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**THE COMMUTING ALTERNATIVE: A CONTEMPORARY RESPONSE TO
COMMUNITY NEEDS IN THE RESOURCE SECTOR**

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INTRODUCTION

Resource exploitation has traditionally played a prominent role in the development of Canadian society. From the early days of fish and fur, through the era of pulp and paper and metallic minerals, to the more contemporary period of chemical and petroleum production, resource development has been an integral component of the growth experience. It has at various times provided the catalyst for exploration, the means for economic expansion, the focus for government policy formulation and the foundation for a wide variety of secondary and/or service industries. The resource development process has indelibly stamped its mark on Canadian society,

Very much a part of the resource exploitation phenomenon is the resource community. Defined as “any community whose economic base depends mainly on resource extraction or processing,” the resource town epitomizes the dependency inherent in the resource development process.¹ Beginning with the ramshackle mining camps of the late nineteenth century, through to the wilderness suburbs of the post-World War II era, worker accommodation has come to be recognized as a significant aspect of the resource production process.² By about 1972, however, the resource town as a means of accommodating workers’ needs had fallen into disfavour.³ The boom which had occurred in the immediate post-World War II era had by the 1970s given way to a period of decline. Resource towns which had blossomed almost overnight into functioning communities were forced to contend with the problems of industrial wind-down. Not only were communities obliged to implement downsizing agendas or establish retraining programs, but the whole notion of community was brought into question. The resource town was no longer considered a viable or necessary component of the resource production process. In its place the fly-in, commuter type operation, had become an acceptable townsite alternative,

In the mining camps of the nineteenth century the primitive nature of townsite facilities tended to reflect the tentative circumstances of the resource production process. Few, if any, companies committed themselves to the prospects of long-term development. As a result, accommodation was often inadequate and usually echoed the temporary nature of the resource scheme. Housing, when it was constructed, either took the form of small log cabins or simple wood frame structures. The camps which generally lacked an overall plan for development, were often thrown together with little consideration for an orderly environment. In most cases, while the company dominated both the industrial and townsite properties, its activity was largely confined to the industrial property. Indeed, the separation of the industrial plant from townsite facilities was seldom encouraged and in most camps

the plant clearly dominated the setting. In both a physical sense and a psychological sense, the townsite was clearly subservient to the industrial operation.

By the turn of the century the frontier styled mining camps had given way to the model towns of the next generation. The resource community of the model town era attempted to provide for a comfortable living environment. In response to the reform issues of the twentieth century, the increasing competition for labour, government intervention, technological advancement and, in part, to the less than tolerable living conditions encountered in many of the early mining camps modern planning techniques were readily incorporated in the design process. In this fashion, streetscapes were planned in advance of construction, zoning schedules were implemented to control development, neighborhoods were designed to compliment the local topography and greenbelts were established throughout the townsite. Much of the model town thrust was undertaken at the expense of the company. In some case the communities did indeed become showcase towns, but in others the strong arm of the company overshadowed the advances made within the community. In any event, Canadian resource towns of this era offered more of a quality environment to their inhabitants than the mining camps of the previous era,

The tendency towards the creation of the well-planned community continued into the post-World War II era. It did so, however, with a twist. By the mid-1940s, most provincial governments and, on occasion, even the federal government had become active partners in the planning, construction and administration of resource communities. Land-use segregation, environmental management, the separation of vehicular and pedestrian traffic and the widespread implementation of the neighborhood unit concept, had all become acceptable development strategies. They were also expensive design niceties which, in many respects, helped to foster the growth of an artificial urban environment. The boom mentality, so prevalent during the post-World War II era, had carried over to the resource town phenomenon to such an extent that growth at all costs was the order of the day.

When, by the early 1970s, the consequences of the resource boom were finally realized, there was an almost immediate backlash. The downsizing and/or the decommissioning of communities was seen from coast to coast. Industries were shut down, houses vacated, employees relocated and local redevelopment strategies initiated. Responding to increasing costs, uncertain global economic tendencies, the slow downswing of the post-war expansion, ongoing labour strife and a shift in the overall strategy of government, the resource town became less and less of a viable community alternative. The post-war boom, and indeed the whole resource town phenomenon, had to a large degree precipitated a downturn which had serious long term ramifications. The wilderness suburb,

the pinnacle of the resource town process, had proven to be an inappropriate response to the townsite needs of the resource sector.

The dawning of the post-1970 era gave rise to two new resource town strategies. The decline of various resource towns had forced government, industry and labour organizations alike, to incorporate downsizing or wind-down mechanisms in the planning framework. Operating through vehicles such as the Manitoba Mining Reserve Fund, the Industry and Labour Adjustment Program and the Community Futures Program, the downsizing initiative was clearly intended to offer short-term support subsidies to the faltering, resource based economy. While the wind-down initiative was very much at the centre of the resource town process, also important to the new era was the so-called 'no town' strategy.' Under this scenario, the creation of new resource communities *per se* was discouraged. Facilities, where warranted, were to be established either in a non-permanent configuration or existing townsites were to be expanded as growth centres.

The growth-centre approach focused development on one specific host community. Very much a part of a regional growth strategy, the host community provided goods and services to a clientele that included both resource workers and service sector personnel. The growth-centre strategy, or approach, offered not only a much needed stability to the community, but it also allowed for the provision of a wide range of services to the residents.

The non-permanent community was actually a twofold response to the contemporary problems of the resource community. One aspect of this alternative was the erection of temporary facilities to meet the immediate housing needs of resource workers. Fully cognizant of the short-term duration of an industrial operation, which was dependent upon a depleting resource base, the temporary community offered only the most rudimentary facilities at the industrial site. The second non-permanent community alternative was the long distance commuting (LDC) option. Operating on a fly-in--fly-out rotational basis, the commuting alternative became a heavily favoured method of resource development. It offered workers the chance to remain in their home environment on a semi-permanent basis, and concurrently the opportunity to participate in the resource production process.

Tracing the evolution of the resource community from the mining camps of old to the more contemporary LDC arrangement suggests that the resource town phenomenon has come full circle. The LDC option is very much in the mould of the temporary camp of the nineteenth century. The fly-in--fly-out operation recognizes the limitations of the resource production process, and yet at the same time builds in a development scenario which permits full scale resource exploitation. Most readily

employed in the mining industry, the LDC alternative has helped to facilitate the development of isolated mineral finds across the northern frontier.

In the two papers, 'The Urban Miner: Long Distance Commuting to Work in the Mining Sector and Its Implications for the Canadian North' and 'Company Town or Commuting: Implications for Native People,' the LDC option is discussed and the ramifications for both northern development and northern peoples presented. Originally delivered at the Canadian Housing and Urban Studies Conference in February 1988, both papers suggest that LDC is indeed the most acceptable response to the resource town phenomenon. At the same time, however, the authors indicate that the LDC option is not without faults and that, although it has remedied many of the problems inherent in the development of resource communities, it has also created a series of problems peculiar to LDC.

ENDNOTES

1. G.A. Stelter and A.F.J. Artibise, "Canadian Resource Towns in Historical Perspective," *P/an Canada* 18 (March 1978): 7.
2. For a discussion of the periodization of the resource town process see: L.D. McCann, 'The Changing Internal Structure of Canadian Resource Towns,' *P/an Canada* 18 (March 1978); R. Robson, 'Canadian Resource Towns: An Historical Overview, 1880-1976,' in K. Coates and W. Morrison (eds.), *Interpreting Canada's North: Selected Readings*, (Toronto: Copp, Clark, Pitman, 1989); O. Saarinen, 'Single Sector Communities,' in G.A. Stelter and A.F.J. Artibise (eds.), *Power and Place* (Vancouver: University of British Columbia Press, 1986) and; G.A. Stelter and A.F.J. Artibise, 'Canadian Resource Towns In Historical Perspective.'
3. This theme is pursued in some detail in Robert Robson, "Wilderness Suburbs: Boom and Gloom on the Prairies, 1945-1986," *Prairie forum* 13, 2 (Fall 1988).
4. I.M. Robinson, "The New Resource Towns on Canada's Frontier: Selected Contemporary Issues," in D.D. Detomasi and J. W. Gartrell (eds.), *Resource Communities: A Decade of Disruption* (Colorado: Westview Press, 1984).

THE URBAN MINER: LONG DISTANCE COMMUTING TO WORK IN THE MINING SECTOR AND ITS IMPLICATIONS FOR THE CANADIAN NORTH*

Mark Shrimpton
and
Keith Storey
Department of Geography
Memorial University of Newfoundland
St. John's

ABSTRACT. Within the last twenty years, the long distance commuting (LDC) option has become an acceptable employment alternative in the resource sector. In all probability, the economic advantages of LDC will continue to preclude the construction of new single-industry resource communities in remote areas. At the same time, however, the incorporation of the LDC option has had serious consequences for the overall composition and the internal economic structure of the urban system in the Canadian North. The large degree of 'WY-over' which has occurred because of the use of the LDC alternative, has meant that more and more employment and associated economic benefits of the resource production process have accrued to the South as opposed to the North. With many workers electing to establish residence in the South, and the downsizing of permanent infrastructure, LDC has had both a positive and a negative impact on northern development.

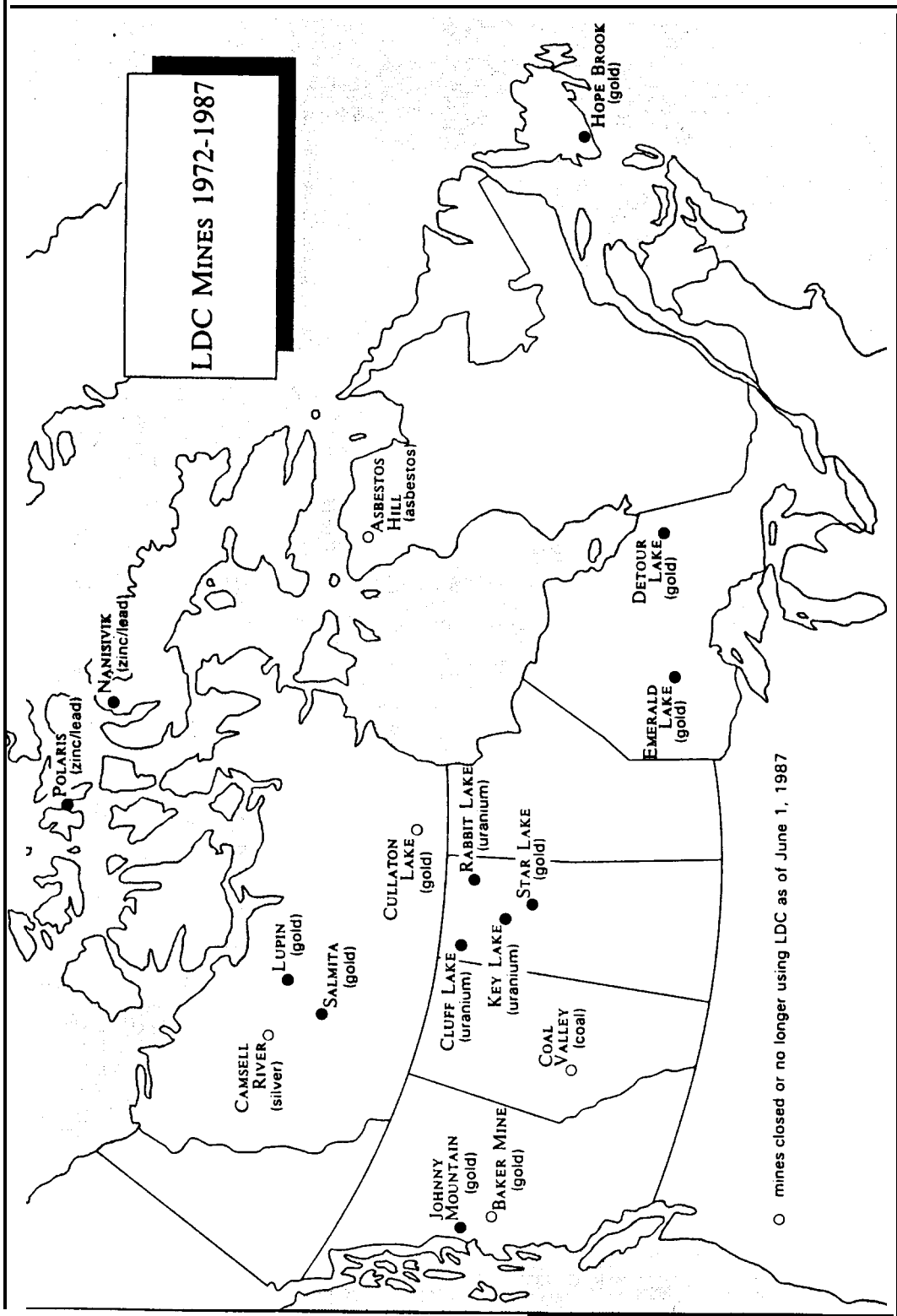
INTRODUCTION

One of the outstanding characteristics of Canada's geography is the imbalance between the distribution of population and the distribution of natural resources. About 90 percent of the population live in a relatively narrow belt of land on the southern edge of the nation, while most mineral, forest, hydro and fishing resources are located in the North and in and under peripheral seas and oceans. This pattern has given rise to the development of large numbers of single-industry resource towns, designed to provide the labour force for exploiting these remote resources. There is voluminous academic and non-academic literature on the characteristics and the problems of such communities.

However, the last twenty years have seen reduced costs and increased reliability of air transportation and telecommunications, and this, allied to the growing costs of developing, operating and closing resource communities, has led to the increasing use of 'long distance commuting' (LDC) employment as an alternative. This has been defined as 'employment in which work is so isolated from the workers' homes that food and lodging accommodations are provided for them at the work site, followed by a fixed number at home.'¹ The period at the worksite may be as short as a few days or as long as a dozen weeks; the commute may involve a bus ride of less than a hundred miles, or flights several thousand miles long.

* Paper Presented to the Canadian Urban and Housing Studies Conference, Institute of Urban Studies, University of Winnipeg, February 1986.

This paper is based largely on research undertaken under funding from the Department of Energy, Mines and Resources Research Agreements Program and the Labour Canada Technology Impacts Program.



This paper discusses some of the implications of the use of LDC for Canadian northern, urban and regional development based on research on the mining industry. The general proposition is that, over time, the growth in the use of LDC will significantly influence both the overall composition and the internal economic structure of the urban system in the Canadian North. Specifically, the argument is made that the economic advantages alone are sufficient to preclude the future construction of new single-industry resource communities in remote areas. Thus, over time, with the continuing closure of existing single industry towns, the number of northern urban places is likely to decline. Further, subject to the outcome of public policy initiatives, either the economy of the remaining northern urban places will be strengthened, as they become focal points for northern LDC operations, or there will be an increasing leakage of resource benefits and employment if northern resource developments continue to be serviced largely from southern centres.

The body of the paper is divided into four sections. The first briefly describes the growth in the use of LDC by the Canadian mining industry, and this is followed by a discussion of why LDC is preferred over the development of mining towns. The third section examines the impacts of LDC mining with reference to northern urban and regional development. The concluding section briefly discusses some of the implications of the use of LDC by resource industries for northern development policy.

THE USE OF LONG DISTANCE COMMUTING BY THE CANADIAN MINING INDUSTRY

Long distance commuting was first used by offshore oil operations, where the mobility of rigs and supply boats and the harsh marine environments virtually precluded other options, and where the potential financial returns justified the expense of using aircraft for personnel transportation. It has increasingly been adopted to provide labour to onshore resource development activities in the oil and gas, hydro and forest industries. Offshore, the trawler fishery, which has always exhibited some of the characteristics of the system, has now adopted a truly LDC pattern for factory freezer trawlers.

However, the largest Canadian onshore user of LDC employment is the mining industry. The first "fly-in" (to use the industry term, although recent mines have included operations which use boat, bus and car transportation for the commute) mine was Asbestos Hill, Quebec, which opened in 1972. Since then a total of fourteen mines have opened (Table 1, Figure 1). At the end of 1987 nine of these were in operation, while two others were under development. Those mines in operation were in three metal mining sectors; gold (4), uranium (3) and lead-zinc (2), and located in Saskatchewan (4), the Northwest Territories (3), Ontario (1) and Newfoundland (1). By 1987 fly-in mines employed 2800

Table 1

Characteristics of LDC Mines: June 1987

	Mine	Province	Opened/ Closed	Fly In/Out Employees	Rotation	Days In/Out
1.	Asbestos Hill (asbestos)	Que.	1972-1983	c. 400		70/14
2.	Rabbit Lake (uranium)	Sask.	1975	370		7/7
3.	Nanisivik ⁽¹⁾ (lead, zinc)	N.W.T.	1976	220		98/21
4.	Coal Valley (coal)	Alta.	1977-1963 ⁽²⁾	335 ⁽³⁾		n.a.
5.	Cluff Lake (uranium)	Sask.	1980	260		7/7
6.	Camsell River (silver)	N.W.T.	1980-1985 ⁽⁴⁾	200		28/26 ⁽⁵⁾
7.	Baker Mine (gold)	B.C.	1981-1983	47		14/14, @ 21/7
8.	Lupin (gold)	N.W.T.	1982	440		14/14, ~ 4/3
9.	Polaris (zinc/lead)	N.W.T.	1982	260		63/21, ⁽⁶⁾ 42/28 42/21, 7/7
10.	Cullaton Lake (gold, silver)	N.W.T.	1963-1985	130		
11.	Key Lake (uranium)	Sask.	1963	475		7/7
12.	Detour Lake (gold)	Ont.	1963	150 ⁽⁷⁾		7/7, ⁽¹⁰⁾ 3/4
13.	Salmite (gold)	N.W.T.	1983-1967	85		14/14, ⁽¹¹⁾ 35/21
14.	Star Lake (gold)	Sask.	1987	40		7/7
15.	Hope Brook (gold)	Nfld.	1987 ⁽¹²⁾	c. 350 ⁽¹³⁾		14/14
16.	Johnny Mtn. (gold)	B.C.	1987 ⁽¹⁴⁾	60		42/21
17.	Emerald Lake (gold)	Ont.	1988 ⁽¹⁴⁾	85 ⁽¹⁵⁾		4/4, 4/3 ²

⁽¹⁾A nominal rotation system exists, but it is more accurate to describe Nanisivik as a conventional single-industry community.

⁽²⁾Changed from a rotational helicopter fly-in system to a daily bus commute in 1963.

⁽³⁾1986 employment which was about 60% capacity.

⁽⁴⁾Operations began in 1970, but a rotational system was *not* adopted until 1960.

⁽⁵⁾The original rotation was 54/30 for hourly workers and 36/20 for staff. In 1964, the rotation changed to 28/26 for all employees.

⁽⁶⁾1981 rotation for all personnel was 21/7. This changed in 1962 to 14/17 with the exception of administrators who remained on 21/7.

⁽⁷⁾Mine workers work 14/14, some department heads work 4/3.

⁽⁸⁾Majority of hourly paid staff work 83/21, native workers can opt for 42/28, corporate staff work 42/21.

⁽⁹⁾Currently undergoing expansion.

⁽¹⁰⁾Mine staff work 3 weekdays first week, 4 days second week at mine site except accounting personnel who are located in Timmins.

⁽¹¹⁾Mill workers worked 14/14, production employees worked 35/21.

⁽¹²⁾Production began September, 1987.

⁽¹³⁾Construction and mine workers, normal operating employment expected to be C. 270.

⁽¹⁴⁾Production scheduled for early 1988.

⁽¹⁵⁾Of the total workforce 55 will commute on a daily basis from River Valley and area, the remaining 30 will live on site during their 4/4 rotation or 4/3 rotation in the case of mill operators.

workers representing 4.8 percent of all Canadian metal miners and 48 percent and 18 percent of those in the Northwest Territories and Saskatchewan respectively. Modern capital-intensive operations, they account for even higher percentages of the total mineral production in these regions. These Canadian operations represent the largest concentration of LDC mining in the world. In addition Canadian companies have been, are, or will be operating fly-in mines in Greenland, Alaska and Australia while other such mines are found in the U.S.S.R.

LONG DISTANCE COMMUTING AND MINING TOWNS

INTRODUCTION

Long distance commuting therefore accounts for a significant and increasing proportion of the mining labour force in Canada, and especially in the N.W.T and Saskatchewan. This growth is reflected in Energy, Mines and Resources data on new mine openings. Fly-in mines comprised 9 percent of all new metal mines opened in 1975-79, fifteen percent of those opened in 1980-84 and 36 percent of those opened in 1985-87. All other recently opened metals mines have been adjacent to existing operations, or otherwise accessible to existing settlements able to accommodate the necessary labour force.

To the authors' knowledge, there have not been any new mining towns developed since the expensive and problematic coal town of Tumbler Ridge, British Columbia. Clearly the preference in new mining development is shifting, and, perhaps, has shifted away from the use of resource towns to LDC. The reasons for this are complex, and include the limitations of resource towns, changes in the regulatory and policy environment, technological and infrastructural change, changes in minerals economics, and worker responses to LDC. Each of these factors is briefly reviewed below.

LIMITATIONS OF RESOURCE TOWNS

There is extensive literature on the history and importance of Canadian resource towns, and the problems associated with them.³ These problems include:

- lack of economic diversity;
- . lack of alternative employment opportunities, especially for women;
- . limited and unpredictable life of the resource leading to vulnerability and 'boom and bust' cycles;
- . seasonal instability in employment levels;

- start-up, wind-down and post-closure problems;
- management problems; and,
- limited social, health and education services.

Many of these problems have been exacerbated over time, reflecting such factors as the greater aspirations of miners and their families with respect to recreational, educational and other facilities and services, and social changes which have made dual-income families the norm.

THE REGULATORY AND POLICY ENVIRONMENT

A number of public policy considerations have affected decisions between the use of the LDC and resource town options. Principal among these are concerns about the consequences for the single-industry community when market changes or resource depletion result in mine closure, removing its economic *raison d'être*. This common Canadian phenomenon has proved costly for the residents of such towns and for the public purse. Accordingly, alternative development options are increasingly favoured.

At the same time changes in the regulatory environment have made the construction of resource towns more expensive. The earlier resource towns in many cases had a poor quality urban environment. In response to requirements of both governments and miners' families, new towns, such as Tumbler Ridge, have been conspicuous for the planning efforts and infrastructural investments made. Furthermore, new towns are increasingly subjected to impact assessment processes which may require costly management and mitigation measures if the development is to be approved.

TECHNOLOGICAL AND INFRASTRUCTURAL CHANGES

Changing technology has provided, and increasingly reduced the cost of, the transportation and communications necessary for LDC operations. Investment in aircraft design, landing systems, microwave transmitters and communication satellites has additionally increased the reliability and safety of these services, while the 1960s and 1970s saw considerable public spending on air and port infrastructure.

CHANGES IN MINERAL ECONOMICS

Nineteen eighty-one to 1986 saw a crisis in the mining industry. While mining has always been vulnerable to short-term mineral cycles and longer-term business cycles, during the recent recession the cyclical vagaries of international mineral markets have coincided with significant structural changes

within the industry. This has meant that more attention than ever has been given to improving productivity, rationalizing unproductive operations, and reducing production costs so as to ensure that the industry remains competitive.

Weak mineral prices in recent years are largely attributable to the high real interest rates of 1981 /82, a declining world gross national product, world currency realignments, environmental regulation, downsizing, new lower cost mining operations in third world countries and metal substitution.⁷ The implications for the Canadian metals mining industry have included:

- the increased probability that new mineral reserves will have to be sought at more remote locations;
- an emphasis, in development of new reserves, on higher value deposits, implying the probability of shorter mine lifespans; and,
- the need for increased extraction efficiency, which will often imply a smaller workforce.

Each of these favours the use of LDC. Furthermore, recent price fluctuations focused attention on development options that are more compatible with variability *per se*. The LDC option presents advantages in that costs of start-up and closure of the mine, whether temporary or permanent, are reduced. In cases of closure there are no mining town problems, and the saving in commuter transportation costs is immediate. LDC operations are thus both easier to open *and to close*--and possibly to subsequently reopen.

WORKER AND DEPENDENT PREFERENCE

Another factor which appears to favour the use of LDC is the preference of workers and their families. Companies seem to have less difficulty in attracting and retaining workers, and turnover rates appear to be as low as, or lower than, those experienced by traditional mines.⁵ However this may partly reflect the shortage of alternative employment opportunities in recent years; any improvement in this situation might increase the differential.

The authors' surveys of the workers and their spouses at Polaris, N.W.T. and Key Lake, Saskatchewan mines confirm a generally positive assessment of LDC. When asked whether they would prefer to be involved in fly-in or to live in a small mining town, 50 percent of Polaris and 47 percent of Key Lake workers expressed unequivocal support for fly-in; the comparable figures for the spouses were 49 percent and 33 percent. However the worker preference is not as clear as Jackson suggests when he writes that "the family lives of commuters [have] to be greatly improved by the use of commuting."⁶ Other research has shown that commuting poses a number of difficulties for families,

particularly the stresses associated with partings, reunions, child-raising and financial management.' In the case of the fly-in mine respondents, for a variety of reasons a significant minority (16 percent and 25 percent of the fly-in workers, and 17 percent and 20 percent of the spouses) in fact stated an unequivocal preference for the mining town option.

CONCLUSION

The past fifteen years have seen an increasing proportion of new metal mines using LDC, while few new mining towns have opened. The above factors help to explain why this is the case, and there is every reason to believe that the current trend will continue with both the industry and the workforce expressing a preference for LDC.⁸ This is not to suggest that all outcomes from the use of I-DC are positive or beneficial. Experience has shown that while, from both a short- and long-term direct cost perspective, LDC has definite advantages, from an urban and regional development perspective, there are significant costs. Some of the advantages and disadvantages of LDC in this context form the basis for the discussion which follows.

LONG DISTANCE COMMUTING AND NORTHERN URBAN AND REGIONAL DEVELOPMENT

INTRODUCTION

Soon after fly-in was first used in the mining industry it was recognized that the new system has implications for northern, urban and regional development, Some of these relate to the implications for the development of single-industry towns, and have been discussed above. Others include the potential of LDC as a means of spreading employment and other economic benefits through the North and other peripheral regions. This section discusses government responses to these opportunities, and the ways in which fly-over and out-migration have confounded initial hopes, with employment and economic benefits accruing to urban centres in the South.

INITIAL GOVERNMENT RESPONSES

Long distance commuting employment was initially seen as a method of reducing resource development costs and avoiding the problems associated with remote mining towns. However, territorial and provincial governments soon saw its potential for distributing the benefits of industrial employment to the native and non-native residents of existing northern communities. In most cases

governments required or persuaded companies to put in place transportation networks linking such settlements to the mine site. Of the nine mines currently in operation only two, the Detour Lake, Ontario, and the Hope Brook, Newfoundland gold mines, do not have such a local or northern commuting network. The former flies in all its employees from Cochrane and Timmins, while the latter boats in its labour force from Port-aux-Basques on the island's southwest coast.

The two most northerly fly-in mines are Polaris and Nanisivik. These use scheduled airline services both to and within the North, plus, in the case of Polaris, a charter shuttle from Resolute Bay. Active northern and native hiring policies mean that these mines employ residents of twenty N.W.T. communities, of which only Arctic Bay provides workers to both mines--by bus to nearby Nanisivik, and by air to Polaris. However, the total number of N.W.T. residents involved is relatively small; ninety-one employees, or 19 percent of the total labour force. Of these N.W.T. residents, twenty-six travel by bus to Nanisivik from Arctic Bay, and nine fly to Polaris from Yellowknife. The third Northwest Territories fly-in mine, Lupin, uses charter service to draw employees from two N.W.T. communities, Yellowknife and Coppermine, where some Polaris employees also live, which accounts for 8 percent of that mine's labour force. All other employees fly in by company Boeing 727 from Edmonton, although many fly to there at their own expense from other parts of Canada

Saskatchewan uranium mines have also been subject to northern and native hiring requirements, and have charter schedules in place which link them to a total of sixteen northern communities. Only three of these--Beauvai, Buffalo Narrows and Ile-a-la-Crosse--are pick-up points for two mines, in all cases the Key and Cluff Lake mines. Beauvai is the most important of these, with twenty-five workers going to Cluff Lake and twenty to Key Lake. However, the sixteen northern communities account for only 20 percent of the total labour force, the rest being flown in from Prince Albert and Saskatoon.

There is, therefore, significant potential for making fly-in mining employment available to the residents of northern communities, depending on the scheduled and charter air service in place or introduced. This will spread the benefits of such employment and increase the economic base of the communities involved. However it should be noted that few towns or villages send workers to more than one mine, and hence there is still significant dependence on the fate of particular operations. It is also not clear what impacts LDC has on small northern native and non-native communities which do have numbers of individuals who are absent for extended periods, and who have high relative disposable incomes.

The use of northern charter networks appears to have facilitated the employment of natives. We have no data on the places of origin of native workers, but they comprise 13 percent and 30 percent

of the labour forces of the N.W.T. and Saskatchewan fly-in mines, respectively. The difference may reflect a lesser compatibility of the long northern mine rotations with native lifestyles, and/or differences between the native hiring policies used in the two jurisdictions.

'FLY-OVER'

The above discussion has focused on an issue of considerable public policy significance, the distribution of employment in the North. While LDC does provide considerable scope for spreading the benefits through the region, it has to be recognized that there is a high degree of 'fly-over.' While all of the employment and many of the associated spin-offs of a traditional mine accrue to the North, only a small proportion is retained from fly-in mines. Similarly LDC mines acquire more of their supplies and services from the South.

Table 2 summarizes the data on the places of residence of employees of the LDC mines currently in operation. Clearly the length of the rotation and the transportation policies of the mining companies significantly influence the residential distribution of the employees. The Detour Lake mine, for example, mostly uses a 7 days on--7 days off schedule, and only flies workers in from the northern mining communities of Cochrane and Timmins. All of the labour force of this mine live in Ontario, and 93 percent of them live in the northern part of the province. As such there is, atypically, very little direct loss of employment and income for the region.

By contrast only 14 percent of all employees of the three N.W.T. mines live in the Territory. The most important other areas of residence are Alberta (33 percent), British Columbia (15 percent), Ontario (14 percent) and the Atlantic Provinces (12 percent). The majority of those from Alberta work at the Lupin mine, which only provides free jet transportation from Edmonton (the other two mines pay for scheduled flights from any Canadian destination). There are more than seven Alberta residents at this mine for every N.W.T. resident. Clearly there is a very major loss of direct and indirect employment and other economic benefits to the South. The same is true, although to a more limited extent, in Saskatchewan, with 74 percent of the employees at the four northern LDC mines living in the South and using company transportation from Saskatoon and Prince Albert. Just as there is a fly-over of employees, LDC mines, at least in the Northwest Territories, also appear to purchase a lower than average proportion of supplies and services in the North, Table 3 provides a purchasing profile for the six operating mines in the N.W.T. There are three traditional mines located in the Yellowknife area, while the three others use fly-in. Two of the latter, the Polaris and Nanisivik mines in the High Arctic,

ship their ore out, and most supplies in, by sea. Lupin Mine uses a winter road which connects it to Yellowknife.

Table 2
LDC Mine Labour Force by Region of Residence

Region	Rabbit Lake (Sask.)	Cluff Lake (Sask.)	Key Lake (Sask.)	Star Lake (Sask.)	Nanisivik (N.W.T.)	Polaris (N.W.T.)	Lupin (N.W.T.)	Detour Lake (Ont.)	Total
1. N.W.T. -Yellowknife						9	12		21
2. N.W.T. -Other					58	24	28		110
3. Yukon						1	1		2
4. British Columbia	2			1	13	63	61		140
5. Alberta -Northern						12	45		57
6. Alberta -Southern	3				5		240		248
7. Saskatchewan -Northern	70	131	85	10		8			304
8. Saskatchewan -Southern	297	132		28			24		873
9. Manitoba -Northern					1	8	1		10
10. Manitoba -Southern	-				5		19		24
11. Ontario -Northern					16	59	8	140	223
12. Ontario -Southern					46			10	56
13. Quebec -Northern					6	27			33
14. Quebec -Southern					11		2		13
15. Atlantic Provinces					59	51	3		113
	<u>372</u>	<u>263</u>	<u>477</u>	<u>39⁽¹⁾</u>	<u>220</u>	<u>262⁽²⁾</u>	<u>444</u>	<u>150</u>	<u>2227²⁾</u>

⁽¹⁾Does not include contractual miners and catering staff.

⁽²⁾Does not include catering staff.

The LDC mines, on average, purchase less than half as much of their supplies and services locally than do traditional mines. Even Lupin Mine, with its road link to Yellowknife, only purchases 23 percent of its total supplies and services in the Northwest Territories; this is a much higher figure than the High Arctic mines, but still far short of the 35 percent figure for the Yellowknife mines. The distribution of out-of-Territory purchases is also very different, with the traditional mines being very dependent on Alberta and B.C.--principally it appears the former--while the LDC mines are mostly supplied from Ontario and Quebec. The latter figure reflects the reliance of the Polaris and Nanisivik mines on marine transportation through the Davis Straits to Central Canada and Europe,

Table 3

Purchasing Profiles, N.W.T. LDC and Non-LDC Mines, 1986

	LDC Mines** (n = 3)	Non-LDC Mines*** (n = 3)	Total (n = 6)
Total Purchases (\$ '000's)	76,719	28,271	104,990
Sources (%):			
N.W.T.	16.4	34.7	21.4
Alberta/B.C.	25.5	52.8	32.9
Sask./Man.	1.3	3.4	1.9
Ont./Que.	51.5	8.0	39.8
U.S.A.	3.3	1.0	2.7
Other	<u>2.0</u>	<u>0.0</u>	<u>1.3</u>
	100.0	100.0	100.0 ⁰

** Lupin, Nanisivik, Polaris.

*** Giant Yellowknife, Norco Con, Tom,

OUT-MIGRATION

Given the fly-over of supplies, services and personnel, and the fact that a large proportion of spending and personal and corporate tax payments are made in the South, the contribution that fly-in mines make to the economy and development of the North is more modest than might otherwise be anticipated. Indeed a significant demographic effect of these operations may be to remove some of the more highly skilled and motivated population from the North. Governments and companies have actively pursued northern hiring, but when northern residents, both native and non-native find themselves working alongside employees who live and have families in the South, significant numbers choose to relocate.

One of the High Arctic lead/zinc mines indicated that: "as of June, 1987 the current number of employees hired from the North was 71, however with the years 38 (54%) of these have moved South. The main reason attributed to the desire for a change of place of residence, is to allow a family to be closer to friends and family to provide support during the lengthy periods of absence of the spouse. ...'

Another N.W.T. fly-in mine reported declines in the number of workers living in Yellowknife, 'as people choose to move south for cheaper living conditions.' Similarly a questionnaire from a Saskatchewan uranium mine noted that "a small number of northern employees have moved to the larger centres such as Saskatoon."

In the surveys of workers at the Polaris, N.W.T., and Key Lake, Saskatchewan fly-in mines 41 percent and 17 percent of all respondents, respectively, stated that they had changed their place of residence because of the work pattern. Comparable responses (40 percent and 12 percent) were received from samples of miners' spouses. While no question specifically sought data on the origin and destination involved, many provided such information. In the case of Key Lake a majority of those workers moving did so to be closer to mine pick-up points, and two of the twenty-two worker respondents who had moved, indicated that they had moved to the South from 'isolated' northern locations. However 76 percent and 79 percent, respectively, of those Key Lake worker and spouse movers who identified their current place of residence were living in Saskatoon, indicating that about one in ten of all Key Lake workers and spouses have moved to that city because of the work pattern.

A move to be nearer pick-up points is more likely to be important for Key Lake workers who make a round trip every two weeks, than for Polaris workers who do so every twelve weeks or so. Only one of thirteen Polaris respondents who had moved cited this as a reason, and even then it was secondary to moving to 'a warmer climate and larger city.' In total seven (54 percent) of the movers said they did

so to live in a better climate or 'nice place for R & R,' while six, (46 percent) mentioned a desire to be closer to their, or their spouse's families: 'So my wife can be closer to parents and sister,' etc. . . . 'Good schooling for wife and kids' and 'Yellowknife--too cold, too expensive' were other reasons given. Those who stated where they had moved from came from the N.W.T. (5), Yukon (1), Ontario (3), British Columbia (2) and Alberta and Saskatchewan, while they moved to British Columbia (7), Alberta (2), Ontario (2), England and one now had no fixed residence, There was also a general movement from smaller communities to larger ones with two respondents mentioning this as a factor in their move. Specific destinations included Vancouver, Calgary and St. Catharines.

CONCLUSION

The employees at fly-in mines are being provided with the opportunity to decide where to live, albeit constrained by the transportation arrangements and policies of the company, and the length of the rotation. In making this choice miners, and their families, are taking into account such things as:

- . ease of access to the mine;
- . employment opportunities for spouses and children;
- . secondary employment opportunities for miners;
- . climate and quality of environment;
- . access to retailing, recreation, education and other services;
- . cost of living (including housing costs);
- . worker's access to relatives and friends during his/her periods at home;
- . family access to family and friends during the worker's periods at the mine; and,
- . avoiding social tensions that can occur in small communities where LDC miners have high relative incomes and families experience periodic spousal absence,

In the case of northern and peripheral areas LDC has been seen as compatible with traditional native and non-native lifestyles, and with continued residence in an existing mining town. Territorial and provincial governments have sought to promote the former aspect, seeking to broaden the economic base of existing communities, and spread the benefits of mining operations and the costs of their closure.

However, the priorities of individual workers and their families may confound these hopes. In all cases where the transportation arrangements and schedules permit, the introduction of LDC has seen the majority of miners living in, and significant numbers moving to, the South. In a perverse policy outcome, many of those moving south were recruited and trained under northern hiring preference

programs, which thus may be seen as generating an out-migration of some of the more highly skilled and motivated northern residents. As a result there is a large, and probably increasing, degree of fly-over with direct and indirect employment and associated economic benefits accruing to the South. This also seems to be the case with the purchase of supplies and services by the mining companies.

More and more miners, and their families, then, are becoming residents of the South. Many of them are choosing to live in urban centres, such as Saskatoon and Vancouver, which combine urban amenities with good air linkages. Of Key Lake miners who responded to our survey, 57 percent reported that they live in Saskatoon, Regina, Winnipeg or "a city." Of the Polaris miners, 55 percent live in Vancouver, Calgary, Edmonton, Winnipeg, Sudbury, St. Catharines, Toronto, Ottawa, Montreal and Halifax. Miners are not usually thought of as being the residents of large urban centres, but that is certainly the case with majority of the workers at these, and probably most other, LDC mines.¹¹

SOME IMPUTATIONS FOR NORTHERN DEVELOPMENT POLICY

While the above analysis focuses on the mining industry, its significance may be judged by the importance of mining and other resource industries to the North and peripheral areas. LDC is used, and will likely be increasingly used, by the offshore and Arctic oil and gas industry and by hydro. It also seems likely to be used by new defence establishments, and for major construction projects. It is not unreasonable to expect similar residential and spending patterns to apply in these cases.

This suggests that, for better or worse, and without interventions to increase northern benefits from LDC, an increasing proportion of those working in Canada's North will fly in from places in the South. Over time the number of northern communities will decline as those based on single-resource developments close down, and increasingly, the permanent population of the North will consist of those living in aboriginal communities and administrative and service centres, some whose residents will fly in to LDC operations.

The Government of the Northwest Territories (GNWT) is clearly aware of the dilemma that LDC presents for economic development within the Territory. In developing policy on workforce location, services and infrastructure associated with non-renewable resources, GNWT decision-makers seem inclined to effectively encourage fly-in by adopting underlying principles, which include the position that no new permanent communities should be created to support non-renewable resource projects, and

that exposure of the government to financial risks resulting from non-renewable resource projects should be minimized.

At the same time there is an expressed desire to increase benefits from resource developments, and to encourage the workforce in such developments to live in the N.W.T. The means to these ends are not very clear, but will probably involve formal negotiated agreements between the government and private sector developers for funding of discretionary services and infrastructure, in support of resource development projects. Whether that financial support will be sufficient to offset the real and perceived cost disadvantages of operating out of the North, for both companies and labour, remains to be seen. Most of those mining companies presently operating LDC projects in the North appear to be doing so with little government provided or supported infrastructure.

Alternative strategies to ensuring northern benefits might include a government requirement that the companies only provide free transportation within the North, This might force companies to raise overall salaries to compensate southern residents, and the transportation cost saving involved may not be sufficient to significantly change the residential decision-making of workers.

Indeed it is not clear whether any combination of carrot and stick could counter the effects of long distance commuting employment. However unpalatable it might be to those who have an alternative vision of northern development, it may be necessary to accept northern mining and other resource industries as being primarily within the realm of big city and other southern commuters and companies.

ENDNOTES

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3. See for example, I.M. Robinson, 'New Resource Towns on Canada's Frontier: Selected Contemporary Issues,' in D.D. Detomasi and J.W. Gartrell (eds.), *Resource Communities: A Decade of Disruption* (Boulder, Colorado: Westview, 1984), pp. 1-21.
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8. See K. Storey and M. Shrimpton, *Long Distance Commuting in the Mining Sector*.
9. *Ibid.*, Table 9.
10. Derived from Stephenson, Kellogg, Ernst and Whinney, *Strategies to Improve Northwest Territories Business Opportunities Related to Mining and Exploration*, draft report prepared for the Energy, Mines and Resources Secretariat (Government of the Northwest Territories, August 1987).
11. Some LDC miners choose to live in, and make a significant contribution to rural areas. In the case of Saskatchewan, for example, LDC has been described as a *de facto* agricultural support program, with the schedule of one week on--one week off, plus three or four weeks vacation per

year, being compatible with farm work. Of the Key Lake workers who reported that they had secondary paid employment, seven (21 percent) did farming work, while others may not regard work on a family farm as paid employment,

COMPANY TOWN OR COMMUTING: IMPLICATIONS FOR NATIVE PEOPLE**

Charles Hobart
Department of Sociology
University of Alberta
Edmonton

ABSTRACT. Although the native community has regularly been denied the real benefits of industrialization, the commuting option has allowed indigenous peoples to more readily participate in the industrialization of the North. At the same time, the short-term duration of the work period has also permitted the native population to pursue what has come to be regarded as traditional pursuits. Indeed, many native rotating workers have cultivated the best of both worlds. Rotation employees earn the money necessary to purchase much needed supplies and/or equipment, while also reserving the blocks of time necessary to engage in hunting and trapping. The commuting alternative, too, has provided the native community with a high degree of insulation from the more detrimental aspects of the industrial process.

INTRODUCTION

Rapid changes are taking place among northern native people which will likely insure that they will play an increasingly important role in the development of northern resources. The native population now comprises about 58 percent of the population of the Northwest Territories, over thirty-thousand people, and is growing at over eight-hundred per year. It is a youthful population, with about 40 percent under fifteen years of age, and over 45 percent in the active child-bearing years, with a correspondingly large proportion of young workers. By southern standards this is an ill-educated work force with less than 30 percent having completed a grade nine or higher educational level, although educational attainment is increasing rapidly. Figures for 1984 show that about 54 percent of the territorial natives are in the labour force, and of these 31 percent are classified as unemployed, but no less than 61 percent said they wanted paid employment. Employment in traditional and renewable resource industries is very low, with only about 3 percent of the labour force in hunting, fishing and trapping, and 1 percent in forestry occupations. Over half are currently employed in government or in community business and personal service positions,¹

The conclusion to be drawn from this brief sketch is that there is considerable need for increased employment opportunities among northern native people. Since renewable resource harvesting is proving to be decreasingly attractive to native people, and employment in government and local businesses is near saturation in native villages, industry is the most likely source of increased opportunities. But industrial employment may have significant, adverse effects on native cultures and

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lifestyles, as many concerned Inuit and Dene are quick to point out, although such employment was very popular among native peoples during the oil exploration boom of the 1970s.²

In recent years, wage employment in development industries has become much more accessible to Canada's native peoples. At the same time, however, the native population has become increasingly sceptical of the benefits of participating in the industrial process. It is important to note first that, for most northern native people, land is not a commodity to be bought or sold as interest dictates, as it is with most whites. Rather it is, in their words, 'their Mother,'³ and while it is difficult to empathize with the sentiment expressed, the power of that image is clearly recognizable. The words communicate a powerful emotional attachment to the land. With native people this feeling is not mere sentiment; it is rooted in the fact that, for a majority of northern native adults, the land is a very important source of sustenance. To be able to harvest the fish, fowl and game resources the year round means that one must know the 'home' range intimately, in all its seasonal aspects, as growing up on the land ensures. Movement away from the 'Mother' land to a distant, unknown resource range is clearly threatening. Inevitably then, native people are concerned about what industrial activity may do to the land and to the wildlife resources, and about how industrial employment may affect their ability to continue to harvest these resources that are of great continuing importance to many. For many native people, these concerns constitute the substratum on which their other attitudes are based.⁴

On the other hand, however, there is growing awareness in most native communities that the national economy is dependent upon the development of northern resources. More importantly, they are increasingly aware that their children want and need wage employment, and that such employment at northern work sites may be minimally disruptive to their lives.⁵ Furthermore, all of the native organizations--Dene, Inuit and Métis--have, to one degree or another, organized development corporations to take advantage of the opportunities presented by northern development. Those involved in these corporations have their own interest in facilitating economic growth, though the projects they favour may well differ from those of southern promoters.

Tempering these interests, however, is a very healthy skepticism about how significant the benefits will prove to be to native people and about how long they will last. Disbelief that the benefits of development projects will prove to be as great as proponents promise is growing in the North as well as in the South. In the North this sentiment is sharpened by the repeated experience of many with economic boom and bust. Peak fur prices, for example, have been traditionally followed by varying degrees of market collapse. The prosperity brought about by construction of the (Distant Early Warning) DEW sites and of Inuvik, and by peaks in oil employment, were also followed by hard times for those who had disposed of their trapping outfits.⁶

Inevitably, with the growth of pro-development interests there is a surfacing of new concerns. Perhaps the most potent focus is on the issue of control. White control of native life has grown rapidly since whites first settled semi-permanently in the North. Initially this control took the form of services introduced by missionaries, police, teachers and nurses, which imposed foreign traditions and new obligations, as well as benefits. Later agents, including fish and game officers, social and public health workers and other government officials, told people how to live their lives and what the law required of them. While these influences were more pervasive in larger settlements like Inuvik, Fort Simpson and Frobisher Bay, they were also found in small, predominantly native communities like Fort Franklin or Gjoa Haven.

A final point relates to the particular importance of family and community to native people. The roots of these feelings are found in the fact that on the land solitary existence was impossible—one had to depend on the family. When several families gathered to hunt and fish together the harvest was shared; all lived well or all starved together. Hence the paradox that, while many native men today must leave their families for days on end to run their traplines or hunt on distant ranges, it is among northern natives that family and community ties are particularly strong.

The attitudinal and emotional influences which shape the response of native people to the various northern development staffing alternatives can be summarized as follows: "The hills of home" are important to native people, both emotionally and economically, as a known wild food harvest area where the hunter is able to find country foods during every season of the year. Attitudes toward involvement in development activity are ambivalent. While the immediate opportunities are recognized by both the younger generation and by the native development corporations, there is concern that even projects which provide only short term employment may induce much longer lasting dislocations. There is particular concern about the possible costs to native communities, in terms of effects on native control, native culture, community solidarity and family life.

In the remainder of this paper I assess the effects of industrial employment of native people under company town and long distance commuting scenarios. I begin by briefly summarizing the impacts where industry is situated adjacent to a native community, because such proximity underscores certain ill effects.

WORK SITE IN THE HOME COMMUNITY

Most localities where the workplace is located in the home community are southern-style towns, such as Yellowknife, Hay River, Inuvik or Frobisher Bay, The native people living in these towns have

already made the choice of living in a community essentially dominated by southern Canadians and their culture. The influences experienced by these workers and their families derive largely from this urban setting, rather than from the features of the industry in which they are employed.

Where an industry has moved in and built a company town, as at Grande Cache in Alberta and Faro in the Yukon, the local native settlements have typically been thrust aside. The effects of the new town on native people are primarily the result of the creation of a sizable southern town, rather than of the experience of increased industrial employment,

Two clear examples of northern Canadian situations in which energy resource developments have located near a native community are the Suncor and Syncrude plants situated near Fort MacKay in northeast Alberta, and the Dome-Canmar marine drilling base at Tuktoyaktuk in the Northwest Territories. In the case of Fort MacKay, few residents of this small settlement, of approximately two-hundred people, were interested either in construction or operations phase employment with Suncor. This was no longer true when the Syncrude plant was built, as a number of the Fort MacKay men did work intermittently on this construction project, and a somewhat fewer number have worked during the operations phase. One significant reason for this sparse involvement was that transportation to the plant site, twenty kilometres distant, was not provided for Fort MacKay workers, though all lacked cars. By contrast, it was provided for the white workers living in Fort McMurray, who typically did own automobiles.⁷

Fort MacKay has undoubtedly suffered from its close proximity to the oil sands developments. It has lost traditional berry-picking grounds, game has been scared away from some areas and it has experienced air and water pollution. As well, it occasionally suffered indignities and intimidation at the hands of rowdy adventure-seeking construction workers during the Syncrude construction phase. There has also been serious conflict within the community, but this may be related to the diverse band composition of the community and continuous difficulties in adapting to a settled lifestyle. While there are liquor problems in the community, there are no indications that these are worsening any more rapidly than in other native communities in Western Canada.⁸

The effects of the Dome-Canmar and Gulf-Beaudril drilling operations on Tuktoyaktuk, an Inuit community of about eight-hundred people, have been much greater. Tuktoyaktuk was the staging site for Dome's and Beaudril's steadily increasing Beaufort Sea drilling operations. In the spring of 1981 Dome built a three-hundred person base camp which was filled to capacity during the summer and fall drilling seasons. Beaudril's two-hundred and fifty person base camp was constructed and operating by the following season. The most visible impact has been the economic effects of these drilling programs, which generated about \$3,273,000 in income for Tuktoyaktuk residents during 1982, or about

60 percent of the total community income. By contrast, fur harvest income and social assistance payments each comprised only 1 percent of total income?

The social impacts are slightly more difficult to document. The most obvious consequences were experienced by Tuktoyaktuk female employees who were required to work fourteen 10-hour days without a break, like the commuting workers in the base camps, as well as manage their daily homemaking responsibilities.¹⁰ In addition, there was increased alcohol consumption in Tuktoyaktuk during this period, but this was true in other Arctic communities at that time. However, the value of furs harvested in Tuktoyaktuk did not decline.¹¹ There were local complaints that the small crafts used in the Canmar and Beaudril operations frightened away the fish, disturbed fishing net-sets, and endangered native people crossing Tuktoyaktuk harbour in small boats. People were sometimes seen shaking their fists at the oil company aircraft flying near the hamlet.

Dome Petroleum and Gulf Oil both worked diligently with the Tuktoyaktuk Hamlet Council to try and alleviate some of the more adverse social impacts of the two projects. The base camps are kept liquor- and drug-free by a vigorous policy of searching the baggage of all people traveling to the camp, and by charging offenders when discovered. In response to a request by the Tuktoyaktuk Hamlet Council, the settlement was declared off-limits to non-local base employees. Clearly, the income figures show that Tuktoyaktuk residents have reaped rich financial rewards from local employment opportunities. However, there are also indications that the very rapid growth of the drilling operations and the related employment have imposed severe strains on the community,

RELOCATION WORK SITES

Employment experience at work sites to which employees relocate with their families is fairly uncommon among native workers. Until recently, most industrial employers had little confidence in native people as potentially dependable workers. Since relocating workers typically involves some subsidization of the worker, employers have preferred to make this investment in white workers whom they considered more reliable.

A number of Fort Chipewyan, Alberta residents, with their families, were involved in relocation employment during the construction of the Syncrude oil sands project north of Fort McMurray. Some were able to rent lodgings in Fort McMurray, some moved in with friends, and some were 'squatters,' camping in the bush in the vicinity of the town or the plant. During the course of interviews with sixteen people in Fort Chipewyan the author encountered only one person who reported favorably on

the experience of these relocated workers. Among the problems cited were the high cost of food, inadequate accommodations and the fact that people disliked living in an obviously 'white town' after having spent most of their lives in their own Indian community. As a result, after a very short time, most moved their families back to Fort Chipewyan. The interviews indicated that the high cost of living and the experience of a white-dominated town were important reasons for their return.¹²

A second example involved relocating Indians to a well-appointed company town where they were provided with suburban-style accommodations. During the early 1970s the management of the Ruttan Lake Mine at Leaf Rapids, Manitoba entered into an agreement with the Department of Indian Affairs to relocate the families of suitable Indian recruits to the Leaf Rapids townsite. This program was well-funded and the Indian families were given the same accommodations as other residents. Counselors were provided to assist the adjustment of the Indian workers on the job, and to help in the social adjustment of Indian workers, wives and children to town life. Every attempt was made to facilitate integration and to forestall adverse community reaction. However, counselors reported that, while the workers typically had little difficulty in adjusting to their jobs, their families and particularly their wives, often were unhappy.¹³ Accordingly, many returned to their home communities, thus forfeiting the opportunity for wage employment.

The root of the difficulties experienced by such families is often feelings of alienation and estrangement, which many native people encounter when they move from the native reserve or settlement to a white community. In place of the easy and frequent contacts with the extended kin group, and the comfortable familiar patterns of settlement life, natives in town are thrown in with whites who may commonly be distant, patronizing or unmistakably rejecting. The feelings they may experience were poignantly expressed by the wife of an Inuk who, along with others, had relocated his family to Roma Junction, Alberta while he was employed on the Northern Alberta Railroad. In drunken despair she blurted out to an Inuktitut speaking anthropologist, 'There is no place for me in this land.'¹⁴

Native men in these situations may be somewhat more acculturated, and may achieve relatively good work adjustment if they are not distracted by the difficulties that their families are experiencing. However, an important element in the self concept of many native men, particularly those raised in traditional communities, is their identity as a *hunter*, capable of keeping their family well supplied with wild meat. This feeling of obligation is strengthened by the preference of family members for traditional foods. It is usually very difficult for native men to combine successful worker and hunter performances in a relocation work setting.

The experience of the families of a dozen Inuit workers who were relocated to the company town at the Nanisivik Mine site on northern Baffin Island illustrates some of the problems. These families

came from relatively small, traditional Arctic communities. The men performed very well at their jobs in the mine or the mill, to the complete satisfaction of their foremen. The families lived in modern, suburban-style houses with all the expected conveniences. But the little community of Nanisivik, with a population of two-hundred and eighty in 1980, is unquestionably a white community. The Inuit families missed the independence they had known at home, They felt out of place, and they missed their kin groups. The mining company made a significant concession in providing release time for Inuit workers who wanted to go hunting, although those who did, encountered a daunting difficulty. The northern Baffin Island terrain is very rough and mountainous and none of the relocated men were native to the area. As a result, they found that they could not hunt effectively because of the danger of getting lost.¹⁵

COMMUTING ROTATION EMPLOYMENT

Most of the industrial employment experience of northern native people in Western Canada has involved commuting rotation employment, where the worker alternates between home and work site, spending one or more weeks in each location. The duration of the work period differs, from as little as seven days, to as much as six weeks. The major disadvantage of this type of work schedule, of course, is the separation of the worker from his family and community. There is no doubt that work periods in excess of three weeks induce significant stresses, particularly when associated with long work days.¹⁶ However, by now there is much experience with native employees working rotation schedules which are not excessively long with satisfactory results in virtually every case.

One of the most successful of these work experiences involves the Gulf Minerals uranium mine at Rabbit Lake, Saskatchewan. This mine is operated by two complete work forces, each of which works eighty hours during one seven day period, and then spends the next week at home. The workers are primarily farmers from the more northerly farming areas, and Indians from four or 5 northern reserves. This rotation approach has been remarkably effective as is indicated by the very low turnover rate among native employees; 5 percent per year from 1976 to 1979. The work performance of native workers has been equally gratifying, and community self-assessments indicate that the rotation employment has had no significant adverse effects on native worker's home villages.¹⁷

Similar patterns are found in rotation work projects in the Northwest Territories, where the most common schedules involve two weeks at work and one week at home, or two weeks at work and two

weeks at home. The most thoroughly studied example has involved Coppermine, an Inuit village where between fifty-four and ninety men were employed by Gulf Oil between 1972 and 1979. There were some transitional difficulties during the first year, which can be ascribed to the lack of prior industrial experience among all but a very few of the Inuit workers. There was a significant (29 percent) increase in alcohol consumption and an increase in drunken violence, directed primarily against wives who apparently were suspected of infidelity in the village. However, a survey conducted in Coppermine showed that over 80 percent of the workers and their wives said that the employment experience had been a good thing, and voted for continuation of this employment program.¹⁸

During the next two to three years the problem behaviors virtually disappeared, and Coppermine Inuit became some of Gulf Canada's most effective and dependable workers. Liquor consumption and drunken violence levels fell below those found before initiation of the rotation employment. There was no indication that children suffered neglect, or that returning workers spread illness. The seven-day rest periods at home gave workers adequate time to hunt, and the fur harvest increased. Oil company earnings enabled workers to buy more skidoos, boats and other equipment making them more efficient resource harvesters.¹⁹ Similar consequences appear to have resulted from the two-week work rotation schedules established by Pan Arctic Oil's High Arctic drilling program, by Dome Canmar's Beaufort Sea drilling program and by Esso Resource's Beaufort Sea drilling and Norman Wells refinery operations.

A somewhat different picture emerges for work programs involving longer work rotation schedules. Among Indians employed by Hire North to learn the operation of heavy-duty equipment, and to help construct the Mackenzie Highway, there were some who preferred the 30-day work period, saying it was a relief to escape from the liquor-related problems of their home communities. However, the training supervisors reported that they could see increased stress in many of the workers toward the end of their work periods. Tempers became strained and the trainees became more difficult to supervise.²⁰ These difficulties are even more clearly demonstrated among the rotating (as distinct from the relocated) Inuit workers at the Nanisivik lead-zinc mine, who have a *six-week* work period. Particularly telling are the statistics which indicate that during the first four years of operation about one-third of the Inuit employees quit and went home before completing their six-week work period. Only 57 percent of all the Inuit employed actually completed their first six-week work period, while no more than 27 percent remained as Nanisivik mine employees for more than two work rotations (more than three months). The reason for these early terminations appeared to be home-sickness in virtually every case.²¹ The feelings of the men were matched by those of their wives at home, who encountered other difficulties. Many experienced shortages of meat while their husbands were away. Moreover, since the traditional attitude was that food is primarily wild meat and money is spent for hunting equipment and consumer goods,

men often made no arrangements to forward money to their families while they were at work. As a result, some wives found themselves out of food and out of money. In addition, many women said their children were difficult to control while their husbands were away, and some were troubled by unwanted attention from other men during their husbands' absences.²²

The result of these circumstances was that a large proportion, 42 percent, of the Inuit employed at the Nanisivik mine between 1975 and 1978 were young, unmarried men. Married men became increasingly unwilling to subject themselves and their families to the privations and the hardships which the six-week work period imposed. This points to the social regressiveness of rotation employment programs involving long work periods. They attract young unmarried workers and bring relatively high earnings to the people who are least responsible, have the least need for money and are most likely to spend excessively on alcohol, drugs or in other non-socially productive ways. At the same time, such workers tend to be the least stable on the job, perhaps because they lack the family responsibilities which make for a stronger commitment to satisfactory work performance.²³

DISCUSSION AND IMPLICATIONS

With the collapse of the fur market shortly after the end of World War II many native people in the Northwest Territories became increasingly eager to obtain wage employment. This interest has grown as the rapid increase in the native population and increased educational attainments have made traditional sources of financial support less accessible or less attractive. While three different approaches to industrial employment of native people have been tried, rotation employment has typically proved to be the least disruptive of native life.

There are several important reasons why a large industrial development in the native worker's home community is not desirable. The many and powerful non-native personnel who must staff such an operation 'swamp' the native community, so that it becomes increasingly white contaminated if not white dominated. Equally serious, in the long run the attractive and prestigious role models with which the local children identify with will be white people, or natives who are particularly successful in the project. Thus, a native community which served to transmit native language, values and traditions may lose its independence and its traditional identity, coming increasingly to promote English facility, southern values and southern lifestyles. The fact that men working on the project may find it difficult to keep their families adequately supplied with game, and to maintain their traditional game-food sharing responsibilities, may tend to accelerate this process. This is of serious concern to native people in the

uphill fight to preserve traditional culture. The freedom from the family separation imposed by rotation employment, which this industrial scenario provides, is purchased at a high cost to community independence and continuity of the traditional culture.

Development projects involving relocation of native workers' families to the work site have the important advantage of insulating their home communities from direct contact with the southern white influences. The disadvantages here accrue to the worker and his family. Wives, cut off from relatives and friends at home, may soon come to feel that 'there is no place for me here.' The worker has his own difficulties in fulfilling expectations as 'meat provider' and meeting the demands of the job. Typically, his work schedule will not make available adequate time for him to meet his provider responsibilities. Even when release time is available, lack of familiarity with local terrain may make it difficult for him to provide game food, and leave him feeling that he is failing as a "true" Inuk or Dene. The result is that often the worker soon resigns and moves his family back to the home community.

Rotation employment appears to avoid these difficulties, if the length of the work period is no more than two weeks. The costs of such work-imposed separations should not be underestimated, but they are familiar to many native families who have often seen men depart on long hunting and trapping trips. The close-knit nature of native communities, and the strong patterns of sharing and mutual assistance, probably enable most native families to cope with such absences of the husband much better than would be the case in white communities.

The most significant advantages of rotation employment, paradoxically, involve protection of the workers' home communities from white influences, while maximizing the ease with which novice native workers are able to become dependable and effective workers. Native home communities are protected because the only link between the community and the industrial project is the worker; no other industry-induced white influences invade the community. Natives typically experience living in the white work camp as stressful and they are happy to immerse themselves in the life of their community when the work period is over. Far from influencing them to overvalue a white lifestyle, their experience at the work camp tends to enhance their appreciation of traditional native life.

The socialization advantages of rotation employment for novice native workers lie in the fact that while at work they are in a completely controlled environment. Problems endemic to many native employees who work in their home communities include tardiness and absenteeism, the result of late drinking parties, the lack of a well-developed work ethic and the irregular hours which twenty-four hour periods of daylight, or 'dark time,' encourage. By contrast, the native labourer at a work camp finds that the activities of his fellow workers, and all camp life, rotate around the work schedule. A novice worker at the camp is "locked into" the same schedule as his colleagues, retiring, getting up, going to

work and eating at the same time as the others on his shift. As a result, orientation to the industrial work setting and acquisition of good work habits is effected with minimum difficulty.

Many rotating workers are able to have some of the best of both worlds. Native people in the Canadian North are generally not able to support themselves through hunting and trapping alone. Successful resource harvesting requires expensive equipment such as skidoos, boats and outboard motors, so that hunter-trappers must subsidize their lifestyle with wage employment. Rotation work employees earn the money to purchase this expensive equipment and they have the frequent blocks of time necessary to engage in hunting and trapping. Their success as hunters and as workers assures them of high status in their home communities, and their successful integration of industrial and traditional employment ensures their continuing involvement in both. The commitment to a more traditional lifestyle of these well-respected and successful workers contributes significantly to the perpetuation of traditional culture.

And what of the future? There have been significant developments during the last decade, such as increased educational attainments, experience gained in the Berger Hearings, Territorial partitioning and land claims negotiations, a shrewd awareness of uses of the mass media, and of white vulnerabilities. Native people are more sophisticated, and self-confident in their dealings with various aspects of white society. They are more conscious of the values that they want to preserve—the land, the native language, a semi-traditional lifestyle and community life. But at the same time, control over their own resources and awareness of the opportunities that this confers are making for increasing interest in the development and other industrial opportunities available to them. In this situation native people will often conclude that rotation employment best provides the work opportunities that they want and need, while also best safeguarding the traditional values which distinguishes them as Inuit or Dene.

The chance to relocate with their families in a northern company town is an important opportunity for some native workers. Among the youthful members of the native workforce, aged seventeen to thirty-one who comprise 57 percent, there are increasing numbers whose schooling in non-traditional towns, educational advancement and success in skilled industrial occupations serve to weaken their attachments to their home villages. Experience in commuting work camps has often enabled them to acquire valuable work skills and appropriate work attitudes. For these individuals, the company town option often provides broadened opportunities to obtain challenging, well-paying employment in a small, non-traditional northern community, which is little troubled by the severe drinking and other problems which plague most larger northern towns. For such young people the company town may serve as a 'half-way' situation, where they can test out the satisfactions and frustrations of living in a white-run, southern-style community. Some will gratefully return to their traditional villages. Others in time will

move to towns and cities in the South in pursuit of more demanding employment for which they have become qualified. And these others, for whom company town relocation provides the opportunity for testing out life in a white-run community, are certain to increase substantially in the coming years,

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NEW IUS PUBLICATIONS

Tom Carter, cd., CMHC and the Building Industry Forty Years of Partnership (1989), approx. 20 pp., \$7.00, Occasional Papers 18.

This publication contains two papers presented at the Canadian Urban Studies and Housing Conference sponsored by the Institute of Urban Studies in February 1988. The first paper by Frank Clayton of Clayton Research Associates focuses on the evolution of the single family homebuilding industry since World War II, with comments on anticipated changes to 2001. The second paper by Joel Teal, Executive Vice President of Boychuk Developments, provides a private sector perspective on the changing relationship between CMHC and the building industry. This paper also discusses anticipated future changes. Both authors stress the strong and constructive relationship that has existed between the private sector and the senior levels of government. Housing specialists, academics and practitioners interested in housing policy, programs and process will find the discussion interesting and informative.

Robert Robson, cd., The Commuting Alternative A Contemporary Response to Community Needs in the Resource Sector (1989), 40 pp., \$8.00, Northern Studies 1.

This volume, which is the first in the Institute of Urban Studies Northern Issues series, is composed of two papers that were originally presented at the Canadian Urban and Housing Studies Conference. Written by Professor Charles Hobart, Department of Sociology, University of Alberta and jointly by Professor Mark Shrimpton and Keith Storey, Department of Geography, Memorial University of Newfoundland, both papers discuss the viability of a commuting work force in the resource production process. Hobart's paper entitled 'Company Town or Commuting: Implications for Native People,' specifically analyzes the impact of the commuting alternative on Canada's indigenous peoples. Arguing that rotation employment is the least disruptive means of involving the native population in the resource production process, Hobart maintains that the native community has yet to fully benefit from the industrialization of the north. Shrimpton and Storey's study entitled 'The Urban Miner: Long Distance Commuting to Work in the Mining Sector and its Implications for the Canadian North,' offers an overview of the Long Distance Commuting (LDC) option. Tracing the development of the LDC phenomenon, the authors provide valuable insight into the process. This is particularly true of their conclusions, which suggest that northern out-migration is the inevitable consequence of the LDC alternative. In any event, both studies are timely contributions to the whole northern development debate.

Robert Robson, Selected Sources on Northern Housing and Related Community Infrastructure: An Annotated Bibliography (1989), 83 pp., \$15.00, Bibliographic 1.

Very much a part of the Institute's current northern research focus, this volume offers a comprehensive assessment of the published material relevant to the study of the Canadian North. Although the central theme of the bibliography is northern housing, it also provides an overview of the literature related to the general concept of northern development--particularly in the Prairie North and the Yukon and Northwest Territories. Consisting of approximately four hundred entries, the material included in the bibliography ranges from the discussion of the industrialization of the North to the provision of utility services.

Tom Carter, cd., Perspectives on Canadian Housing Policy (1989), 33 pp., \$8.00, Occasional Paper 17,

This Publication contains four papers presented at the Canadian Urban Studies and Housing Conference sponsored by the Institute in February 1988. The focus is the Canada Mortgage and Housing Corporation's (CMHC) past, present and future policies. Government officials and private planners chronicle and assess the role of CMHC. Historical and provincial perspectives are presented along with analysis and criticism of the current policy. Recommendations for future policies are made with such suggestions as better utilization of the existing housing stock, and recognition of the interrelatedness of housing policy and urban development policies in order to address the urban issues of the future. Housing specialists, academics and practitioners in the housing field will find the discussions interesting and informative.

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Submissions should be directed to:

Betty Tyrchniewicz
Publications and Information Officer
Tel (204) 786-9409/9581
Fax (204) 786-1824

THE INSTITUTE of URBAN STUDIES

The Institute of Urban Studies (IUS) was created by the University of Winnipeg in 1969 at a time when the city's "urban university" perceived a need to address the problems and concerns of the inner city. From the outset, IUS was both an academic research centre and an innovative, action-oriented community resource. The institute has always been committed to examining urban development issues in a broad context and has never lost sight of the demands of applied research aimed at practical, often novel, solutions to urban problems. In recent years, however, IUS has expanded its research mandate to include the examination of issues faced by rural, remote and northern communities with a special focus on Western Canada and the North.

The Institute of Urban Studies is a multiple-function centre that undertakes to encourage, facilitate and engage in independent, multi-disciplinary research on a wide range of topics (including native issues, housing, community and neighborhood development, urban policy and municipal government, community economic development, programme and agency evaluation, urban health and social-demographic issues]; to promote and engage in formal and informal education and community outreach programmes (including an undergraduate urban studies majors programme, workshops, conferences, seminars, etc.); and to conduct mission-oriented and applied research.

The institute has an active publications programme which includes a journal, two newsletters, research reports, research and working papers, occasional papers and topical collections, such as the Winter Communities Series. The Institute publishes *Plan Canada*, the Canadian Institute of Planner's (CIP) bi-monthly periodical. It serves as a scholarly journal, a practitioner's magazine and as the CIP newsletter. The *Planners Newsletter*, now in its fourteenth year, is published tri-annually by IUS on behalf of the Commonwealth Association of Planners Secretariat. The newsletter contains items of interest to planners, and those involved in international development. The Institute of Urban Studies also publishes its own quarterly *Newsletter* and distributes it free of charge to approximately 2,600 individuals and institutions. The *Newsletter* contains information on current housing and community oriented research, community development and urban and regional policy, as well as notes on publications and conferences. It also serves as a forum for reviewing and discussing current topical issues.

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For further information on any aspect of the Institute, please contact:

INSTITUTE OF URBAN STUDIES
University of **Winnipeg**
515 Portage Avenue
Winnipeg, Manitoba
R3B 2E9
Tel. (204) 786-9409
Fax (204) 786-1824