the region.

It would appear that the rapid growth of population associated with the developments in the forest industry is becoming slower, and unless some new resource can be developed or new industry introduced, consolidation within existing urban areas is likely to continue. The location or re-location of commercial services on or near the highways or other new transport facilities is also likely to continue, particularly in the case of service centres. Resort and residential activity, such as at Parksville and Qualicum Beach, may be the type of development that will increase more rapidly in the immediate future.

Due to the broad scope of this study it has not been possible to deal with every urban centre in detail. Rather, an attempt has been made to determine the factors involved in the initial settlement of Central Vancouver Island and the forces which have subsequently created change and growth of urban centres. It has become apparent that the most important single determining factor in the initial utilization of resources has been transport. The first mining settlements were located on the waterfront, as were the first lumber mills. Expansion inland took place as land transport facilities were developed. Technological change, in particular the advent of the automobile and truck, and the resulting improvement of accessibility have been determinants in the evolution of a hierarchy of urban centres.

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Questionnaires: Sent to all wholesale establishments in Nanaimo - 70 per cent replied.
Sent to 20 per cent sample of retail establishments - 60 per cent replied.

Interviews (carried out by University of Victoria students) with operators of retail establishments in Campbell River, Cassidy, Chemainus, Comox, Crofton, Cumberland, French Creek, Hilliers, Lantzville, Parksville, Qualicum Beach, Royston, Shawnigan Lake, South Wellington, Union Bay and Wellington.

APPENDIX

TABLE IV - POPULATION, CENTRAL FUNCTIONS AND FUNCTIONAL UNITS, CENTRAL VANCOUVER ISLAND URBAN CENTRES, 1961*

Urban Centre	Population	No. of Central Functions	No. of Functional Units
Albernis	16176	102	512
Campbell River	3737	81	256
Courtenay	3485	98	327
Comox	1756	23	36
Cumberland	1303	33	50
Royston	700	8	15
Union Bay	600	9	12
Duncan	3726	90	319
Cowichan Bay	140	8	8
Crofton	493	9	14
Mill Bay	268	9	13
Shawnigan Lake	438	9	10
Ladysmith	2173	60	106
Chemainus	1518	62	114
Lake Cowichan	2149	44	64
Youbou	1153	11	13
Nanaimo	14135	110	729
Lantzville	135	9	9
S. Wellington	409	13	14
Wellington	599	15	15
Parksville	1183	107	107
Qualicum Beach	759	65	65
Cedar	230	11	11

* Excluding those places with less than eight central functions or less than 100 population