

AN EVALUATION OF ALTERNATIVE RESOURCE COMMUNITY PLANS

BY COST-BENEFIT ANALYSIS

Thesis

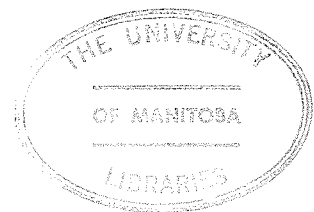
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by

Winfred Richard West

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WINFRED RICHARD WEST

A dissertation submitted to the Faculty of Graduate Studies of
the University of Manitoba in partial fulfillment of the requirements
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ABSTRACT

This thesis, by way of introduction, describes some of the economic and social problems that single resource communities have historically suffered. It hypothesizes that a new town is more expensive to build to accommodate a given population than an existing community is to expand. It also hypothesizes that when compared with a single resource community, a diversified community offers a stabler economic and richer social infrastructure to its residents and to its region.

The hypotheses are proved by cost-benefit analysis as it is applied to alternative community plans after Nathaniel Lichfield. The test case is the new town of Logan Lake and the existing resource communities of Merritt and Ashcroft. Logan Lake was created by the Lornex Mining Company in 1970-72 with an initial population of 1000, eleven miles from the mine site. The older, established and diversified resource towns of Merritt and Ashcroft are 38 and 28 miles away from the mine site. The region is in south-central British Columbia.

Costs for housing and services in Logan Lake were made available by the developers. The capital investment by Government and utilities, as well as private (commercial) investors were researched or estimated. Equivalent costs in the two existing towns were generated by scenario. The capital cost balance showed that it would have been considerably cheaper to expand either of the existing resource towns than to build the new town. Free bus transport and special highway improvements were included as costs for the scenario alternatives.

The cost-benefit study evaluated the quantitative, and qualitative-intangible aspects in addition to the monetary values. The result was a ranking strongly in favour of expanding the Town of Merritt, chiefly because of its larger existing 1972 population of 5,500 residents, as compared with that of Ashcroft at 2000 population.

Although the cost balance is an objective comparison, the evaluation of alternative plans in other respects is subjective. Weakness in that regard must be guarded against in analysis. The matter of worker transport from central community to resource location is a crucial factor and is not dealt with intensively here.

Chapter 1

INTRODUCTION

The Problems of Single Resource Communities in British Columbia.

On the world scene Canada is considered to be one of the richest nations in natural resources. In mineral production alone Canada is the world's third largest producer, after the United States and the Soviet Union.¹ A considerable concentration of this natural wealth is found in the Province of British Columbia. It is not surprising, then, that the history of human settlement since Colonial times is closely tied to the development of the resource industry in this Province. In fact, the economy of most communities in B.C. today is still based on the primary resource sectors, such as forestry, mining, agriculture, or fisheries.

With this Provincial heritage it is important that resource developers, politicians, planners, as well as the general public understand the history and the economic and social problems that are typical of most non-diversified resource communities. Communities prone to economic dislocations are those which are dependent on a single, and particularly a non-renewable resource. Romanticized accounts of life in the single resource towns in the past were too often overshadowed by the spectre of a sudden collapse of the local economic

¹Robert Tyre, "Government Taxation Regarding Growth of the Mining Industry," Trade and Commerce, July, 1975, p. 16.

base. The result was the trauma of broken hopes and lost investments for many residents and for many resource developers, too. One historian of British Columbia lists 132 ghost towns² as testimony to the uncertainties of resource development. Most of these were dependent on the exploitation of a non-renewable resource, and failed when the resource was depleted or when markets made the life-giving enterprise uneconomic.

The definition of a "single resource community", as suggested by Lucas and adopted here is "a community of single industry with a population of less than 30,000 in which at least 75% of the working population serves the single industry and its supporting institutional services."³ Under this definition, Lucas found 636 communities with a total population of approximately 900,000, or roughly 5 percent of Canada's total population. Most of these communities had less than 8,000 people.

Economic Dislocations. To illustrate the validity of the problem of single resource communities a brief analysis of their history in the Grand Forks District of southeastern British Columbia will provide some insight. Clegg⁴ reports that Phoenix City at the turn of

²British Columbia Ghost Town Map, 2nd ed. (Vancouver: Garnet Publishing Co., 1972).

³Rex A. Lucas, Minetown, Milltown, Railtown, (Toronto: University of Toronto Press, 1971), p. 17.

⁴Edward Terrence Clegg, "A Single Enterprise Community of Settlements" (unpublished Master's dissertation, University of British Columbia, 1958), pp. 7-12.

the century had a population of about 3000. The copper ore from its mines was shipped to nearby Grand Forks which had the largest smelter at that time in the British Empire.

When the mines of the area showed signs of exhaustion, the Company made no attempt to find new ore bodies or to stabilize the regional economy in any way.... Within a few short years Phoenix City was completely abandoned and the city and mines fell into ruin. The City of Phoenix has not appeared on maps for over thirty years.⁵

The City of Grand Forks has survived.... The economy of Grand Forks now depends upon agriculture, forestry, and lumber, although increasing attention is being given to mineral exploration.⁶

Recounting the fate of the resource-based communities in the coal region of Fernie, B.C. Clegg identifies former communities such as Morrissey which had a population of 3000 in 1899, Hosmer with a population of 2000, and Corbin with 3000 in 1904, and so on. All of these are ghost towns today.⁷ He goes on to say:

The fate of these old coal towns is a result of their complete dependence upon one activity--coal mining. If the economic base of any of these communities had been diversified enough it is doubtful if any of them would have become the ghost towns they are today. Thus the great waste that resulted from abandoning these cities could perhaps have been avoided by careful regional planning of the economic base.⁸

These economic dislocations are unfortunately not relegated

⁵Clegg, p. 12.

⁶Clegg, p. 16.

⁷Clegg, pp. 28-30.

⁸Clegg, p. 31.

to the resource communities of our pioneering past. They are very much part of current history. For example, the weakening of the international copper market in 1974 was the direct cause for the closure of the mining community of Britannia Beach near Vancouver, and the lay-off of 50% of the employees in Stewart, B.C., adjacent to the Alaska Panhandle. This weakening of the metal market was simultaneously aggravated by Federal-Provincial disputes regarding resource tax-sharing and royalties, with the result that mining companies, among other resource developers, found their economic position in the industry threatened.⁹

Social and Cultural Limitations. Over and above the economic vicissitudes characteristic of single resource communities is a general malaise felt among many community residents. This discontent expresses itself primarily in the high turnover of employees of the typical resource company. Bancroft, in his study of nineteen selected mining communities in British Columbia found that "dissatisfaction with company town life is increasing."¹⁰ The average labour turnover in these communities was found to be 89% annually.¹¹ Turnover of single employees was not specified but indicated to be far higher. Lucas writes:

⁹The Globe and Mail [Toronto], January 25, 1975, Report in Business Section.

¹⁰ Clifford G. Bancroft, "A Social Infrastructure Analysis," Mining Communities in British Columbia, B.C. Department of Mines and Petroleum Resources, (Victoria, 1975), p. 7.

¹¹ Bancroft, p. 72.

Periods of optimism, deep pessimism and an overriding ambivalence and resignation are characteristic of many citizens, as they realize their welfare depends upon international markets, changes in technology or depletion of the resources upon which the industry is based.¹²

In describing the typical problems of resource communities Bancroft concludes that "choice" is a crucial urban characteristic which is generally lacking.¹³ Others agree. "The choices our affluent society takes for granted in shopping, in entertainment, in a moderate amount of democratic planning requires several thousands of people."¹⁴ Most single industry communities simply cannot support the larger, more desirable infrastructure.

The relationship between Company structure and community stratification is very evident in many single enterprise communities, because there are no other social hierarchies to diffuse into the community except that of the major enterprise. "Your rank in the [Company] structure determines your social position in the community," writes Clegg. "This stratification is reflected [even] in the housing areas."¹⁵

¹² Lucas, p. 96.

¹³ Bancroft, p. 8.

¹⁴ Vancouver Sun, July 7, 1970, (Interview with Mr. Christensen, Manager of the new town of Gold River, B.C.).

¹⁵ Clegg, p. 122.

The history of resource communities in British Columbia has shown that there are severe difficulties to which resource developers, and particularly politicians and planners must address themselves. British Columbia is a Province in which resource development occupies a high proportion of the gross provincial product as compared to say, Ontario, which has a significant manufacturing industry.¹⁶ It is a reasonable assumption that this preponderance of primary industrial activity in B.C. will continue for many years to come. In view of the failures experienced, in single resource community development to date, new solutions must be found to the problems of resource settlements.

The Changing Character of the Single Resource Community. The role of the resource company in the establishment of single resource communities and its involvement in the everyday management of the community has been diminishing. The days of the "company town" have essentially passed. Increasingly, the ownership of homes and commercial facilities is private, though with the financial encouragement of the resource company where necessary. This change has come about particularly since the Second World War.

One reason for this change was the growing complexity of more recent resource development. Resource companies require skilled technicians, tradesmen, and operators, rather than labourers. A better

¹⁶For a Comparison of Values of Primary Resources in British Columbia, see Appendix A , Table 12.

quality of life and working conditions must be offered these people who have the choice of satisfactory employment in communities that can offer greater diversity in life style and in career opportunities. The level of necessary resource investment also increased in recent years, requiring a larger workforce and, inherently, more complex administrative management of the community.

These changes have expressed themselves politically in British Columbia by amendments to the Municipal Act in 1965, as discussed in the following chapter. The amendments established some cooperation between the resource companies and the Provincial Government. As a result "the first wave of planned communities has been followed by a second wave of 'instant towns.'"¹⁷ These "instant" resource towns were established complete with an interim council which was replaced by local elected officials once the resident population had established itself. Among the new towns in B.C. established under this legislation are Gold River, MacKenzie, Granisle, and Logan Lake.

The physical planning of these resource communities has changed as well over time, quite similar to the change characteristically found in North American cities. The traditional grid street pattern gave way to "wilderness suburbs"¹⁸ with their curvilinear street pattern and low residential density. They look like suburbs yet lack the central city which, in a nutshell, suggests their inherent failing.

¹⁷J. Douglas Porteous, "Resource Towns in B.C. Opt for Wilderness Suburbs," Habitat [C.M.H.C.] June, 1974, p. 3.

¹⁸Porteous, p. 7.

From an interview with Mr. Christensen, who directed the development of B.C.'s first "instant town" under the legislation cited, the Vancouver Sun quotes as follows:

The people who want to live in the bush will do so without the suburban comforts anyway. They'll trade ungraded streets and no lights and even a few septic tanks for the freedom which the country grants. But they don't want to leash their dogs [a local ordinance in Gold River]. One or the other -- the simple natural life, or the amenities and the choice of the city. Not both. The economics don't allow it.¹⁹

One social problem of a single industry community that has not changed with time, though its effect has been lessened by the high labour turnover, is the characteristic pattern of maturing. Lucas²⁰ found that a community of this type passes through four identifiable stages -- construction, recruitment, the period of transition, and finally maturity. The first two periods are characterized by high mobility. The transition period is one in which the authority and responsibility are transferred from the company to the population with respect to some or most aspects of local government and services. In the "instant town" of Logan Lake, for instance, the buy-back guarantee which homeowners received from the resource company will lapse in 1977, five years after construction. The maturity phase of the single industry town manifests itself in some stability of the population. At this stage the majority of the youth usually must leave the community

¹⁹Vancouver Sun, July 7, 1970.

²⁰Lucas, pp. 21-112.

because they cannot be absorbed into the labour force. The next stage in the pattern again starts with new recruitment.

Future Directions of Single Resource Communities

"The concept of Utopian living environments has always been with us", says Pressman, "and will probably always be.... It is up to planners at the national level to improve growth management and to help ... build communities ... with designs, that will be within a national framework of growth."²¹ Norman Pressman is, of course, not alone in his concern for the problems of new town development, some of which have been identified in this introduction as expressing themselves in the economic, social, and physical deficiencies of single industry communities. At the prospect of more and more Canadians being drawn to the major cities, Canada's Minister of State for Urban Affairs suggested that there "ought to be a true choice between reasonably equal options.... One of the most important tasks of the Government in the coming decade is to provide the options of living a rich and rewarding life in small towns...."²²

Few will argue with the validity of the goal set by the Minister. However, translating this into a vehicle for achieving the

²¹Norman E. P. Pressman, "New Towns: utopia or necessity?" Community Planning Revue, June, 1975, p. 1.

²²Hon. Barney Danson, "An Urban Strategy," Civic, The Public Works Magazine, July, 1975, p. 61.

goal may draw as many differing opinions as there are people voicing them. Ebenezer Howard initiated the Garden City movement in England at the turn of this century in an effort to "let the sun shine" into the lives made dreary by the excesses of the industrial revolution. With the help of the private motor vehicle, and the planning principles advanced by Stein at Radburn in the 1930's (plus modern variations of the theme), the suburb was born transforming the traditional city into "metropolitan areas" which are neither city nor country.²³ This open plan design has been transported, generally with little modification, to the resource location.

On investigating the preferences of residents of three British Columbia resource towns, Porteous²⁴ found that "the very 'wilderness suburbs' which are anathema to planning critics may well be the preferred environments of their residents." He goes on to say that residents did not evaluate experimental alternatives such as mega-structures, planned non-permanent communities, centralized multi-resource based cities, and disposable townsites occupied on a shift basis by workers flown in from established southern cities. Norman Pressman²⁵ suggests it is vital that the new town be situated where it meets a

²³ Hans Blumenfeld, "Criteria for Judging the Quality of the Urban Environment," Contact, Occasional Paper No. 14 (University of Waterloo), p. 1. Reprinted from Urban Affairs Annual Reviews, Vol. 3 (1969), pp. 137-164.

²⁴ Porteous, p. 7.

²⁵ Norman E. P. Pressman, Planning New Communities in Canada, (University of Waterloo, 1974), p. 16.

local, regional, and national need and where it has economic growth potential. Edward Clegg is more specific:

If possible, the industrial site could be selected in relation to an existing settlement for joint planning and joint use of utilities and transportation facilities. Often an existing community can provide a better level of services more economically than an entirely new community could.²⁶

It is the central and diversified resource community that holds particular promise, in the opinion of this writer, because it combines a number of necessary attributes. Its economy is supported by two, or preferably more, resource industries. In British Columbia the mining and forestry sectors can sometimes be organized to be developed in one locality. If other resource sectors can be added the economic base and industrial activity can be expanded in a geometric progression and the peaks and valleys of economic fluctuations are dampened. Manufacturing and service industries will be attracted as a matter of course. The vital component of "choice", so elusive in single resource communities, will almost certainly be generated, if not by design, certainly by inherent diversity and size of the community. The future for B.C.'s resource communities must, therefore, be in the direction of diversification.

²⁶Clegg, pp. 217-218.

The Test Case of the Logan Lake New Town

In order to substantiate this recommendation for resource community diversification this writer has had the opportunity to assess the case of the establishment of the new town of Logan Lake near Kamloops in south-central British Columbia. (The term "instant town" is considered inappropriate in planning terminology). Built to house the employees of a mining development in the Highland Valley Region, it appeared on the surface that alternatively, these residents might have been allocated in one of two existing diversified resource communities of Merritt and Ashcroft that were 30 to 40 miles away by road in opposite directions from the resource location. Logan Lake was built 11 miles away.

It appeared that Merritt already played a role as a regional centre with its resource base in forestry, mining, and agriculture. Ashcroft, as a minor regional town, depended on mining and agriculture. Logan Lake, the new town, was wholly dependent on the mining activity of one enterprise. The critical component in the equation was deemed to be the physical distance between the mine site and the three communities. But a 40 mile distance to the community furthest away did not seem excessive, at first glance. In view of the socio-economic problems that single resource communities have historically suffered, as demonstrated in this chapter, it is proposed that the rationality of the decision to establish the new town of Logan Lake be tested by two hypotheses.

Hypotheses: New Town versus Town Expansion

1. A capital cost comparison between the establishment of a single resource new town and the scenario expansion of existing resource communities will show that the new town is more expensive.
2. Compared with a single resource community, a diversified community by virtue of its broader industrial base offers a stabler economic and richer social infrastructure to its residents and to its region.

Scope of the Thesis

The first hypothesis is intended to prove that the capital cost of the creation of the Logan Lake new town was higher than the expansion of either of the existing resource communities of Merritt or Ashcroft. If the answer is affirmative, then Edward Clegg's suggestion quoted in this chapter will have been verified and the rationality of the decision to build a new town will have been called into question on the point of cost. The operation and maintenance costs of these communities will not be compared as this is considered to be beyond the scope of this assessment. It is submitted without proof that administratively, and at the scale of community development considered, the expanded community will be administered more cost effectively than the non-expanded plus the new town.

The second hypothesis is intended to prove that the population of the new resource community would benefit from becoming part of the

existing community and in the process and by their presence add to the welfare of the established population in either Merritt or Ashcroft. This proof would draw on existing literature and its application of alternative plan evaluation. It would evaluate the non-specific monetary and intangible merits and demerits of alternative plans. The value of each of the three communities in the role as a regional centre will be included in this analysis.

Theoretical Framework

In the last six to seven years the theory of cost-benefit analysis has been applied with some success in the evaluation of alternative community plans. It will be employed here to test the rationality of the decision to create a new single industry community where the alternative of expanding existing diversified resource communities seemed feasible. This evaluation will be supported by a capital cost balance of alternative housing and infrastructure expenditures.

The cost balance will be an objective assessment but the broader analysis will be largely subjective. The whole evaluation is predicated on the assumption that the transportation is acceptable to the resource employer and employees in terms of cost and time, linking the alternative communities by bus with the resource location (a mine site).

The importance of such an evaluation has been demonstrated in the introduction to this thesis which sets the stage for the cost-benefit analysis.

Chapter 2

THE NEW TOWN OF LOGAN LAKE

INTRODUCTION

The purpose of this chapter is to assess the primary resource sector of the Highland Valley region, which is mining, as well as to retrace the steps of the planning and decision making process which led to the establishment of the mining resource community of Logan Lake. Since it is the purpose of this thesis to test alternative development plans by cost-benefit analysis, this Chapter will attempt to enumerate the total capital investment made in the development of the Village of Logan Lake. This total cost figure will serve as a comparison to be made in subsequent chapters when alternative plans of community expansion are generated by scenario for two existing resource communities in the region.

An attempt has been made in this Chapter to arrive at a complete development cost figure for Logan Lake. This means that not only the corporate capital investment by Lornex has been accounted for, but also capital expenditures made by public utilities and Government Departments have been enumerated insofar as these costs can be attributed to the development of the Logan Lake resource community. Finally, an estimate of total private capital investment has also been made for Logan Lake.

It appears from research made on the subject of British Columbia's resource communities that information on total development costs are not available and it must be assumed that this cost has not