

4.3 LAW ENFORCEMENT AND FIRE PROTECTION continued

19

1,000 population in the City of Carlsbad, with and without the WIPP project. It was determined that new police costs associated with location of the plant near Carlsbad could amount to approximately \$325,000 over the 1979-1985 period. Adjusted fire protection costs were estimated at approximately \$110,000 for the same period.

4.4 HEALTH CARE

Based upon methodology used in a recent health planning report for Carlsbad Regional Medical Center, an estimate was made of the number of beds required to serve the anticipated increased population. These estimates were made for population in the Carlsbad area with and without the WIPP project in order to determine impact of the plant. The facility housed 134 beds, with expansion capability in 1985 to 160 beds. Analysis indicated that capacity of the planned 134-bed facility would be exceeded in 1980 if the WIPP project located in Carlsbad. It was estimated that a total of 219 beds would be required by 1985 with the WIPP project, or a total of 204 beds would be required without the WIPP project.

4.5 TRANSPORTATION AND COMMUNICATION

4.5a Transportation

Traffic flows and volumes within the City of Carlsbad were estimated for certain high-volume locations selected to determine capacity after location of the WIPP project. It was assumed that if capacity remained adequate, no adverse impact could be attributed to the WIPP project. It was determined that an approximate 30 percent increase in number of trips taken would occur

4.5 TRANSPORTATION AND COMMUNICATION

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4.5a Transportation continued

in the City of Carlsbad. By 1985 average daily volume and peak volumes could be accommodated by existing capacity at each of the selected high-volume locations during peak travel periods.

4.5b Communication

GTE currently has a capital improvements program to provide approximately 1800 new telephone lines. It is estimated that from the present through 1985 approximately 2,963 new households will locate in the Carlsbad area. The telephone company has indicated that with approximately 18 months lead time sufficient capability can be on-line to accommodate the required increases.

4.6 SPORTS AND RECREATION

The total population increase due to the WIPP project location in the Carlsbad area amounts to 8,600 persons. This population increase represents 0.04 percent of the total number of recreationists and tourists who currently visit the Carlsbad area during the year. It is felt that this visitor increase is insignificant and will not adversely affect the sports and recreation facilities.

ANTICIPATED IMPACT OF THE WIPP CONSTRUCTION AND OPERATION

5.0 LOCAL GOVERNMENT

There will be a need for local government to expand its service capabilities for police protection, fire protection, garbage collection, and other population-related services.

This need for services expansion will contribute to an already-existing problem. That problem has been identified in previous research as a discrepancy between the growth rate of revenues and expenditures. Revenues for New Mexico municipalities grow at a rate between 6 and 7 percent per year while expenditures grow at a rate between 10 and 11 percent per year. In addition to placing some pressure on existing capabilities to finance services, the WIPP project will require acceleration of planning processes for certain capital improvements; in particular, deficiencies have been noted in the City's ability to provide water. A water master plan should be prepared to identify how to improve and what kind of improvements should be made by the City of Carlsbad to solve water rights and withdrawal problems.

EXHIBIT 3

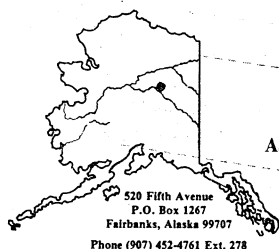
ANHYDROUS AMMONIA PLANTS

Recently, two anhydrous ammonia plants have located in the Carlsbad area. Their decision to locate in Carlsbad was based primarily on the availability of natural gas which is the only natural resource used in the production of anhydrous ammonia. The two plants are owned by Beker Industries and N-ReN Southwest. The activities, increased population and service requirements of these plants have added to the energy related impact upon our community.

EXHIBIT 4

POTASH MINING

The seven operating potash mines in the Carlsbad area have enjoyed a more favorable climate for production and sales over the past few years. This has resulted in a gradual building up of the potash basin employment and increased stability. Potash miners are the largest single group of miners in New Mexico and make up a vital part of our community.



**FAIRBANKS TOWN & VILLAGE
ASSOCIATION FOR DEVELOPMENT
INCORPORATED**

October 14, 1977

Richard T. Greer
Sub-Committee for Regional and
Economic Development
Suite 4202
Dirksen Senate Office Building
Washington, D. C. 20510

Dear Dick:

As I promised in Corpus Christi I am sending some materials relevant to the issue of social and economic impact on small communities as a result of massive energy resource development projects. I note with interest that Senator Gravel has co-sponsored S. 1493, and assume it is part of the committee's work.

I am not sure which of these may be most relevant for the committee's record, but I would suggest either the letter to Mr. Goldman, or the written presentation to the President's Council on Environmental Quality. If neither is appropriate, you might give me a call in Fairbanks and we can discuss some of the local research materials that are available on the issue.

I feel obligated to emphasize, for your information, that federal agencies played no role in identifying or resolving pipeline related social and economic impact problems in Fairbanks...with the single exception of EDA's planning assistance grant to the Town and Village Association. Unfortunately, the state's role was only minimally more than EDA's role. The whole burden of dealing with the problem - including trying to figure out what the problem was - fell on the people, the municipal governments of Fairbanks, and, as a result of our regional development efforts, on us.

Reading the record of this effort raises some provocative questions of public policy, but an outside perspective may be more helpful to you than anything I might say. I thought you might, therefore, appreciate the observation of a delightful New Zealand lady who visited Fairbanks in August of 1976.

I enjoyed the opportunity to talk briefly with you in Corpus Christi and hope we will have a better opportunity soon. I hate to beat the idea of a trip to Fairbanks to death, but an investigation of our past local efforts with respect to the "impact" of the trans-Alaska pipeline, and our current efforts to prepare for gas pipeline construction are relevant to the committee's work. There is no question in my mind that a trip up here will give you pertinent information and a unique and valuable perspective for the committee's deliberations.

If such a trip is possible I would be pleased to make as many appointments and arrangements as are necessary to give you full access to our accumulated knowledge.

Sincerely,

Jerry E. Smetzer
Executive Director

JES:rlf

cc: Senator Mike Gravel

Enclosure:

1. August 1 - letter to Leslie Goldman
2. June 6 - letter to the Council on Environmental Quality
3. December 6 - Research Memorandum, Dr. Evelyn Stokes,
University of Waikato

August 1, 1977

Leslie Goldman, Coordinator
Alaska Gas Pipeline Task Force
Executive Office of the President
Box NF
Washington, D.C. 20641

Dear Mr. Goldman:

I appreciate this opportunity to comment formally on President Carter's forthcoming September 1 decision relevant to the transportation of natural gas from Prudhoe Bay to what we in Fairbanks refer to as "the lower 48 states."

Since early 1973 the Association has been actively seeking methods of resolving problems created by a phenomena commonly referred to as "pipeline impact." Our work and that of others equally concerned has been limited to a continuous program of data gathering, analysis, and public dissemination of information on the social and economic effects of construction of the trans-Alaska crude oil pipeline on Fairbanks and on the 45 isolated villages, towns and settlements which surround Fairbanks in an area the size of the State of Texas.

Several years of time and effort have been invested in this work. During this period we have made repeated formal and informal requests to any one of several federal agencies which appeared to us to have clear agency responsibilities for resolving local problems resulting from trans-Alaska pipeline construction. With the single exception of the federal Economic Development Administration, which has indirectly financed this work with annual planning assistance grants to our Association, our efforts to secure federal assistance in resolving local and regional problems related to pipeline construction have produced little in the way of visible federal response.

To illustrate this problem, I have attached a copy of our published comments on the Draft Environmental Impact Statement prepared by the Federal Power Commission with respect to the El Paso-Alaska (CP 75-96 et al) proceeding. The FPC response which appeared in their FEIS also appears opposite the relevant paragraphs.

Also enclosed is our recently published final report describing problems of pipeline impact in the small communities scattered throughout the Interior of Alaska.

The FPC response was typical of the response we normally receive from agencies of the federal system that we believe should be, or should have been involved in this problem.

Our comments, by the way, expressed our best thinking on the role of the federal government with respect to the resolution of adverse social and economic consequences of "major federal actions." We based the comments on the extensive identification and documentation of impact problems during construction of the trans-Alaska oil pipeline through the Interior of Alaska.

During the Anchorage hearings before the Council on Environmental Quality on May 16, we repeated those recommendations and, at the request of the Council, recast them in terms of the Alaska Natural Gas Transportation Act of 1976, P.L. 94-586.

Those comments, so far as I know, are part of the CEQ's public hearing record, and remain our best thinking today.

Given our long record of frustration in dealing with the federal government, we decided to prepare this letter only because the CEQ in their official report to President Carter made an accurate reference to the substance of my comments in Anchorage, thus bringing the issue, "out of the closet," so to speak; and because the Canadian National Energy Board in their July 1 approval of the Alcan Gas Pipeline proposal also required that a 200 million dollar fund be established for the resolution of social and economic problems associated with the project north of Canada's 60th parallel.

Since I have not read the official NEB decision, I cannot comment on their intent with respect to either the creation or the disposition of these funds, but I believe it is imperative that President Carter include the creation of a similar fund - though the amount and methods of collection and disbursement may be entirely different - in his September 1 recommendation to Congress ... if, in fact, he recommends that one of the two remaining applicants be authorized to construct and operate the gas pipeline.

With respect to distribution of such funds we do not believe that a fund of this sort necessarily needs to be set up on a 100% grant basis except for planning and programming purposes. Obviously, if the project is successful, revenues accruing to municipalities and states will be ample to repay loans made to these entities for impact preparations, including essential capital improvements, prior to the project start.

I do note with interest that one of the competing applicants has publicly condemned the NEB fund requirement as a violation of the recently approved Natural Gas treaty with Canada, and, by implication, a sign of bad faith on the part of the Canadian government.

Their assertion is preposterous.

The Canadians and the Commonwealth countries in general have closely watched our experiences and our recording of impact phenomena associated with trans-Alaska pipeline construction. The NEB fund requirement is nothing more, in my opinion, than a recognition of the enormous social costs of these massive energy resource development projects, and an understanding that the government at the federal level has the ultimate, though clearly not the entire responsibility, to reduce them.

This has been our message to the United States federal government for the past several years. I sincerely hope that with the Canadian NEB precedent in mind that your office and the Office of the President will give serious consideration to some sort of a federal mechanism for reducing the inevitable social and economic disruption in small communities adjacent to the gas pipeline.

I should note in closing that extensive documentation of impact problems in the rural and urban areas of Interior Alaska is available and can be supplied on short notice to the appropriate office of the federal government.

I should also note that the Association's Executive Committee of the Board of Directors has informally taken the position that of the two trans-Canadian gas pipeline proposals the Alcan route proposal is far superior to the Beaufort Sea/Mackenzie River route proposal.

Generally we believe that, in line with our concern with the social and economic implications of these projects, an overland route following existing transportation corridors will create less uncertainty during construction and operation of the facility, and, therefore, significantly reduce long term social disruption and related social costs.

Sincerely,

Jerry Smetzer
Executive Director

JES:bjs

Enclosures: 1. FPC, FEIS, El Paso Alaska, CP 75-96 et al.
Pages 287 - 290.

2. Final Report, Rural Impact Information Program

June 6, 1977

Council on Environmental Quality
Executive Office of the President
722 Jackson Place, N.W.
Washington, D.C. 20006

Dear Members of the Council:

I would like to thank you again for the hearings recently conducted by the Council in Anchorage, Alaska on May 16 and 17. I sincerely appreciated the opportunity to testify on the environmental impact statements relevant to the transportation of natural gas from Prudhoe Bay to the lower 48 states. During my testimony on the 17th, members of the Council asked me to revise and extend certain of my comments. It is my pleasure to do so at this time, though I fully realize they may be received too late in your decision making process to be fairly considered.

In order to keep my comments relevant, the first part of this letter contains our three recommendations which were made to the Federal Power Commission in January of 1976 in response to their DEIS and were subsequently reported with the FPC response in Volume IV of the Final Environmental Impact Statement.

As promised, I am recasting these recommendations in the context of your responsibilities under the Natural Gas Transportation Act of 1976.

The Fairbanks Town and Village Association for Development, Inc. wishes to reiterate its position that the Federal Power Commission, under the National Environmental Policy Act of 1969, have a responsibility and a duty to explore - in the language of established NEPA procedure - 1) methods of "enhancing the environment" and "mitigating adverse environmental effects" in the social, economic, political environment with care equal to that displayed for the physical environment; and 2) must, in a related way, develop alternatives and discuss the exercise of its responsibility to protect the public interest in municipalities and communities which will be subjected to significant short and long term effects as a result of construction and operation of an interstate natural gas

pipeline. FTVAD believes that several methods should have been explored in the Federal Power Commission's Draft Environmental Impact Statement in order to elicit public comment on these issues prior to the preparation of the Final Environmental Impact Statement. These issues were not raised by the Federal Power Commission, and we hope that the federal Council on Environmental Quality will recommend to the President that these issues now be considered and that a resolution of them be part of the final Presidential recommendation to Congress on the disposition of this issue.

Those recommendations, as a recast in terms of the Natural Gas Transportation Act of 1976, follow:

1. That the President of the United States require, by means of an appropriate stipulation or covenant, that the successful applicant immediately establish a grant and loan fund, sufficiently large to provide immediate financing to state, regional and local governing entities, for planning and construction of needed public facilities, and other facilities necessary to mitigate disruptive short term effects on the communities as a result of gas pipeline construction and operation. Questions concerning amounts, and the authority and mechanisms for disbursement and loan repayment should be resolved by a special purpose agency of the Executive Branch of the federal government after consultations with state, substate, regional and local representatives of affected governing interests and those applicants who, if successful, will conduct pipeline construction and operations within the jurisdiction of those governing entities.
2. That the same special purpose agency of the Executive Branch explore, with each agency of the federal government having operations in geographic areas affected by pipeline construction and operations; the extent of their authority and the extent of their capability and willingness to provide assistance and/or to perform specialized services at the request of state, substate, regional and local entities responsible for the protection of the public interest and support of pipeline construction at the local level.
3. That the same special purpose agency of the Executive Branch require the performance of certain essential federal services such as; census counts, costs of living analysis, labor force analysis and such other services uniquely available through the federal government as training, housing development, social services, financing for essential public and federally sponsored private capital improvements, etc.; and that such services be paid for out of the fund proposed in #1 above; to require and assure the coordination of the federal program activity and policy making in order to provide financial, technical and administrative support to state, regional and local decision making entities.

Our written comments to the Council on Environmental Quality contained more specific recommendations along these same lines. Since they are

part of your Anchorage hearing record, I have not enclosed copies. However I have enclosed supporting information on the manpower problems we have experienced during the period of pipeline construction which were not addressed in the FPC FEIS.

The second part of my letter has to do with the Council's responsibilities with respect to the development of the environmental impact statements. These comments are of little relevance to your responsibilities and authority under the Natural Gas Transportation Act of 1976, but should, nevertheless, be considered carefully in the development of future regulations guiding the environmental impact information process. Our general recommendations follow:

1. The Environmental Impact Statement process which has evolved since NEPA, including the EIS which accompanied the EL PASO-ALASKA case before the Federal Power Commission is too static and too reliant on the accumulation of data and scientific analysis to be of any value in addressing "impact" on the human environment, and specifically on social, political and economic institutions at the state, local and substate regional level. We agree that data accumulation followed by expert analysis, evaluation, and publication, is important, per se, in the EIS process. However, this activity has traditionally occurred in a vacuum in terms of its relevance to the general public and their more generalized interest in the subject projects.

If, as we believe it must, the EIS process is to have relevance to the general public, there must be a clear, concise statement of the policy parameters and probable effects of the "major federal action" prior to the beginning of the EIS process. Furthermore, this general statement should be prepared by those officials representing the federal agency with the final decision making authority. In addition to the initial statement periodic revisions in the same clear, concise manner, should be issued at regular intervals throughout the EIS process in order to assess the effects on policy of new information generated by the process.

2. In order to avoid the "in house" flavor of the EIS generated documents, some federal financing should be made available to existing public interest organizations involved in activities or questions of policy relevant to the major federal action contemplated. It is our understanding that the Berger Inquiry followed this methodology in developing its report to the National Energy Board in Canada on the gas pipeline issue. The methodology of the Berger Inquiry is one that should be carefully reviewed by the Council on Environmental Quality for application to the EIS process.

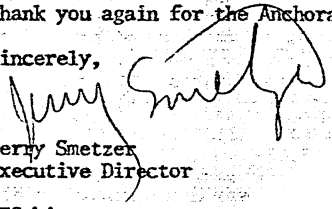
The format here is too confined for extended consideration of this important issue. We have generated a great deal of information on the social and

economic impact on Fairbanks and its surrounding communities as a result of petroleum resource development in Alaska.

Time and money permitting, we are quite willing to explore this information with you in more detail.

Thank you again for the Anchorage hearings.

Sincerely,



Jerry Smetzer
Executive Director

JES:bjs

Encl.

UNIVERSITY OF WAIKATO

SCHOOL OF SOCIAL SCIENCES

HUNTLY SOCIAL AND ECONOMIC IMPACT MONITORING PROJECT

RESEARCH MEMORANDUM

Number 9: 6 December 1976

Subject: FAIRBANKS, ALASKA: MONITORING SOCIAL AND ECONOMIC IMPACTS OF THE
CONSTRUCTION OF THE TRANS ALASKA PIPELINE

Evelyn Stokes*

While the literature on social and economic impacts of development projects is beginning to accumulate at a more rapid pace, most studies simply report on results of impact at particular points in time. The Impact Information Center in Fairbanks, Alaska, is one of the few examples of regular reporting of changes in a community over a period of time. The Center was set up in April 1974 (at the same time as construction began on the Trans Alaska Pipeline) and has reported regularly since then. A related programme was organised early in 1975 through the Fairbanks Town and Village Association for Development to report on rural impacts in the region. Although both programmes were set up as community information centres, they have essentially performed the task of monitoring social and economic changes in an extreme impact situation.

This report is compiled as an attempt to extract from the Fairbanks experience some ideas that may be of value in monitoring social and economic impacts elsewhere. It is based on a stay of only one week in Fairbanks in August 1976, during which wide ranging discussions were held with Sue Fison, present director of the Impact Information Center, Mim Dixon, a former director, Gene Straatmeyer, Presbyterian Minister, and former chairman of both the Social Concerns Committee of the Fairbanks Council of Churches and the Impact Advisory Committee for the Impact Information Center, Jerry Smetzer, executive director of Fairbanks Town and Village Association for Development which administers development programmes for the much wider area of Fairbanks Economic District, Larry Carpenter, Community Relations Officer for the Alyeska Pipeline Service Company (the consortium formed to construct the pipeline), and various other Fairbanks residents. While I have quoted freely from all these informants, all interpretations are mine. There was also some variation in ideas about how effectively the Center operated and in attitudes toward impact of pipeline construction on Fairbanks.

* Dr Evelyn Stokes is a Reader in Geography at the University of Waikato.



Project Co-ordinator: TW Fookes MA (Cant) Cert Ekistics (ACE, Greece)
Dip TP (Auck) MNZPI
Postal Address: Huntly Monitoring Project, University of Waikato,
Hamilton, New Zealand

Background

In the 1970 Census Fairbanks North Star Borough (a territorial administrative unit containing both urban and rural areas) contained 45,846 people. The region lies mostly just south of the Arctic Circle and the terrain ranges from the wide swampy river flats of the Tanana, a tributary of the Yukon River, to mountainous country. There are large areas of permafrost. The short summers are warm but winters are long and harsh with average December-January temperatures around 34 degrees celsius below zero, occasionally reaching 50 below. Ice fog conditions caused by temperature inversion in the Tanana Valley, are common in winter. The main urban centre is Fairbanks which contained 14,771 people in 1970 and functioned as a service and delivery centre for the scattered small communities of the vast interior and northern areas of Alaska. There was also a large military component in the Borough population - 15,246 people living on two military reservations outside the city of Fairbanks. The non-military population outside Fairbanks city in 1970 was 15,289, a figure which includes Eskimo and Indian villages as well as European populations. Among the civilian population the ratio of male to female was 113:100 in 1970; when military personnel are included this figure increases to 134:100.

Fairbanks in 1970 was a frontier community with a large number of unattached males, a lower than average proportion of old people and the very young. Crimes against property were few but assaults against the person were frequent. There was also a disproportionate number of bars and saloons in downtown Fairbanks. Alcoholism was already a problem, exacerbated by long hard winters and high unemployment rates, especially winter unemployment.

Alaskan economy has always been shaky and what can be loosely described as a "boom or bust mentality" can be identified in Fairbanks. Public agencies provided 52 percent of employment in 1970 but the military component was declining from the cold war peak, and the community was moving away from dependence on military spending. An infusion of Federal and State finance for reconstruction after a serious flood in 1967 helped, but the construction industry was described as "erratic". Housing was already in short supply and very expensive - twice the price of equivalent housing in Seattle for example. Many of the

existing houses constructed in the post second world war boom of military expansion were sub-standard. Mining in the area, including coal, was on the decline. There was still a good deal of subsistence in rural areas, supplemented by winter trapping for furs and casual summer employment when it was available. A high proportion of people employed in Fairbanks city were involved with transport, especially air freight. There had been some increase in tourism and recreation but these were not regarded as major sources of income. Prices and wages had always been high, but stable, and wage and salary differentials were provided to attract people to skilled and professional positions.

The discovery of oil on the North Slope in 1968, and subsequent sale of oil concessions for \$900 million, was perceived as the economic salvation of Alaska, and the Fairbanks area in particular. The Trans Alaska Pipeline was planned to carry the oil 1400 kilometres from Prudhoe Bay in the north, past Fairbanks, to a terminal at Valdez on the south coast where tankers would take the crude oil to refineries in Puget Sound, San Francisco, and the Los Angeles area. The oil companies had begun moving in pipe and equipment, and building a series of construction camps along the projected route when an injunction against the pipeline on environmental grounds stopped all further work in 1970.

From 1970 to October 1973 when the Trans Alaska Pipeline was approved by the Federal Government, there was a period of uncertainty, and no preparations were made. Fairbanks citizens, especially businessmen and administrators who had begun to gear themselves to meet the demands of pipeline construction, were trapped. There was no State or Federal Government commitment to help the region cope with any influx of population. There was no commitment from oil companies either.

Mobilisation began in April 1974, when pipeline construction started with Fairbanks city the principal administrative, supply and transport centre for construction activities. Peak employment on the whole project reached 23,000 in 1975. Costs have escalated from the projected \$6 billion (U.S.) to near \$10 billion already, but Alyeska Pipeline Service Co. still hope to begin pumping oil in the

autumn of 1977. Actual construction should end by September 1977. The number of people required to operate the line on completion will be between 600 and 700 but only 50 of these will be stationed in Fairbanks. The population of Fairbanks city in 1973 was estimated at near 18,000; the mid 1976 estimate is 36,000 people.

The Establishment of the Impact Information Center

Even before construction began, a few people in Fairbanks were concerned about possible social impacts of such an enormous project. In particular, the Social Concerns Committee of the Fairbanks Council of Churches, while discussing impact on churches realised that the implications were much wider and called in other people in the community. At this stage, discussion of impact had been concerned almost solely with "environmental impact" (i.e. physical and ecological) and "economic impact" (i.e. increased income to the region).

This small group of concerned citizens organised a one-day Community Forum described by one of the organisers as being "like an old-time town meeting" which met on 23 February 1974. For most of the participants, this meeting was an information exercise, for few people had much idea what was in store for them. There were strong feelings of apprehension about "the massive army moving in on us". Others have likened the arrival of Alyeska Pipeline Service Co. and the whole construction organisation to "a military invasion of a colonial province". (It did not help perhaps that the Alyeska headquarters and a construction camp were set up at Fort Wainwright, just outside Fairbanks city in military quarters no longer required by the Defence Department). Various issues were discussed at this first Forum such as crime, the provision of social services, the role of the churches etc. as well as economic impacts. The chief outcome of the meeting was a strong feeling that the people of Fairbanks needed to know what was going on. Some sort of information center was needed to look at the effects of pipeline construction on the lives of people in the community.

The Social Concerns Committee along with other interested individuals organised support for an Impact Information Center as part of the local government services at Fairbanks North Star Borough. The presiding officer of the Borough Assembly envisioned a centre whose purpose was

to collect and disseminate information. "It does not forecast, predict, extrapolate, or otherwise attempt to indicate the shape of the future The sole measure of success of the Impact Information Center will be how well it serves the whole community..." The Borough Mayor further refined the idea in outlining three basic purposes for such a Center:

- (1) to provide the general public with information relevant to pipeline activity which "could or will affect their personal, occupational, business, financial and recreational affairs";
- (2) to provide the Borough Assembly and administration with "factual data to aid them in conceiving and formulating public policy designed to cope with pipeline impact";
- (3) to present information as rationale to support requests for State, and possibly Federal, impact funds or services.

The Mayor also recommended that a broadly based committee be appointed to guide the proposed Information Center.

There was some opposition to the idea of an Impact Information Center. The business community were mainly concerned with economic effects and some businessmen labelled supporters of the Center "eggheads". The prevailing business attitude was that the additional money that would flow into the community as a result of pipeline construction would solve many of the community's problems. There was also opposition from "fiscally conservative" individuals who were suspicious of spending Borough funds on such a fuzzy idea as an Impact Information Center. There was a strong move to have the local Chamber of Commerce organise the Center, but this was countered with the argument that the Chamber was a special interest group and therefore could not be impartial. The Social Concerns Committee has argued on similar grounds that as a church group with special interests they could not support it alone, that there had to be broader community involvement. In order to ensure necessary impartiality, it seemed most appropriate that the Borough should run it. This arrangement did not ensure complete impartiality for

the comment was also made that there were too many politicians "sticking their fingers in" and that the Borough were a little too possessive about their Center. But in the circumstances the best place did seem to be a downtown location associated with the Borough administration.

Apart from the occasional interested individual, there was no input from the Fairbanks campus of the University of Alaska at this stage. The comment was made that supporters of the Center did not use the university as much as they could have or perhaps should have. It was felt that the university could not have run such a center, partly because of the distance from the city, but more particularly the dominant frontier attitude in Fairbanks that "those eggheads on the hill" were much too removed from the concerns of everyday life. However, researchers in the Institute for Social and Economic Research, University of Alaska, have been working on topics related to pipeline impact and some individuals are turning more specifically to impacts in Fairbanks itself. A great deal of data has been collected by the Impact Information Center and social scientists at the local campus are being encouraged to use it. The Institute for Social and Economic Research is also developing proposals to assess impacts of further offshore oil development and gas line construction.

Organisation and Administration of the Impact Information Center

On 25 April 1974 the Fairbanks North Star Borough Assembly appropriated \$13,450 from the general fund to the Mayor's Office for the purpose of establishing an Impact Information Center and operating it for the remainder of the fiscal year. The Borough Assembly later decided to use a portion of the impact funds received from the State of Alaska and thereby appropriated an additional \$49,198 to operate the Center during the fiscal year 1974-75.

The original Impact Advisory Committee, appointed by the Mayor, represented a cross section of the community, including the chairman of the Social Concerns Committee of the Fairbanks Council of Churches, the president of the Fairbanks Chamber of Commerce, the Community Relations Officer for Alyeska Pipeline Service Co., the vice president of Doyon Ltd, (the regional native corporation), and the Presiding Officer of the Borough Assembly. Later the committee was expanded to

include a consumer representative, a representative of the Black community and a representative of the Joint Labour Council. There have been several changes in membership but this broad representation has been maintained.

The Center began with a staff of two, a veteran political journalist, Joe La Rocca, as Information Officer, and a secretary. Soon after, an applied anthropologist, Dr. Mim Dixon, joined the staff. Eight months later it was decided that there was a need for a rural impact information programme for the interior of Alaska beyond the area of Fairbanks North Star Borough. By a contractual agreement, Mim Dixon served as consultant to this programme which was organised through the Fairbanks Town and Village Association for Development Inc.

At the end of the fiscal year state impact funds lapsed and the Borough Assembly decided to appropriate funds out of general revenue to continue the programme. The State of Alaska added \$10,000 to the budget as it was thought the Center was providing valuable information to state agencies. Additional funds were obtained through contractual arrangement with Fairbanks TVA for the rural impact programme. Mim Dixon was appointed Director when Joe La Rocca left and the secretarial position was amalgamated into an Information Assistant position with responsibilities for working with the public and assisting with research as well as clerical duties. On 31 March 1976 Mim Dixon resigned to work full-time on a book on pipeline impact. The new director is Sue Fison, an economist with experience both in research at the Institute for Social and Economic Research and working in a local government authority.

Staff in the Center in mid 1976 comprised the Director, Information Assistant (both full-time) and a part-time secretary. Accommodation was provided in the Fairbanks North Star Borough offices on 2nd Avenue in downtown Fairbanks. The Center functions as an autonomous office within the Borough administration and the Director is responsible to the Mayor and the Impact Advisory Committee. Reports are issued at the discretion of the Director. There is no formal vetting procedure although the work of the Center is discussed regularly by the Impact Advisory Committee and all reports are submitted initially to

the regular public meeting of the Committee and made available immediately to local news media.

In April 1976 the Fairbanks North Star Borough Assembly deleted the proposed \$62,000 funding for the Impact Information Center from their budget for the 1976-77 fiscal year. A few weeks later the funding was reinstated but reduced to \$31,000. In the final budget session on 27 May the Assembly voted 6 to 5 to fund the Impact Information Center at the amount originally requested. The budget for 1976-77 is as follows:

Salaries and benefits	43,365
Office supplies	600
Telephone	600
Mail and distribution	2,000
Meetings, conferences, memberships	2,000
Local transportation	1,200
Copying expenses	12,000
Equipment	532
Total	\$62,297

Funding for the Impact Information Center is available to 30 June 1977. The future of the Center beyond that date is unknown but there are strong suggestions that some sort of community information center should be retained within the Borough administration.

Activities of the Impact Information Center

The primary purpose of the Impact Information Center was to collect and disseminate information about changes in the community that have resulted directly or indirectly from pipeline activities. There was little attempt to establish any formal research design. Decision on what information needed to be collected arose out of "brain storming" in meetings of the Impact Advisory Committee and out of issues raised by people in the community. The following summary of methods used to collect data was provided by the Center:

1. A reporting system has been established in which local and state agencies send copies of their regular reports to the Impact Information Center.

2. The local newspaper and other major newspapers within the state are reviewed daily and a file of newspaper clippings relating to the community, the impacts of the pipeline, and energy resource development is maintained.
3. Regular market basket surveys, heating oil cost surveys, and surveys of rental prices advertised in the local newspaper are conducted to establish economic indices. In addition, information obtained by the Bureau of Labour Statistics in its Anchorage Consumer Price Index is utilised. A major activity of the Impact Center and its Advisory Committee has been to encourage the re-establishment of a consumer price index in Fairbanks.
4. Utilising the dockets from the State Superior Court, filed divorce complaints are recorded monthly; and information from previous years is being collected in order that a time series analysis may be possible.
5. Interviews are conducted with local persons to obtain information on a variety of subjects, and local institutions are visited and observed.
6. Public meetings and hearings are attended to obtain both information and public expressions of sentiments.
7. Formal questionnaires are used occasionally to obtain information on specific problems, (e.g. a survey of high school students to determine their roles within the workforce, a survey of senior citizens to ascertain their pipeline related problems, and a survey of local pipeline-related workers to determine their child care needs).
8. Local university students are encouraged to study impact phenomena. Their work is supervised and co-ordinated through the Impact Center and the Center acquires copies of completed papers.
9. Impact Center staff participate in local groups, give speeches at meetings of various organisations, are interviewed on radio and television talk shows and participate in community activities in

other ways which help create a positive image and a sense of trust which facilitates an informal communications network.

10. As the Impact Information Center has become recognised as a community resource, persons in the community or elsewhere with questions, problems, or information contact the Impact Center either by telephone or by going directly to the Center. Persons in the community provide information not only in terms of data, but also by alerting the staff to community concerns.

Information collected by the Impact Information Center is disseminated in various ways. People call or visit the Center, some information is exchanged through correspondence, and the staff of the Center give talks to groups in the Fairbanks area. Much information is disseminated through news media coverage of the monthly Impact Advisory Committee meetings.

Impact Information Center staff were involved in a "Community Conference" on 26 April 1975 sponsored by the Social Concerns Committee of Fairbanks Council of Churches and Fairbanks Town and Village Association for Development Inc. This forum was described in a brochure as "the day for residents of Interior Alaska to come together to share information and gain a greater understanding of the problems and opportunities which are developing as a result of rapid growth in the interior". The list of topics for group discussion is an indicator of some of the community concerns at this point:

Hiring for pipeline jobs - are Alaskans getting enough pipeline jobs?

Oldtimers and newcomers - what happens when you don't have a pipeline job?

Youth - what is happening to young people?

Congestions and hassles - is it getting too crowded here? - traffic jams, phones, getting things.

Housing crises - can anything be done?

Families - family life under impact - child care, finances, mental health.

Business and commerce - does the pipeline mean more profits

or more overhead? - firms with and without pipeline contracts.

Land and community - is community land use planning possible?

A walk on the wild side - what's happening that polite people don't talk about? - organised and unorganised crime.

Oil and Gas industry - are we getting our fair share? - revenue to the State, access to the product, economic development.

The proceedings of the conference were summarised in a publication titled Fairbanks & Interior Alaska: a one day community forum on growth.

The major form of activities and the major vehicle for dissemination of information is through the publication of regular Pipeline Impact Information Center Reports. In just over two years the Center has produced 29 regular reports covering a variety of topics and 4 special reports. Reports are distributed to Borough administrators and Assembly members, to others on request, and to persons who have requested that their names be placed on the mailing list. Of a total mailing list of 585 in August 1975, 346 were in the Borough, 127 in Alaska outside the Borough, and 103 outside Alaska. Of the total distribution 39 percent went to private individuals, 35 percent to business or other organisations, 11 percent to university, 10 percent to State and 6 percent to Federal agencies, and 3 percent to the press. A survey of users of Impact Information Center reports completed in March 1976 indicated that the data provided in the reports is being used in a great variety of ways both by people in the local community and at regional and State levels of decision-making.

Some Implications of the Impact Information Center Experience

It is difficult to evaluate fully the operations and achievements of the Impact Information Center. Certainly the financial and political constraints on the Center limited the amount and detail of information that could be collected. While attitudes varied, there was general agreement that it had been worthwhile and as much had been done as could possibly be done in the circumstances, especially considering the innovative nature of the Center. A number of points can be

made that have implications for monitoring social and economic impacts:

1. A regular basis for funding is essential. The shaky fund basis of the Center made it difficult to establish longer term projects beyond regular agreed communications from agencies providing data.
2. A full-time Director with professional qualifications is necessary. Much depends on the individual personality of the Director and each Director has brought different perspectives and emphases to the task.
3. The role of the Advisory Committee can be an important one as a sounding board. Comments on meetings of the Impact Advisory Board ranged from "dull" and "a waste of time" to "emotional" and "too much time placating irate natives" to "intelligent and thought-provoking discussion". Members were all unpaid and usually deeply involved in community affairs anyway and felt unable at times to give as much as they might wish. The feeling was also expressed that economic interests tended to dominate and it was difficult to keep social concerns to the forefront. The monthly meetings were public and public attendance varied from about 5 to 20. However, proceedings were well reported in the local news media.
4. The impartiality of such an information centre or monitoring project must be preserved. In the supercharged atmosphere of an impact situation there are considerable political pressures. There was a paradox in weighing up the advantages of giving the Impact Information Center "official" status in the Borough administration and the potential disadvantages of accusations of political interference because it was funded through the Borough. The question of impartiality is particularly important where community trust and involvement is to be encouraged.
5. The whole question of community participation is an important one in a monitoring exercise. While public participation in the Impact Advisory Committee meetings was small, many individuals did visit the Impact Information Center and made use of information provided. Many also brought in comments and queries that

served to stimulate further investigation. Ways of encouraging much greater feedback from the community need to be developed.

6. Perhaps the most important observation of all is the need to obtain the most sophisticated, detailed data possible. This of course implies adequate funding and properly trained people to collect and process such material. There are very real difficulties in using data already collected by various government or other agencies, especially in an impact situation where such agencies are under stress of extra work loads. When such data are collected, it is essential to establish agreements for regular reporting in consistent usable form so that a series of data can be compared over a period of time. The establishment of such data collecting arrangements can be very time consuming and frustrating but some persistence in the early stages pays off later as a regular file of information begins to build up over time.

7. It is also wise to spread the net of data collection as far as possible. Not all information may seem immediately relevant but in the long term may prove invaluable. Two major gaps in data at the Impact Information Center are concerned with the cost of living and housing. While some information has been collected it is not sufficiently detailed. A special survey on mobile homes has just been completed to help remedy this. There is some concern that too little is known about how the rising cost of living is affecting people. Many people have made money - bank deposits have risen dramatically - but it is now becoming increasingly obvious that the additional income generated by pipeline construction has not flowed evenly through the community. There is real poverty among many old people, especially those who have moved into Fairbanks from more remote communities in order to be closer to medical facilities. One explanation of the inadequacy of the police in coping with increasing crime is that any policeman with initiative earning \$1,000 a month has left the force to work on the pipeline where he can earn \$1,000 a week and more. Those on fixed incomes and even middle income people in fixed salary or wage scales are finding it increasingly difficult to live within their incomes. Much more detailed information is required on how the money gen-

erated by pipeline construction flows through the local community, how much stays, where it is spent, how much goes out, and so on. Likewise, the effect of high wages on the pipeline in forcing up other wages and prices in non-pipeline related activities needs further investigation.

If detailed information on spending patterns and money flows in the community were available over a period of time perhaps some of these longer term effects could have been foreseen, and demonstrated much earlier. It is now obvious that initial predictions that the extra income generated by pipeline construction would only help solve community problems were much too simplistic. More efficient ways of identifying particular groups in a community most likely to be affected by an impact situation must be developed.

One commentator remarked that the Impact Information Center should have been started much earlier, but until people perceived the problems, it would not have received any support. The residents of Fairbanks were likened to an army about to be invaded. One obvious course of action was to set up a center for intelligence operations to monitor activities, plan strategies and help allocate resources to deal with the new situation. But the Center did not fully achieve this aim for at least half of the Fairbanks community welcomed the invasion. What was needed was a sort of command post to feed back information, not just as a service to decision-makers, but also as a service to local citizens to help them understand the processes of change that were being forced upon them. The oil industry was described as a very competent invader because it was well organized. The local people were not. They needed much more help in understanding and coping with social forces and pressures which were bringing so many changes. The people needed to be alerted and educated to the stresses of rapid change that an impact situation produces.

Some Implications of the Fairbanks Experience

The visitor to Fairbanks is immediately confronted with the impact of the pipeline. The Alyeska Service Desk occupies a prominent position at the airport and handles all pipeline related passenger movements through the airport either to other aircraft or to buses waiting outside. The airport itself is constantly busy coping with far more flights than would normally be generated by a population the size of

Fairbanks. The city itself has exploded out of its original compact cluster of buildings, many of them old style log cabins, on a bend of the Chena River which flows through swampy flats into the Tanana. Many of the new houses are mobile homes; even the permanent structures are strictly functional and not very beautiful. In contrast some very attractive homes have been built on more elevated sites in woodland subdivisions on the outskirts of the city. New office blocks and apartment complexes recently completed or still under construction are dotted about the central area, while further out in the suburbs are large new shopping centres, mostly built by developers from outside Alaska and housing well known national supermarkets, restaurants, and department stores. A large new complex is under construction and some doubts have been expressed as to whether Fairbanks really needs any more such complexes. Very little development in retailing has occurred in the downtown area, where narrow streets are congested with traffic in spite of a one way street system. In spite of some substantial new buildings much of the town has the rough, raw untidy appearance of a hastily built camp, rather than a permanent community. And the frontier camp atmosphere is perpetuated by the disproportionately large number of scruffy saloons and bars downtown, mainly but not exclusively on 2nd Avenue, and the equally scruffy collection of people accumulated around them.

More telling than the visual appearance of the community is the psychological impact of the pipeline: the way local chronology is perceived in two periods - before and since the pipeline - and the wistful remarks of some that Fairbanks will never be the same again. But others say it is a great improvement on what it was.

Fairbanks has barely coped with the social and economic impacts of the construction of the pipeline and there is little evidence of overall planning for the impact situation.

Some generalisations can be drawn from the Fairbanks experience:

1. It is impossible to keep politics out of the impact of a development project, both the politics of the impact situ-

ation itself and the political pressures on the researcher interested in impact.

2. Attitudes of the people involved in and affected by the impact situation are often ambivalent, inconsistent and contradictory.
3. Those who have most to gain, particularly in short term monetary terms, are often least sympathetic to the effects of impact, especially negative effects.
4. The longer-term effects, particularly those involving permanent structural changes in the community, are rarely perceived in the early stages of an impact situation.
5. An impact situation will exacerbate existing ills in the community.
6. The impact situation will often be used as a scapegoat for a variety of problems, thus increasing the difficulty in separating out "normal" from "impact-induced" situations.
7. Individual and group perceptions of impact will change through time.
8. Very few people or administrative structures are geared to cope with the very rapid social and economic changes that an impact situation demands.

Impact can be defined as the stress of a rapidly changing situation. The more rapid the change, the greater the effects of stress. Stress can be personal, institutional, physical, environmental, social, economic. The idea of stress can be related to the concept of carrying capacity, that there are certain limits, actual or perceived, to the amount of activity that can be tolerated in a certain area. For example, the Tanana Valley experiences strong temperature inversions in winter in which ice fog conditions occur. The thermal power station (coal-fired) in downtown Fairbanks, auto exhaust fumes and burning oil or wood for domestic heating exacerbate this condition. The influx of more people means more houses with heaters and more

vehicles emitting exhaust fumes which may quickly push this natural condition to a point where there is a real hazard to health. Thus human activity has exceeded the physical or environmental carrying capacity of the area in this respect. In the same way there are definite physical limits to the capacities of utilities systems such as water supply, sewerage treatment, telephone networks, all of which were only just adequate prior to pipeline construction. They are now severely overloaded.

The idea of carrying capacity does not necessarily mean that there are simple, finite limits to the stress that can be borne. The physical capacities of utilities systems can be expanded. But there are economic limits in terms of finance available to cope with such expansion, both in terms of actual cash in hand and how much extra the local community is able or prepared to pay. Local taxes are rarely adequate to pay for the extra facilities required for a sudden influx of population. Thus severe stresses may be placed on local institutions in providing the services they are normally expected to provide in terms of finance, personnel and expertise.

Jerry Smetzer, surveying the economy of the Fairbanks district, the rapid changes brought about by the pipeline and the prospects of continued growth if a gas line is constructed, commented:

These findings clearly suggest that massive public investment in new and vastly expanded public facilities must be initiated rapidly in order to meet the quantum leaps in the demand for public services. To defer these public investments means that their costs - which are almost beyond the limits of political acceptance already - will rapidly escalate beyond state and local governments' actual financial ability to absorb them. More precisely, given the institutional and political reluctance to confront this problem directly, it is likely that present levels of service will simply deteriorate to the point where the community can no longer guarantee clean water, public safety, basic health, telephone, electricity, school buildings, roads etc, at a price the average citizen can afford.

Obviously some profound questions of public policy are wrapped up in this issue, and they are not necessarily unique in this case to Fairbanks.

Smetzer likened the Fairbanks situation to the "so-called Boom Town phenomena in the Western United States" and quoted a statement made by the Denver Research Institute: "An annual growth rate of 10 percent strains local service capabilities. Above 15 percent seems to cause breakdowns in local and regional institutions." There is a real dilemma that on the one hand the greatest inputs need to be made "at the front end" of the impact situation to prepare for the influx of population. On the other hand, such inputs require accurate prediction of impact effects. For example, the Alyeska-sponsored social and economic impact study predicted peak direct project employment levels on the pipeline in 1975 around 6,500; the actual figure in 1975 exceeded 23,000. It was also predicted that school rolls would increase but there was nowhere near the expected increase for the project attracted a large number of single workers and family men left their wives and children behind. Some say it is impossible to plan for impact. However, the comment was also made that it was obvious that there was already pressure on housing, water and sewerage, and telephones in Fairbanks before the pipeline, so that any further influx of people would inevitably cause stress. Larry Carpenter commented:

You ask how to predict problems before they occur - that is a Herculean task. However, as a rule of thumb, you can inventory the existing community problems in the pre-impact period and anticipate that they will be the most serious problems during the impact period. Impact here in Fairbanks simply compounded our existing problems.

All the sorts of stresses outlined add up to a great deal of personal and community stress which is expressed in various ways. Decision-makers at all levels are often confronted with impossible work loads. A city attorney arrested earlier in the year for beating up his wife is reported to have commented "The last two years have been the hardest of my life". Some have profited from higher incomes from the pipeline, have bought new homes, paid off mortgages and gained other material benefits. But some, in the midst of new affluence, have also felt that something was lost. For others the high wages simply meant more regular drinking and better class prostitutes. It is also very difficult to assess the family stresses that have occurred as a result of breadwinners of a family being away working on the pipeline for long periods.

There has been conflict between the old residents and the newcomers expressed in local jokes: "Happiness is 10,000 Texans moving south with an Okie under each arm" (or vice versa). Another version of the same theme is: "Put an Alyeska man and a Bechtel man on the top of the Polaris (the tallest building in Fairbanks - 11 floors) and push them both off. Who would land first? Answer: Who cares?" At one point "Tankee Go Home" was painted on cars with out-of-state number plates. Many Alaskans feel their distinctive lifestyle is being threatened. The sense of separateness is expressed in the phrase "the lower forty-eight" which covers the conterminous United States, (Hawaii is a warm place to the south where one can escape the Alaskan winter for a holiday and is not included in this terminology). There is a dividedness in the Fairbanks community. Old prejudices are exacerbated. Racial and ethnic tensions have increased. While the pre-pipeline community was not without prejudices, "the people knew where they were at"; they knew and could cope with existing attitudes and prejudices. A massive influx of newcomers with differing attitudes and prejudices increased existing tensions, as well as creating new ones.

While there is no other place quite like Fairbanks, there is much in the Fairbanks experience that should serve as a warning to other communities experiencing an impact situation. The social and economic benefits and costs are not fully accounted in Fairbanks and may not be for a very long time. Fairbanks will never be the same again for many of the social and economic changes wrought by the impact of the construction of the pipeline are permanent. There is a strong feeling emerging that the perpetrators of an impact situation ought to be made to account for the costs to local communities of their development projects. There are also suggestions that some mechanism for establishing an information centre and ensuring regular monitoring of impacts should be built into environmental assessment requirements for development projects. In the meantime, Fairbanks residents are preparing for the "bust" when pipeline construction is over, and at the same time pinning their hopes on construction of a gas line across Alaska. For the social scientist interested in impact analysis it is obvious from the Fairbanks experience that we still do not know enough about the processes of accelerated social and economic change induced by a large development project. Still less are we able to educate the communities concerned to cope with the impact stresses produced by such rapid change.

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