

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 86 / 2

456 SCOMM13: JOINT COMM. ON GAS PIPELINE IMPACT 1974-76

TABLE I
SCHOOL DISTRICT PROJECTIONS

<u>ITEM</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
1. Civilian Population Normal	122,500	128,100	134,500
2. Impact Addition	13,400	22,700	24,000
3. Total Population	135,900	150,800	156,500
4. School Enrollment @ 25%	35,126	37,700	39,125
5. Impact Enrollment	3,350	5,675	6,000
6. Local Per Pupil Cost, Operations only	\$ 521	\$ 612	\$ 703
7. Impact Cost, Operations only (5x6)	\$1,745,300	\$3,473,100	\$4,218,000

If we project a per pupil cost for local contributions to operations based on Impact Committee staff calculations, the results will be as shown in TABLE II.

TABLE II
SPECIAL PETROLEUM IMPACT COMMITTEE PROJECTIONS

<u>ITEM</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
1. Impact Enrollment	3,350	5,675	6,000
2. Local Per Pupil Cost, Operations only.	\$ 452	\$ 473	\$ 524
3. Impact Cost, Operations only.	\$1,514,200	\$2,684,275	\$3,144,000

REVENUES

The new population will produce offsetting revenues. We have estimated that each 3.0 persons will need a home, but that the new housing built to accommodate them will not reach the tax rolls for eighteen months after arrival of the people. We have further estimated that the housing units will have an average value of \$30,000 each, and will comprise a mixture of single family homes, multiple units, and mobile homes. There will undoubtedly be additional assessed valuation from business property built to serve the impact population, but this would be difficult to estimate. We did include a personal property increment at the same ratio as in the general valuation.

In estimating offset revenue, we have used the current mill rate of 9.19 mills, though there are strong indications that thill will increase during the next three years.

TABLE III
OFFSET TAX REVENUES

<u>ITEM</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
1. Real Property Taxes	-0-	\$ 551,000	\$1,820,000
2. Personal Property Taxes	-0-	138,000	455,000
3. Total Offset Revenue	-0-	689,000	2,275,000
4. ABSD Impact Cost	\$1,745,300	\$3,473,100	\$4,218,000
5. SPIC Impact Cost	1,514,200	2,684,215	3,144,000
6. Net Impact (ABSD)	1,745,300	2,784,100	1,943,000
7. Net Impact (SPIC)	1,514,200	1,995,215	869,000

Using the ABSD impact figures and dividing by the expected impact population, we arrive at the following per capita impact on the School District:

PER CAPITA IMPACT COST (ABSD)

<u>1974</u>	<u>1975</u>	<u>1976</u>
\$130	\$123	\$ 81

PER CAPITA IMPACT COST (SPIC)

<u>1974</u>	<u>1975</u>	<u>1976</u>
\$113	\$ 81	\$ 36

The state could compensate the school district either by a per capita

grant, or by a per pupil grant. As the impact develops, the operational costs will be determined more exactly, and of course the additional enrollment will be known.

SECTION V

CITY OF CORDOVA

Description of Area.

Cordova is situated on Prince William Sound roughly 50 air miles from Valdez. The City has an ice-free seaport with modern facilities. It has an all-weather airport with a 7,500 foot runway with daily scheduled jet-airliner service.

Cordova will be the terminus of the Copper River Highway being constructed to Chitina. This will connect Cordova to the State and highway system for the first time. This road construction is being delayed because of injunctions obtained by environmental groups.

Population.

The U.S. Census for 1970 shows the population of Cordova as 1,164. The population did not increase significantly from 1960 to 1970, however, Meakerville, a small community near the airport increased from 48 to 349 in the ten-year period.

The City of Cordova reports a large population increase in the last three years. They say a consultant's census taken in October, 1973 shows a population of 2,114 permanent residents within the City limits, 200 outside, and 360 part-time transient workers.

Economic Outlook.

The completion of the Copper River Highway, pipeline construction, Gulf of Alaska oil exploration, which is expected, and the recreational potential of the area, all seem to point to an expanding economy and population increase for Cordova.

Impact - General.

The expected economic growth of Cordova will probably take place over a period somewhat longer than the pipeline construction period. However, the pipeline construction will no doubt have an effect upon Cordova.

The City has the nearest scheduled jet airline service and will no doubt serve as the transfer point of both urgent cargo and passengers headed for Valdez. If significant outer continental shelf oil exploration is conducted in the Gulf in the next few years, Cordova would probably be the area most affected.

The Coast Guard has already announced the installation of a station at Cordova, which alone will contribute significantly to the local economy.

The Cordova Area has a good potential for recreation, however, it might be expected that this potential would be more fully utilized after the completion of the Copper River Highway. This road could, of course, be completed during the pipeline construction period making Cordova accessible from the Richardson Highway. If this happened, conceivably the Cordova port could be utilized especially if other ports became overloaded. Cordova predicts that their population may increase as much as 900 people during the pipeline construction period.

Impact - Specific.

The City has not attempted to estimate the costs of meeting the population expansion in the specific ways they expect to be affected. However, they believe that it will conservatively require in excess of \$200,000 per year for the next five years to cover the costs. Following is a brief outline of the ways they believe they will be affected.

Public Safety.

Police.

The Cordova police serve not only the City, but go outside of town on occasion. The officers also serve in a multi-function capacity when necessary -- ambulance driver, fireman, search and rescue, social worker, and animal control officer.

Cordova believes that with an expanded population, the police will need to confine their activities to law enforcement and other personnel take over the irregular activities. As in the other cities, it is believed that illegal and criminal activities will increase and thereby increase the cost of police protection.

Fire Protection.

The Cordova fire department is now a volunteer organization. With growth, they will need to have at least some full-time firemen plus additional equipment. They will need to construct larger quarters for fire fighting equipment, they say.

The City presently uses an old police truck for an ambulance. It needs replacing and equipping with emergency equipment, which now it doesn't have.

There is also a need for training an emergency medical crew, which could be used anywhere in Prince William Sound, if needed.

Building Inspection.

A full-time building inspector is needed to ensure that housing and commercial structures are built to codes, so they can meet the wind and snow loads encountered in Cordova.

Housing.

The City of Cordova says there are no housing vacancies. Despite new construction, all housing units are immediately taken. Several structures built for others purposes have been converted to apartments or

other housing units.

There is a lack of suitable land and the high cost of construction and high interest rates have deterred new construction. Cordova will evidently need high-rise structures or/build out closer to the airport.

Sewers and Utilities.

As housing units are built, sewers and water facilities will need expanding, and utilities provided. Cordova says presently it is using all services, facilities and utilities to capacity. However, in early December bids were to be opened for a secondary sewage treatment plant that would provide a treatment capacity of 700,000 gpd. This should prove adequate for many years, but sewer extension will be required for new housing.

Water is now being used to capacity. It is considered that Eyak Lake will be a new source of supply, but a treatment and filtration plant will have to be built.

Electric generation is being used to capacity also. The City does not say if this utility is owned and operated by the municipality or is privately operated. Neither is local telephone service mentioned.

Solid Waste.

Solid waste is now dumped into a slough, but the City has applied for a permit to create a sanitary landfill at Mile 17 on the Copper River Highway. This will require additional transportation equipment, a new compaction center in town and an additional sanitation department worker.

Health and Medical.

The City owns and operates a 22-bed hospital, which is professionally staffed. It serves a much larger area than just the City. It is expected that with the population increase expected in the Prince William Sound Area

this facility will need to be expanded. The hospital is subsidized by the City, four mills of the tax base being provided.

The deficiencies believed to require upgrading during the pipeline construction period are: Emergency care facilities; transportation, and other support facilities.

The City has no facilities or programs for treating or controlling alcoholism or drug abuse. They believe such facilities and programs will be required.

There is a State Public Health nurse stationed in Cordova. The facility used by the nurse is furnished by the City and it is considered to be inadequate.

There is presently no program available to handle the expected mental health problems.

Schools.

The schools, too, are operating close to 100% capacity. The facilities are in use seven days a week for many community activities, including vocational training for students and adults.

It is said the high school does not have a full curriculum, there being a number of subjects that should be offered which are not now available, and other facilities are lacking.

There would be opposition to year-round school in Cordova, since fishing is one of the important economic activities, and the young people do contribute much to family income by working during the fishing season.

It is assumed that double-shifting could be used if the school population increased, with the consequent higher operational costs.

Attached is the Summary section of the statement submitted by Cordova.

SUMMARY

Despite three major economic setbacks, a catastrophic earthquake, and three conflagration fires which all but leveled the town, the City of Cordova is finally beginning to enjoy those commodities of life commonly referred to as necessities in both Europe and the "south 48". However, the City's grasp on these commodities is extremely marginal. The community can presently produce just enough income and "wherewithall" to support the limited number of people living within its' boundaries here and now.

In almost any area of government service, the facilities available are supporting their maximum population design; and, conditions as they should be, are optimal. However, because of Cordova's close proximity to the pipeline terminus, in conjunction with its' harbor, air support facilities, and recreational potential, that condition is expected to change very rapidly.

As per example, electrical generation is at a maximum optimal level. Any expansion would result in expensive improvements which could not be economically offset for many years. The city water supply which just underwent expansion last year is also operating at a dangerously high level versus its' total maximum capability. Further expansion would necessitate construction of a sophisticated filter plant on Eyak Lake. The schools, hospital, recreational facilities, and snow removal problems also fall into the same category.

As it is now, the City is not complaining. Cordova has achieved the ultimate goal of most cities. There is virtually no unemployment, (7 persons on welfare- 5 of which are children), there is no major housing surplus. In fact, we are experiencing 100% occupancy, and most significantly, the City's facilities are operating at optimal efficiency. Furthermore, with the advent of limited entry fishing, there was no reason to believe the situation would radically change.

However, construction of the oil pipeline has fast dispelled any illusion the City of Cordova may have had along those lines. For Cordova, the impact has already begun, and to ignore the problems of the impact in face of a major oil line and terminal construction just a few miles away would be sheer fantasy.

With an already limited staff there is no accurate method of quantitatively predicting the exact dollars and cents impact which will be suffered by Cordova. As such, this report has avoided long tables and exact quantitative predictions; however, based on present expenditures, the City knows that it will conservatively require in excess of \$200,000.00 per year over and above what it is now spending for the next five years. This amount of money represents only a portion of its' existing school, public safety, hospital, recreation, harbor, and administrative expenses and does not even begin to assume the bond payments necessary for expansion of its' sewer, water, electrical and telephone utilities.

The City of Cordova well realizes the economic importance of oil to the State of Alaska. But, we also ask you to understand that Cordova is a fishing community which did not ask for more oil money to support its' standard of living. The situation which we as Cordova residents are now facing has been thrust upon us. Cordova did not ask for, or encourage it. We only ask that Cordova be considered for a fair and equitable dispersement of available impact funds.

Thank you in advance for considering our request.

SECTION VI
CITY OF DELTA JUNCTION

Description of Area.

Delta Junction is located at the junction of the Richardson Highway and the Alaska Highway, near the Delta River. The economy is largely trade and services, and some employment is provided by nearby Ft. Greeley. Local government is by an elected council and mayor.

The climate is sub-arctic, similar to Fairbanks.

Population.

The City of Delta Junction has 701 people, with 547 nearby. They estimate about 2,000 in a radius of 10 miles. I presume this does not include Ft. Greeley, which according to the 1970 U.S. Census, alone, had a population of 1,820.

No attempt has been made to project population because any increase would be directly associated with pipeline workers and their families, those looking for work, and increased trade and services in Delta Junction itself. However, the people of Delta Junction are expecting new residents, both permanent and temporary.

Services.

The City has only two services which are provided to residents, fire protection and street maintenance, both receiving State revenue sharing funds. The total budget for these services is \$20,000, including the State shared money. The fire department is manned by volunteers. They have three pieces of equipment, two pumpers (one in poor condition), and a tanker. The City believes that a full-time chief may be necessary during the pipeline construction.

There are no sewers and no water system. The people depend upon wells and septic tanks. With a large influx of new residents there could be a health problem from water pollution.

Taxing.

Although the City of Delta Junction is a Second Class City, it as yet has no local taxes. There will be a referendum in May, 1974 to determine if there will be local taxes. I have no information on the assessed valuation of the City.

Impact.

Delta Junction is located about 9 miles south of the Delta pipeline construction camp, which will have 600 men in 1974, and 1,050 in 1975. Another camp for pump station workers will be located about 9 miles south of Delta Junction in Phase II of the pipeline construction. The numbers of men to be used on this job and the date on which it will be activated has not been announced, however, Alyeska is giving consideration to combining Phases I and II. If they do this the pumping station camp could be activated at some point in the 1974 - 76 period. Other pump station construction crews seem to be from 100 to 400 men.

Housing.

Delta Junction apparently has some land available for housing and in addition, there is University of Alaska land that possibly could be leased for temporary housing. There were 14 homes being built this past summer. There are three trailer-mobile home courts. One has 14 vacant spaces and 50 more spaces could be added.

It might be expected that most of the increased housing that will be needed in this area will be temporary, such as trailers or mobile homes.

It is assumed that private enterprise will meet the need, and that some loan program may be necessary to help with financing. The State should have an expanded inspection and enforcement capability to ensure that health and building safety codes are being abided by.

Police.

Law enforcement is provided by State Troopers. There is one trooper and one fish and game officer stationed at Delta Junction. The Delta Junction people believe this manpower coverage will not be adequate.

Health.

The only medical facility is a clinic operated by the Fairbanks Medical and Dental Association. It is believed that the professional people are those from Fairbanks who commute to the Delta Junction facility. No Public Health nurse is located in Delta Junction. Delta Junction expects to activate an ambulance service on January 1, 1974. The State may need to review the expected needs in this area of sizeable population with respect to providing more services in both health services and environmental health enforcement.

Solid waste disposal is by individual disposal at a garbage dump. The dump is said to be adequate under present useage for about two years. The City must give consideration to a new site or other methods of disposal.

Schools.

The Present City school population is 472 pupils, with an additional 338 at Ft. Greeley schools, both State operated. Junior and senior high students from the Fort attend the Delta Junction school. It is said the City school is occupied to about 75% capacity. This would allow about 157 more pupils. This could be projected to an increase in population of 625

people. This could be adequate for the pipeline construction period. Furthermore, the City believes that there will be around \$1,500,000 spent on the schools there in the near future. In any event, double shifting could be resorted to, if necessary, at a higher operational cost.

Electrical Power.

Electric power to the City and environs is supplied by the Golden Valley Cooperative. The people in Delta Junction believe there is no problem. According to the statement made before the Committee by Mr. Robert Huffman of Golden Valley Cooperative, the following points are made regarding the whole system:

1. Energy requirements for the construction period are estimated to be up 30% for Golden Valley.
2. Golden Valley will be short about \$2,000,000 to meet capital expansion needs.
3. Operational costs will be expected to rise about \$300,000 annually because of using higher priced fuels in the generating units that can be obtained.
4. Labor costs could increase by 40% for labor needed for utility expansion.
5. The State could render tremendous assistance by making unsecured short-term loans available at a fixed rate of interest, not to exceed 7%.
6. The State should dedicate a portion of its' royalty oil to Alaskan public utility use, if needed, rather than a total export of fuels that must then be transported back to Alaska. Such a commitment could help off-set extra operational and other costs incurred by the utilities during the pipeline construction phase.
7. Prevail upon the various labor trade unions to expand apprentice training programs so that skilled labor may be supplied locally to ease the shortage.
8. Efforts be made to make possible a Central Alaska power grid system. Such could be made feasible 15 to 20 years earlier than normal by Alyeska agreeing to power their Phase II and III pumping stations

south of the Yukon by electric energy.

These observations made by Golden Valley apply to Fairbanks and other areas served by the Cooperative.

Transportation.

Most transportation in the area is by road, however, the City has a small airstrip which can be used for small planes. Ft. Greeley has a paved runway that is used also by general aviation, although there is no fuel available.

The City says that there has been much helicopter traffic connected with the planning of the pipeline, and such craft landed in the City. They say regulations now prohibit such landings, and that a helicopter pad should be constructed outside the City by the State Division of Aviation.

No estimate has been submitted by the City of Delta Junction for impact costs, mainly, I presume, because most of the functions requiring expansion or improvements are now funded 100% by the State.

SECTION VII

FAIRBANKS NORTH STAR BOROUGH

The impact of pipeline construction on Fairbanks North Star Borough will result from the estimated 10,460 people who will settle in the Borough during the next three years.

The Borough Government the State Government, and the private sector will all feel the weight of the impact population. The services and facilities that must be provided by each include the following:

<u>Borough</u>	<u>State of Alaska</u>	<u>Private Sector</u>
Schools (covered elsewhere)	Health	Housing
Library	- Social Services	Sewage
Solid Waste Disposal	Law Enforcement	Water Supply
Parks & Recreation	Courts	Commercial Services
Air Quality Control	Environmental Protection	
General Administration	Public Works (airport)	

The military posts and the university are presently providing some fire protection voluntarily, though they have no legal responsibility to do so. In fact, no agency has the responsibility to provide fire protection outside of the cities of Fairbanks and North Pole.

The Fairbanks North Star Borough will have both operational and capital costs in the delivery of government services. In turn, the impact population will generate certain offsetting revenues. The Borough has projected its' general fund impact costs as follows:

OPERATIONAL COSTS

TABLE 7-1

Operational Impact Costs

<u>Category</u>	<u>1973 - 1974</u>	<u>1974 - 1975</u>	<u>1975 - 1976</u>
Library	27,085	64,258	57,852
Parks & Recreation	20,999	49,819	44,852
Environmental Services	38,155	90,523	81,498
Dog Control	10,660	25,778	23,208
General Government	174,749	414,584	373,250
Totals	271,854	644,962	580,660

The per capita budget impact for 1974, when 4,400 persons are expected, will be \$61.35. In 1975, with 5,000 individuals, it will be \$68.58. In 1976, with 1,060 more, the impact per capita will be \$55.54. In 1977 and 1978, the population is expected to reduce slightly, so budget impact will not be considered after 1976.

BOROUGH VS. COMMITTEE CALCULATIONS

There are two principal differences in the calculations of the Fairbanks North Star Borough staff and the Special Petroleum Committee staff. These are the population projections due to pipeline construction, and the use of an inflation factor by the Borough staff. For reasons detailed elsewhere in this report, the Committee staff has not built inflation percentage increases into projected budget figures.

The variance between Borough and Committee staff estimates for pipeline induced population increases are shown below:

TABLE 7-2

Fairbanks North Star Borough
Pipeline-Induced Population Increase

	<u>1973-74</u>	<u>1974-75</u>	<u>1975-76</u>
Borough Estimates	5,607	13,201	11,973
Committee Estimates	4,400	9,400	10,400

Both sets of estimates are derived from the Mathematical Sciences Northwest Report, but the Borough staff has made a more liberal estimate of the influence of Fairbanks on the line construction camps between Prudhoe Bay and Paxson.

The Special Petroleum Impact Committee's recommended budget increases are arrived at by first deleting the inflation factor from the Borough's projections.

We have used the Special Petroleum Impact Committee's estimates for population in computing per capita revenues. This gives a more liberal final answer for net impact operational costs.

CAPITAL COSTS

The Borough's anticipated capital improvement impact from the pipeline construction will occur mainly in the library service, and in parks and recreation. It will be necessary to build a new library to replace the overcrowded and inadequate building downtown. This would have occurred three years later, if there were no pipeline impact. For parks and recreation, the long range plans for expansion and completion of the "Big Dipper" facility for winter recreation will have to be accelerated, although the Borough still expects to use the "pay-as-you-go" method.

TABLE 7-3

Capital Costs

<u>CATEGORY</u>	<u>ITEM</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>TOTAL</u>
Library	New 15,000 sq. ft. Building	1,000,000	-0-	-0-	1,000,000
	Books	-0-	10,000	10,000	20,000
Parks & Recreation	Skating facility	60,000	-0-	-0-	60,000
	Completion	100,000	150,000	150,000	400,000
Waste Disposal	Opr. & Sec. Bldg	70,000	-0-	-0-	70,000
	Acreage Development	30,000	-0-	-0-	30,000
Air Quality Control	Lab & Equipment	25,000	-0-	-0-	25,000
General Government	IBM Systems, Equipment, etc.	60,000	-0-	-0-	60,000
TOTAL					1,665,000

REVENUES

The major source of revenue generated by new population is the sales tax, which is 2% for the Borough. Using sales tax collections for past years, and projecting comparable rates, revenue estimates are as follows:

TABLE 7-4

Sales Tax Revenues

<u>YEAR ENDING 6/30</u>	<u>AMOUNT</u>	<u>POPULATION</u>	<u>PER CAPITA</u>
1970	2,087,509 (actual)	30,618	68.18
1971	2,187,937 (actual)	31,220	70.08
1972	2,360,101 (actual)	32,714	72.11
1973	2,497,721 (actual)	34,124	73.19
1974	2,850,776 (estimate)	38,524	74.00 estimate
1975	3,256,800 (estimate)	43,424	75.00 estimate
1976	3,388,304 (estimate)	44,584	76.00 estimate

In similar manners, the revenues generated from property tax and state shared revenue have been calculated for the coming three years. It is assumed that property tax revenues will not be generated by pipeline impact population for eighteen months after arrival. For purposes of estimating property tax revenues, we have assumed that such revenue will come mainly from new housing built for that population; that one housing unit will be needed for every 3.0 persons, and that housing units will be valued at \$22,500 each (this is assuming that 50% of the new units will be mobile homes). The eighteen month lag is composed of the time elapsing before a house is built, the time

TABLE 7-7

Impact-Generated Revenues

<u>YEAR</u>	<u>NEW POPULATION</u>	<u>SALES TAX</u>	<u>PROPERTY TAX</u>	<u>SHARED REVENUE</u>	<u>TOTAL</u>
1974	4,400	\$325,600	\$ -0-	\$26,400	\$ 356,400
1975	5,000	375,000	107,200	35,000	522,200
1976	1,060	80,560	229,030	8,480	319,130
TOTALS	10,460	\$781,160	\$336,230	\$69,880	\$1,197,730

NET PER CAPITA IMPACT

Summarizing the estimates of impact population, operational cost, and impact generated revenues for the five areas of responsibility of Fairbanks North Star Borough (exclusive of schools), the net per capita impact will be as follows:

TABLE 7-8

Impact Per Capita, Less Generated Revenue

<u>ITEM</u>	<u>SOURCE</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>TOTAL</u>
Impact Cost	TABLE 7-1	\$271,854	\$644,962	\$580,660	\$1,497,476
Generated Revenue	TABLE 7-7	\$356,400	\$522,200	\$319,130	\$1,197,730
Net Impact	(1) - (2)	-0-	\$122,762	\$261,530	384,292
Impact Population		4,400	5,000	1,060	10,460
Net Per Capita	(3) ÷ (4)	-0-	\$13.56	\$25.30	

taken to build the unit, and the time required for it to get on the tax rolls. For mobile homes, the lag will be less.

TABLE 7-5

Property Tax Revenues

<u>YEAR ENDING 6/30</u>	<u>AMOUNT</u>	<u>MILL RATE</u>	<u>POPULATION</u>	<u>PER CAPITA</u>
1970	3,325,920	10.0	30,618	\$10.1
1971	2,444,300	5.0	31,220	78
1972	1,499,060	5.8	32,714	46
1973	1,780,930	6.5	34,124	52
1974	1,926,200 (estimate)	--	38,524	50 estimate
1975	2,176,200 (estimate)	--	43,524	50 estimate
1976	2,229,200 (estimate)	--	44,584	50 estimate

TABLE 7-6

State Shared Revenues

<u>YEAR ENDING 6/30</u>	<u>AMOUNT</u>	<u>POPULATION</u>	<u>PER CAPITA</u>
1970	45,067	30,618	\$1
1971	131,037	31,220	4
1972	146,396	32,714	5
1973	156,606	34,124	6
1974	231,144 (estimate)	38,524	6 estimate
1975	304,668 (estimate)	43,524	7 estimate
1976	356,672 (estimate)	44,584	8 estimate

IMPACT ON STATE SERVICES

The services delivered through state agencies in Fairbanks North Star Borough are vital to the existing and expected growth population. Unlike Anchorage Borough, Fairbanks has no responsibility for public health. It has no fire service, no police protection, water or sewers. Responsibility for public safety, health, welfare and environmental protection will be a matter for the state. The state departments affected will be Public Safety (Alaska State Troopers and Division of Correction), Department of Health and Social Services, and Department of Environmental Conservation.

Police protection is provided by Alaska State Troopers for all of Fairbanks North Star Borough outside the city of Fairbanks. They have 18 sworn officers stationed in the area, or 0.85 officers per 1000 population. This falls far short of the protection level needed for urban police protection. Fairbanks has 2.+ officers per 1000. Anchorage Borough (Spenard) has 1.5 per 1000. The city of Anchorage has 1.8 officers per 1000. For the pipeline-induced population increase in Anchorage, which will be 12,000 within the city and 24,000 total for the Borough, the city intends to add 40 more officers. This will be 3.3 officers per 1000 for the new city population, or 1.6 per 1000 if calculated on the whole 24,000.

Calculating on the basis of 1.6 officers per 1000 to police the impact population of 10,460, 17 new officers will be needed. There will be corresponding increases in the Court system, and in Correction. However, these needs must be spelled out in departmental budget requests to the legislature.

The Department of Health and Social Services delivers some services directly, and others through contracts to private organizations. These

services will be directly and massively affected. Anchorage Borough believes that it will be necessary to provide services to the pipeline-induced population at $2\frac{1}{2}$ times the per capita rate at which present services are provided. In addition, if there are new arrivals not associated with the pipeline jobs, (i.e., people arriving from outside looking for work) this group will be a still heavier user of health and social services. Again, the need for impact funds will have to be determined by the State Department of Health and Social Services, and budget requests made directly to the legislature.

The Department of Environmental Conservation will find its burdens increased in the regulation of housing construction on unsewered lots, and in general monitoring of water, air, and environmental pollution. The increased workload will presumably generate budget requests.

The State Department of Public Works will feel impact in the Fairbanks area, especially at the Fairbanks International Airport. This Department has advised us that they are requesting 33 new positions at \$492,569, and additional equipment at \$333,000 for the airport.

PRIVATE SECTOR

Using a projected ratio of one housing unit for every 3.0 persons, there will be a need for 1,466 new housing units in 1974, 1,666 in 1975, and 353 in 1976. Fairbanks Borough reports a good supply of subdivided lots for building, and good opportunity for trailer courts. However, little or none of the available land is sewered with sewer or water. This will make FHA financing difficult or impossible to obtain, and present problems of environmental quality control.

On-site waste disposal and water supply will have to be provided by developers. In many cases, there will be package treatment plants and central water supply wells. Loans can be obtained in some cases from Farmer's Home Administration of the U.S. Department of Agriculture, but most financing of developers will be through conventional bank loans.

Subdivision development loans are not considered prime risks by most banks. Therefore, it may be advisable for the State to consider creating a fund to make loans to subdividers for community facilities, or to guarantee bank loans for this purpose.

There is likely to be a severe housing pinch in Fairbanks, perhaps leading to increases in rental rates, and to increased use of mobile homes.

SECTION VIII
CITY OF FAIRBANKS

General Description.

The City of Fairbanks is located on the Chena River in the central area of the State. It is subject to extremes in temperature -- from 60 degrees below zero to 100 degree above. The low temperatures for five or six months create permafrost in much of the area. These climatic conditions cause construction costs to be high and labor efficiency (outdoors) to be low. Therefore, living costs are higher than in the other, larger cities of Alaska.

Population.

The population of Fairbanks and environs did not increase substantially in the 1960 - 1970 period. The 1970 U.S. Census shows the City of Fairbanks (less military bases) increasing from 13,300 in 1960 to 14,800 in 1970, amounting to just over 1% annually. The North Slope activity had the effect of increasing the civilian population of the City to its' presently estimated 18,685 (City estimate).

A number of projections have been made for the Fairbanks North Star Borough, but very few for the City itself. The City has been using figures of possible growth in the 3,100 to 4,000 range, and we will use these figures in this report.

Economy.

The normal economy is highly dependent upon the military bases and other Federal offices located in Fairbanks. The City served as an important transportation and staging area for the activity on the North Slope in 1968, 1969, and 1970, and it will no doubt play a similar role in 1974, 1975, and 1976.

There will be construction camps not far from Fairbanks, oil company and pipeline company personnel will be based in Fairbanks, and many workers on temporary leave, and others looking for work, will congregate in Fairbanks. Service related jobs will increase and contribute to the population increase. The following Table shows projections of employment in the Fairbanks metropolitan area, for persons other than camp workers.

TABLE 8-1
Employment and Population Projections For
Fairbanks North Star Borough

<u>Year</u>	<u>Employment</u>		<u>Population</u>	
	<u>MSNW*</u>	<u>Staff</u>	<u>MSNW*</u>	<u>Staff</u>
1973	14,578	17,325	34,220	32,900
1974	16,275	19,400	39,125	36,800
1975	17,748	22,300	42,306	42,370
1976	17,907	23,850	42,172	45,300

* Mathematical Sciences Northwest.

The Impact Committee Staff was a little more optimistic than MSNW in regard to a drop in population after the pipeline is completed due to other local area projects, and not quite so optimistic on the first year increase.

Services.

The City of Fairbanks provides most normal urban-type services to its residents. The Borough has taken over few of these services. The City police and fire services are confined to the City.

The City has its own water and sewer system, which is extended only to City dwellers. The City has a Municipal Utility System which provides water, electrical power, steam, and telephone services. The City has

garbage pick-up service, but disposal is under the jurisdiction of the Borough, although the land-fill operation is run by the City under contract to the Borough.

The City also has a modest expenditure for health and social services.

Taxing.

The City of Fairbanks levies taxes on real property, but not on personal property. The total assessed valuation for 1973 was \$197,922,075. At the current 12 mill rate, the property tax revenues this year were \$2,375,064.

A 5% sales tax is in effect within the City. Two per cent goes to the Borough, 2% to a Capital Improvements Fund and 1% to the City General Fund.

Debt.

The current debt of the City is shown in the next Table.

TABLE 8-2

Debt of City of Fairbanks (\$000)

<u>Year</u>	<u>G.O. Debt</u>	<u>G.O. Debt Service</u>	<u>% of Assessed Val.</u>	<u>Revenue Bonds</u>	<u>Debt Service</u>
1972	7,038	771*	3.92%*	-	-
1973	(Not Projected By City)			20,685	1,722
1974	"	"	"	"	1,687
1975	"	"	"	"	1,686
1976	"	"	"	"	1,689

* Includes G.O. bonds of utilities.

Fairbanks has an additional outstanding short-term debt of \$1.675 million which they expect will be converted to revenue bonds in 1974. This would make a revenue debt to assessed valuation percentage of 11.43%.

Debt limitation seems no problem for general obligation debt. We did not get from Fairbanks a breakdown of revenue bond debt for the individual utilities, and so cannot show individual debts for these utilities.

An analysis of the earnings of the separate utilities and the amounts available for debt service are shown in the next Table. The Fairbanks financial statements furnished show the total debt service of all four utilities (electrical, telephone, water and steam). The Table compares the sum of amounts available for debt from the individual utilities to total revenue bond debt in order to compute debt coverage.

TABLE 8-3

Composite Earnings And Debt Coverage - Utilities (\$000)

<u>Year</u>	<u>Available For Debt</u>	<u>Debt Service</u>	<u>Debt Coverage</u>
1971	3,158	1,546	2.04
1972	3,427	1,733	1.97

Tables 8-2 and 8-3 above do not take into consideration any bond sales that may have been made in 1973. If any were made, material furnished did not show it.

Neither the debt limitation on G.O. bonds nor the debt coverage would indicate a problem in selling G.O. or revenue-type bonds. However, there exists another restriction on selling revenue bonds.

The bond ordinance required when selling revenue bonds, and which is part of the covenant, requires that certain accounts be set up, namely, a Bond Redemption Account, Operation and Maintenance Reserve, Contingency Account, and an account for improvements in the next year. On December 31, 1972 these accounts had a deficiency of about \$2,000,000 out of the approximately \$4,400,000 required. It is presumed that, until the accounts are

brought up to the bond ordinance requirement levels, the utilities might have trouble selling bonds. It is assumed that the City government has plans to correct the deficiency.

The water rates were increased only recently and it has been proposed that the other utilities' rates also be increased. Although Fairbanks already has very high utility rates, the proposed further increase would seem to be the solution to the above problem.

It should be further noted that the MUS utilities have not made contributions to the Fairbanks General Fund for the past two years.

Impact - General.

In addition to the basing of some of the administrative people associated with oil and pipeline activities, there will be four camps within driving distance of Fairbanks, however, one will not be activated until Phase III of the construction period, perhaps in 1978. One of the other three will be located very near Fairbanks with a maximum of 1,000 men, a second about 40 miles southeast with a maximum of 400 men, and the third about 80 miles southeast, near Delta Junction, with a maximum of 1,050 men. These maximum camp population figures are for 1975. In 1974 the total of the three camps is expected to be 1,250.

These camps are almost certain to have an effect on Fairbanks. Despite the intentions and efforts of Alyeska and the contractors to keep the men at camps, some will go to town. Some may decide to bring their families.

Fairbanks will have an increase in government services, housing and commercial and trade activities. Transportation services will be expanded to meet the demand.

Fairbanks has done a great amount of work already aimed at meeting the demand. They have expended or encumbered over \$27 million to improve facilities, street, and utilities since 1969. However, in addition to facing a rapid increase in certain services, there still remain capital improvement projects that will be necessary.

Impact - Specific.

Housing.

Population estimates made by the City are 3,100 to 4,000. Estimates of the population increase in the Borough run from 8,000 to 9,000. It would be expected that the majority of the permanent population would live in the City because of the facilities. It has been estimated that 600 will live in North Pole. It might, therefore, appear that the increase in Fairbanks could be up to 4,500 or 5,000.

Based upon a 4,000 increase within the City, and assuming three persons per housing unit, 1,333 housing units would be needed for the added population. Those with whom we discussed the question of present vacancy rate were unable to give any information as to what it is. However, it is presumed that there are enough vacancies to absorb the initial shock in 1974, and that temporary housing will be able to meet the need until more housing can be provided.

Police.

Fairbanks is said to have a high crime rate now and with the numbers of persons, the kinds of workers, and the influx of those looking for work, the problem is expected to be much worse.

The City has about 2.6 sworn police officers per 1,000 population. Anchorage has about 1.8 per 1,000 and is increasing this ratio.

Fairbanks estimates additional manpower and costs in the Table below.

TABLE 8-4

Pipeline Construction Impact On Police Manpower & Costs (\$000)

<u>Year</u>	<u>Sworn Officers</u>	<u>Support Personnel</u>	<u>Increases Officers</u>	<u>Increases Support</u>	<u>Personnel Costs</u>	<u>Equipment Costs</u>	<u>Total</u>
1973	50	21	-	-	-	-	-
1974	56	23	6	2	113	22	135
1975	56	23	6	2	113	22	135
1976	56	23	6	2	113	22	135

Fire Protection.

The following Table shows the expected needs for the fire protection service.

The additional costs are to cover a new substation in the northeast section of the City where the new housing is expected.

TABLE 8-5

Fire Protection Costs Due To Pipeline (\$000)

<u>Year</u>	<u>Additional Personnel</u>	<u>Personnel Costs</u>	<u>Cost of Substation</u>	<u>Cost of Equipment</u>
1974	6	115	400	220
1975	6	115	-	-
1976	6	115	-	-

Electrical Utility.

Electrical peak demands of the Electrical Utility increased at an annual rate of slightly over 5% from 1956 to 1968. In 1969 it jumped to a 10% increase and in 1970 a 20% increase, indicating the effects of the North Slope activity. The Fairbanks Utility projects peak demand increases of about 10% annually during the pipeline construction. These demands will

be beyond the capability of the present generating system and allow the required reserve capacity.

The following Table shows peak load projections during the construction years and existing, and projected generating capacities.

TABLE 8-6

Peak Loads and Capacity of Generating System

<u>Year</u>	<u>Peak Load Projections KW</u>	<u>Installed Capacity</u>	<u>Firm* Capacity</u>	<u>Projected Normal Growth 5%</u>	<u>Impact Capacity</u>
1972	19,995	42,000	22,000	20,000	-
1973	23,836	42,000	22,000	21,000	2,836
1974	26,254	42,000	22,000	22,200	4,054
1975	28,672	63,750**	33,750	23,200	5,472
1976	31,092	63,750	33,750	24,300	6,792
1977	34,325	63,750	33,750	25,500	8,825

* Installed capacity less the largest generating unit.

** The installation of a 30,000 unit and dropping the old diesel-powered units totaling 8,250 KW.

It is evident, based upon these projections, that the reserve capacity is inadequate to cover peak loads in 1973 and 1974, and they will be again facing a shortage in 1977. My projections of peak loads were slightly lower and would anticipate a deficiency in reserve capacity only in 1974, but just borderline in 1973 and 1977.

Based upon the projected normal growth needs, the total impact would not be over 10,000 KW capacity.

R. W. Beck estimates that a new 30,000 KW gas/oil turbine will cost \$4,300,000 plus \$1,450,000 for the balance of the plant for a total of \$5,750,000, however, the \$1,450,000 may include costs associated with the waste heat steam generator. This amounts to \$191 per kilowatt, installed.

Anchorage just recently bought a 40,000 KW generator and it will cost \$4,300,000, turn-key. This is less than \$108 per KW. Costs are higher in Fairbanks and will be higher in 1975, and there would be the additional freight from Anchorage to Fairbanks, but the differential should not be so great. A 40% differential would make the cost only \$151 per KW. If the complete generator installation is only \$4,300,000, the per KW cost would be \$143.

In the total impact figure of \$6,500,000 for the Electrical Utility, Fairbanks includes \$750,000 for a waste heat generator. This unit would take advantage of the heat output from the turbine to generate steam. This steam would be used to help run the existing steam turbine generators and save on the use of coal. For this reason it is not directly associated with the pipeline impact, but is an expenditure to improve the efficiency of the present plant. However, because of the potential difficulty of Fairbanks selling revenue bonds, the funding problem must be considered.

An attempt could be made to isolate the expenditure for the electric utility expansion attributable to pipeline construction, however, since the main problem is the method of funding and whether the proposed expansion will be needed over the medium range years, no allocation will be shown, although one was made by the Impact Staff.

The following Table attempts to show the increase in earnings of the electrical utility due to the pipeline and the portions of the net revenues that might be available for debt service.

TABLE 8-7

Projected Earnings Attributable To Pipeline Impact
And Estimates Available For Debt (\$000)

<u>Year</u>	<u>Impact Earnings</u>	<u>% Increase</u>	<u>No Impact</u>	<u>Difference*</u>	<u>Available For Debt @ 33.3%</u>
1972	4,128	-	4,128	-	-
1973	4,440	7.5	4,420**	20	7
1974	5,150	16.0	4,730	420	140
1975	5,850	13.5	5,070	780	260
1976	6,350	8.4	5,520	830	276

* Estimated additional operating revenues due to impact.

** A temporary 15% surcharge effective for 6 months apparently was not extended. Projections are based upon no surcharges.

The amounts indicated available for debt are those amounts of earnings which could be used for debt service. In the computations to arrive at the 33.3% of operating revenues for debt service use, the franchise tax was made a charge to earnings as a legitimate charge, and the portion of total utility non-operating income that might apply to the electrical utility was not included in revenue. Therefore, the amounts shown as available for debt which is credited to the pipeline impact may be somewhat low.

Telephone Utility.

Although the MUS has attempted to maintain the telephone system efficiency at an acceptable level, the standards of service are not considered adequate. They have not been able to add inside and outside plant as fast as necessary.

The following Table presents my projections of the number of stations needed through 1976, based upon past experience in the relationship of the

Borough population to the number of stations in use.

TABLE 8-8

<u>Year</u>	<u>Area Population*</u>	<u>Stations - Population Basis</u>	<u>% Increase</u>	<u>Stations By Capability</u>
1972	-	-	-	-
1973	32,900	10,960	4.7	10,398 (11,273 in Dec. 73)
1974	36,860	12,300	12.4	12,300 (1,200 lines added)
1975	42,370	14,100	14.5	14,100
1976	45,300	15,100	7.0	14,900**

* Less military bases.

** Based on these projections more lines would be needed in 1976.

The City Impact Statement indicates immediate needs for expansion of the inside and outside plant to meet the 1974 requirements in the following Table.

TABLE 8-9

Telephone Utility Plant Expansion (\$000)

<u>Year</u>	<u>Inside Plant</u>	<u>Outside Plant</u>	<u>Total</u>
1974	707	449	1,156

It is assumed that this would fund the 1,200 line addition they have already committed for 1974.

Fairbanks estimates that in 1974, even with the 1,200 line addition, they will have a deficiency of 3,375 lines, based on normal growth, plus impact studies from RCA, Alyeska and local business expansion programs. If the demand expands in this magnitude, it would not be along the lines of the experience in 1969 and 1970, however, perhaps the utility could not meet the demand at that time and, therefore, the record would not reflect

a true picture. Under any circumstances, the utility will need to provide additional lines by, or before 1976 and the 1974 experience should enable the utility to make a better decision than they can now.

Since the second addition will need to be made in 1975, the City could arrange to double their investment in 1974, if financing can be arranged, and save on construction costs.

The following projections of revenues are aimed at showing what portion of the additional impact revenues are available for debt service.

TABLE 8-10

Impact Revenues and Amount Available For Debt (\$000)

Year	Stations Normal Growth*	Stations Impact	Normal Revenue	Impact Revenue	Difference	Available For Debt
1973	11,273	10,398	2,900	2,900	-	-
1974	11,800	12,300	3,068	3,198	130	46
1975	12,400	14,100	3,224	3,666	442	155
1976	13,000	14,900	3,380	3,874	494	173

* Normal growth taken as 5% per year.

Water Utility.

The Fairbanks Water System provides service to an area of about 2,600 acres with a population of about 17,000. Because of the low surface and sub-surface temperatures during most of the year, a recirculating type water distribution system is necessary to prevent freezing.

The present consumption of water averages 81 gallons per day per capita -- average consumption 1.48 mgd and peak of 2.825 mgd in 1973.

Consumption is metered and rates are quite high. The residential minimum billing is \$10.35. A monthly bill for a family of four would run almost \$20.00 (based on the average per capita use).

The system includes a treatment plant with a capacity of 3.0 million gallons per day. Water is supplied by wells at a present capacity of about 8.0 mgd.

The City consultant recommends that the treatment plant be expanded from 3.0 mgd to 7.5 mgd, which would be satisfactory until 1978. With added storage capacity of 7.0 mg, the plant capacity would be adequate until 1990.

The consultant recommends an immediate construction of another 3.0 mg storage capacity in addition to the treatment plant. Their estimate for the expansion of the treatment plant and the storage capacity is \$3,750,000 (1973 figure). They indicate it could be \$4,100,000 in 1974.

The proposed expansion may be the proper course for the City to follow, and would probably give them adequate capacity well into the 1980's. The immediate problem of peak demands might also be solved by increasing the storage capacity by 3.0 mg. Although the consultant has not shown the costs of this alternate, it would be less than half the total cost ^{would} proposed, and/likely provide adequate peak flows for the pipeline construction years. However, if there continues to be an inflation of costs, and Fairbanks can arrange funding, the over all costs to the community would be lower if they undertook the larger project now. (See Appendix D, Capital Improvements, Financing and Inflationary Factors.)

Based upon the \$4,100,000 consultant's estimate the following is our breakdown of the portion that could be attributed to pipeline impact.

Assume Additional Population	5,000
Times Per Capita Use	x 81
Daily Average Use of New Population	405,000 gal.
Double For Peak Demands	x 2
Additional Capacity Needed For Impact	810,000 gpd

Proposed Addition Capacity	7,500,000 gpd
Present Capacity	3,000,000 gpd
Added Capacity	4,500,000 gpd

Impact Portion $\frac{810,000}{4,500,000} = 18.1\%$

18.1% of \$4,100,000 = \$742,100 attributable to impact.

Water Revenue Projections.

The following Table projects revenues and amounts available for debt service attributable to the impact population.

TABLE 8-11

Revenues and Amounts Available For Debt (\$000)

Year	Impact Revenue	Normal Revenue*	Impact Expenses	Normal Expenses	Available For Impacted	Normal	Debt Difference
1972	1,138	-	685	-	453	-	-
1973	1,090	1,090	655	655	435	435	-
1974	1,253	1,146	815	745	438	401	37
1975	1,352	1,203	880	783	472	420	52
1976	1,420	1,263	923	822	497	441	56

* Projected at 5% per year.

The amounts in the last column indicated projections of the amounts available for debt service created by the additional population.

Other Revenue Projections.

Property Taxes.

Only the revenues generated by new housing are considered, since the new commercial and industrial potential was not studied. Housing units are assumed to average \$25,000 in value since mobile homes will probably be utilized to a considerable extent, especially in the period under consideration, and assuming they will be taxed at the real property rate.

TABLE 8-12

Impact Property Tax Projections (\$000)

<u>Year</u>	<u>Impact Population</u>	<u>New Housing Units</u>	<u>Value @ \$25,000</u>	<u>Property Tax * @ 12 mills (1973)</u>
1974	3,000	1,000	25,000	-
1975	4,000	333	8,250	150
1976	4,000	-	-	350
1977	-	-	-	399

* Based on 50% of new homes built in a given year being on the tax roll the next year, which amounts to an 18 month lag in tax revenues.

Sales Tax.

TABLE 8-13

Projections of Sales Tax Increase Due to Pipeline (\$000)

<u>Year</u>	<u>Population Increase</u>	<u>Tax Per Capita</u>	<u>Projected Sales Tax Increases</u>		
			<u>Total</u>	<u>Gen'l Fund</u>	<u>C.I.P.</u>
1973	-	89.30	-	-	-
1974	3,000	85.00	255	85	170
1975	4,000	85.00	340	113	226
1976	4,000	85.00	340	113	226

Revenue Sharing.

TABLE 8-14

Projections of State Revenue Sharing Due to Impact Population (\$000)

<u>Year</u>	<u>Population Increases</u>	<u>Police \$10/capita</u>	<u>Fire \$5/capita</u>	<u>Parks & Recreation</u>	<u>Total</u>
1974	3,000	30	15	15	60
1975	4,000	40	20	20	80
1976	4,000	40	20	20	80

Only revenue sharing categories are shown in the above Table which are related to population.

Fairbanks will ask the State to make available royalty oil (and gas, if any) at a point on the pipeline nearest Fairbanks. It is their belief that oil, or gas, obtained in this way will be their cheapest fuel for use in the proposed gas/oil turbine. They think the State should have the opportunity of using Alaskan resources if they can be obtained at lower prices and if the methods of making them available are consistent with good business principles.

SECTION IX

FAIRBANKS NORTH STAR BOROUGH SCHOOL DISTRICT

Fairbanks North Star Borough School District will experience an impact from the school enrollment produced by incoming population. Impact costs will be of two types; operational expense and capital cost for new classroom space. Currently the local contribution to the cost per pupil for operation is \$330, and we have used this figure in calculating operational impact.

The capital cost impact is more difficult to compute because of the alternative available, i.e.:

1. Construct new permanent classroom space.
2. Utilize relocatable classrooms at \$50,000 each.
3. Double-shift.
4. Adopt a twelve-month school year.

The increase in school enrollment can be estimated in different ways. The School District uses 3.7 as a standard family unit, and projects 1.4 school-age children per family. The Petroleum Impact Committee uses the same method as that used by the Anchorage Borough School District, which is to divide the general population of the District by the number of students currently enrolled, and project the same ratio of students to people for anticipated population increases.

A further complication arises because we have two population projections for pipeline impact; that projected by Northwest Mathematical Sciences, and figures derived from employment statistics by the Petroleum Impact Committee Staff. The Impact Committee Staff projections prove accurate for the year 1973. The Staff estimate for 1973 is 32,900 population, and applying the ratio produces an expected school enrollment of 8,408. The

actual enrollment as of November 15, 1973 is 8,396.

The population estimates of the Mathematical Sciences Northwest Study seem high; at least the 1973 estimate is about 3,000 higher than actual population. Table 9-1 shows population, school enrollment and operational impact projections for several alternatives.

Since the entire impact picture for all Alaska is based on MSNW population estimates, we cannot ignore them for Fairbanks, but it is reasonable to adjust this estimate by correcting the base years of 1972 and 1973 to actual population figures, then adjust the 1974 population estimate to the same percentage increase. Doing this will produce a 1974 population estimate of 36,860 instead of 39,125, and 42,370 for 1975 instead of 42,306. Then, the school enrollment and dollar impact would be as follows:

Table 9-1

	<u>1974</u>	<u>1975</u>	<u>1976</u>
Population	36,860	42,730	45,300
School Enrollment (@ 25.5%)	9,399	10,840	11,552
Impact Enrollment	596	1,960	2,520
Impact Cost, @ \$330/student	196,680	646,800	831,600

The Fairbanks Area impact will be more sudden than it will be in Anchorage because Fairbanks will get more worker dependents. The only way for school district revenues to be realized which might affect part of the impact cost is through the property tax; and this income will not be realized until two years after the arrival of the people. Therefore, we make no allowance for revenue offset for the years 1974 and 1975.

The Fairbanks North Star School District maintains a teacher-student

ratio of 1:23 for grades one to eight, and 1:18 for highschool. Assuming an equal distribution of school-age children among the grades, the generated demand for new classrooms caused by pipeline impact only, would be:

Table 9-2

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Classrooms Needed For Impact	29	95	122	113
Classrooms Needed For Normal Growth (12-month school year)	313	316	322	326
Total Needed	342	411	444	439
Total Needed, Fairbanks North Star Borough School District Impact Statement	380	414	428	454
Total existing elementary classrooms-----	189			
Total existing secondary classrooms-----	160			
	<u>349</u>			
Total existing classrooms to be retired-----	46			
Net existing classrooms-----	<u>303</u>			

In October 1973 the taxpayers of the Fairbanks North Star Borough authorized bond issues of \$12 million dollars for construction of new schools. This will leave some \$8 million dollars unfunded of the School District Task Force recommendations for expansion to meet normal growth through 1977. Associated with the construction program is a plan for implementing a 12-month school year.

Ninety new classrooms will be constructed in two schools; a junior high school of 35 room and a senior high school with 55 rooms.

Also recommended is the elimination of Main Junior High School and North Pole Junior High, which are both obsolete and inadequate. These would lose 46 classrooms from the present total, thus making a net gain of 44 rooms from the construction of the two new buildings.

To summarize, if the year-round system is adopted, Fairbanks will need 125 new classrooms (if the Fairbanks North Star Borough School District estimate is accepted) or 141, if the Impact Committee calculations are used. Of these, 122 are needed to meet the pipeline impact. Present capital improvement plans will provide 90 of the units needed. However, if impact assistance is provided by the State, 122 would be the proper number attributable to impact growth.

The method suggested by the Fairbanks School Board is for the State to provide relocatable classrooms at \$50,000 each. This method would be the simplest, but relocatable classrooms have serious disadvantages, and should be used only if the need for them is temporary, or if they are filling a gap until permanent facilities are finished. Current projections of population and students over the next five years show some reduction after pipeline construction is completed, but it is minor. It is likely that the impact-caused need for new school plants will be permanent, and therefore, new school construction should be considered. Relocatable classrooms will probably be necessary to bridge the time gap before new schools can be put on line, in any case.

Currently the cost of constructing new school plants in the Anchorage Area is \$168,566 per senior high school station, in 60-station structures, and including all costs except land acquisition. For elementary schools in 20-station configuration, it is \$121,700 per unit. In Fairbanks these costs will be somewhat higher, and the costs are increasing each year by 22%, they estimate.

If we use capital cost estimates of \$175,000 per unit for high school classrooms and \$130,000 per unit for elementary classrooms, Fairbanks will need about \$17 million dollars to build 122 classrooms. Under the present

* Information on current costs and annual increases obtained from Bert Klingler, Assistant Superintendent for Facilities, Anchorage Borough School District.

support formula, the State would contribute 50% of the cost of debt service, but with a two-year lag after the first debt service payment is made. This program helps ease the shock of extraordinary capital construction, but does little to help if the local district's bonding capacity is exceeded, or if taxpayers will not approve bond issues.

Recommendations on prospective legislation will be presented in a separate section of this report.

SECTION X

GLENNALLEN

General Description.

Glennallen is an unincorporated community on the Glenn Highway near its' intersection with the Richardson Highway. It is in the unorganized borough. The town has grocery stores, hardware stores, a bank, fuel distributors, a District Unit of the State Highway Department, a State Trooper's District Headquarters, a small 5-bed hospital, laundry facilities, a Public Health nurse and a District Magistrate. There is a motel and restaurant and other motels within 12 to 14 miles.

The economy is mainly service type, depending upon highway traffic and the government employment. There have been 68 business licenses issued in the area.

Population.

The latest population figure is 363. The area, bounded by Paxon to Copper Center, and Eureka Lodge to Tok, is said to have a population of 4,500, and is called the service area of Glennallen, being the largest service community in this area.

Services.

The community has no governmental-type services except fire-fighting, and it is an all-volunteer operation. Because of the lack of fire protection in the area, the volunteer group goes far beyond their service area, up to 25 miles or more, depending upon the ability to arrive in time to be effective.

Taxing.

Not being incorporated, Glennallen has no taxing powers. There is

opposition to incorporation because many do not want taxes, apparently. Money for community needs is raised by drives of various kinds, and people contribute their time and services when needed.

Impact - General.

There will be a tremendous increase in highway traffic during the construction period, creating service demands and potential traffic and law enforcement problems. A construction camp will be located at, or very near Glennallen. It will not be, manpower-wise, as large as some, but Alyeska says there will be about 200 men in 1974 and 800 in 1975. A Phase II pumping station camp will be located about four miles north of Glennallen. Based upon the numbers of men at other station camps, there would be from 100 - 400 in this one.

Two other camps will be located about 41 and 43 miles, respectively, south of Glennallen, and within easy driving range of Glennallen. The first of these camps will have 250 men in 1974 and 800 in 1975. The second camp is also a Phase II pumping station, and would be expected to have from 100 to 400 men.

If Phase II is completed concurrently with Phase I, the two pumping stations near Glennallen might be expected to be activated in 1975. Therefore, the numbers of men stationed near Glennallen could be as follows:

1974 - 450

1975 - 1,800 to 2,400

1976 - 1,000 to 1,600

If large numbers of people were to make the Glennallen Area their temporary home, housing and health problems would arise.

Housing.

There is not much private land in Glennallen which is not already

developed. There are presently 109 housing units, of which about 60% are considered modern. This includes 26 mobile homes. If additional housing is needed, it might be necessary to make State or University of Alaska land available. At this time there doesn't appear to be any private plans for providing housing or mobile home spaces in Glennallen.

Fire Protection.

The volunteer fire department has two trucks at this time, a third will soon be given to the department, but will need repairs.

Because of the expected rise in vehicular traffic, the accident rate will increase with the increase in highway traffic, especially accidents involving trucks. The Fire Chief believes the fire department will be called upon to fight fires as the result of accidents. Many trucks will be carrying fuels and explosives, so the department needs equipment and clothing suitable for such work. This equipment is listed below.

In addition, some radio communications will be required to increase the effectiveness. He also believes they will need a paid dispatcher, and three paid firemen if the department is to meet the demands they will have during the construction period.

The present budget of the department is \$3,500 per year. The following Table shows the Chief's estimate of costs to strengthen the department.

TABLE 10-1

Impact Costs To Glennallen Fire Department

1. Two (2) Asbestos suits @ \$900-----	\$ 1,800
2. Two (2) Self-contained breathing units @ \$450-----	900
3. One (1) Used pick-up truck-----	2,000
4. Extraction gear*-----	2,000
5. Twenty (20) buckets of AAF lightwater** @ \$115.-----	2,300
6. Radio communications page alarm system----	3,000

TABLE 10-1 Cont'd.

7.	One (1) paid dispatcher's salary,	\$13,000 to 15,000
8.	Three (3) paid firemen's salaries @ \$18,000-----	54,000
9.	Land for substations-----	Unknown
10.	Buildings for substations-----	Unknown
	TOTALS (less substations)	<u>\$78,000 to 81,000</u>

* Extraction gear is used for opening up wrecked vehicles so trapped persons can be removed.

** Lightwater is a compound that, when mixed in small quantities with water, is used for fighting oil fires.

Police Protection.

The District Headquarters of the State Troopers is located at Glennallen. Their territory runs from Paxson to Valdez and Sheep Mountain to Tok. In addition to manpower at Paxson, Tok and Valdez, the District Headquarters plans on having six officers at Glennallen. Some believe this would be insufficient for good coverage. It would take five men just to have one man at a time for 24-hour coverage. Under the present schedule, I believe that from 12 midnight to 8 A.M. an officer would have to be contacted at his home to respond to any call. There are auxiliary police trained, but they can be used for only limited services.

It appears that communications between the base stations and vehicles in the District should be improved. Present communications are by HF radio through the Highway Department network, which is not always manned. Furthermore, HF radio is not reliable in the mountainous terrain. VHF, with properly located repeaters, should be installed.

The troopers should also be equipped with better extraction gear to improve their effectiveness in accident situations.

The troopers expect most of their problems will be caused by job

seekers and not the workers. They expect a large number of opportunists to settle along the pipeline and probably some organized crime. If it is rooted out early and not permitted to get started, the problem will be minimal. This will take investigation and enforcement.

Health.

One of the early problems, as seen by Glennallen, is that of campers and trailers picking vacant sites along the highway for living, thereby creating potential sanitary and health problems. They believe this will be the first effect of the pipeline impact.

It is believed that environmental health conditions will need close monitoring and that the State must have agents constantly in the area. They think that one Public Health nurse in the area will not be sufficient.

The Glennallen Hospital is a private endeavour, and, with the exception of two people, is staffed with volunteers. The hospital has only five beds and sometimes is filled with obstretic cases. It is believed it will not be adequate during the construction period for handling emergency cases prior to transport to Anchorage or Fairbanks.

The water supply in Glennallen is provided by wells and sewage disposal is by septic tank or seepage pits. If new people increase the population density of the area, it may create health hazards.

Schools.

The Glennallen schools have a present population of 530 - 540 students. These are composed of the local elementary pupils and junior high and high school students from the surrounding area. They pick up students between Nabesna Road, on the Tok cut-off, to Eureka, and from Sourdough to Copper Center, and Kenny Lake on the Chitina Road. The District goes as far North as Paxson, but there are not enough students beyond Sourdough.

The school system is said to be up to capacity at present. Because of the great distances students are bused, and the long time involved, parents are not in favor of double-shifting. They would rather have a lower quality classroom and maintain regular school hours, if the student population increases. The superintendent of schools would prefer a Butler type building for temporary classes, which could be used for other purposes after the construction period. As an alternative, he is seeking temporary rental quarters for classrooms.

The school facilities are used for many community activities, including service and other club meetings.

The community has a program for consolidating library books and enlarging facilities. They believe such educational and recreational pursuits are used more and are more important to a community of that kind. Eventually, they want a bookmobile service that can take books to the villages and other communities in the area.

Magistrate.

The Magistrate's quarters are considered to be inadequate for the construction period. The small building is now shared with the Public Health nurse. The retention cell is not adequate for present conditions, and another is needed. The building is designed so that a second floor could be added.

Electric Power.

Copper Valley Cooperative provides power and local telephone service to Glennallen. Their generation is entirely fueled by oil. They are advised that they cannot get more fuel than was supplied last winter. This applies to their generating facility at Valdez. If, because of an

influx of people at each city, more energy is necessary, these communities must find larger supplies of oil.

The utility in Glennallen is presently running at full capacity. Although they have not, as yet, received requests for new power connections, they expect there will be some. Should the demand increase to any great extent, additional generating capacity would need to be constructed. The Cooperative's borrowing capacity is said to be low. The utility may need help in obtaining loans.

The short and long range picture is quite hazy, and the directors of the Cooperative are reluctant to move until it becomes more clear. (See Appendix G, Valdez Power.)

Transportation.

Although Glennallen is the service center for a large area in that part of Alaska, they have very poor transportation.

There is no airport or airstrip at Glennallen. Air service must be by Gulkana, several miles away. Gulkana field is quite accessible, but scheduled air service is not reliable. It is said that Polar Airways plans daily service, and Alaska Airlines has the authority to provide service there, but they have not announced firm plans to do so.

Even though Glennallen has been on the Fairbanks - Anchorage route for many year, commercial truck service into Glennallen is sporadic and not too reliable. There is concern now, since the more direct Fairbanks - Anchorage route is along the route of the Alaska Railroad, that truck service to Glennallen will be even worse. Presently, demands are apparently not sufficient for a scheduled service alone to Glennallen, and other communities in the area. The problem is aggravated by lack of warehousing or storage space.

It might be expected, however, that with the increased traffic during pipeline construction that truck services would improve.

SECTION XI

HAINES

General Description.

Haines is located on the Lynn Canal and is the terminus of the Haines Cut-off Highway that connects, through Canadian Yukon Territory, to the Alaska Highway. The Alaska Ferry provides both passenger and vehicular service to Haines from other Southeastern Alaska points, Prince Rupert in British Columbia, Vancouver, and Seattle.

Haines, therefore, is the highway gate for Southeastern Alaska to Western Alaska. It is 785 miles from Haines to Anchorage and 662 miles to Fairbanks. Haines is a First Class City, and the borough is Third Class, having only educational powers.

Population.

The population of the Haines borough in 1970 was 1,351, with 683 in the Haines - Chilkoot City Area. Klukwan had 103. Haines says that a State survey indicates an 18.5% increase in the Haines Area in the past three years. If this is correct, and if the inference can be made that the "Haines Area" is the Borough, it would mean a present Borough population of 1,600. The City projects a 20% increase due to the pipeline impact. If this estimate is correct, the population of the area would rise to 1,920, for a 42% increase over the 1970 population.

Services.

The City of Haines provides the following services. Water and sewers, police, and fire protection, street maintenance, parks and recreation, small boat harbor, community youth center, and library. Private enterprise provides for electrical power, local telephone service, and garbage pickup and disposal.

Taxes.

The City has a 1% sales tax and a property tax. The Statement doesn't say whether it covers personal property, nor is the assessed valuation given. Property taxes yielded \$45,219 in fiscal year 1972-73. Sales taxes, \$47,273. State Revenue Sharing, \$17,462, and Federal Revenue Sharing, \$18,208. Additional revenues from the State amounted to \$37,682. These revenue categories accounted for \$165,800 of the \$201,000 1972-73 budget.

Haines believes that much of the population increase will not contribute substantially to the City property tax, however, they should contribute through the sales tax and through water use revenues.

Debt.

Although the Haines Statement alludes to the fact that schools and water and sewer projects have pushed the bond ceiling to the limit, the kinds of bonds, the outstanding debt, the debt service, and the percentage of debt to assessed valuation, are not given. If some of the bond debt is in the form of revenue bonds, this is not stated. It can be noted that the water/sewer revenues could have provided almost \$9,000 toward debt retirement in 1972-73.

The Statement does show contractual debt amounting to \$44,183 for a fire truck, and a caterpillar 950 wheel loader. Debt service on these contracts was \$36,113 in 1972-73.

Impact - General.

Haines believes the general impact due to the pipeline will be caused by the movement of people through Haines. They think that many may arrive by ferry looking for pipeline jobs, and be refused entry through Canada

and be turned back to Haines because of lack of money or because of the condition of a vehicle. They believe some may travel on the ferry without a vehicle, expecting to "hitch" a ride from Haines to the pipeline construction areas, and be stranded in Haines.

These people will settle in abandoned shacks, under any shelter, creating safety and health hazards. If there is not sufficient employment in the area, Haines doesn't have the facilities nor means to feed or house them.

In addition to the above problems, the Haines employment and population will increase as there is more traffic through Haines, thereby creating the need for more housing and city services, utilities and school facilities.

Other economic activities, not related to the pipeline construction, will, or could, increase employment and population to a greater degree than the pipeline construction would.

Impact - Specific.

Information given was not sufficient to isolate the pipeline impact from other unrelated economic expansion. No price tags were given on the costs of impact, however, I shall briefly give the areas of concern and fill in as much information as possible.

Housing.

Within Haines there are 205 housing units, almost all modern. On the outskirts there are 124, with 118 modern. In the 1970 Census there were only 15 year-round housing units vacant. It would appear that, with the stated growth, there would be none at this time. The Statement implies that a turn-key housing project is planned for 1974. The number

of units is not given. This may be low-rent housing.

The City says that high rentals make it difficult for low income families to find housing. They believe under the pipeline impact conditions, temporary housing such as trailers or mobile home courts will be necessary.

Police and Fire Protection.

The City has a police chief, and a part-time officer who also works the rest of the time as harbormaster and dog-catcher. The City believes it will need four full-time officers in addition to the Chief.

The State has one trooper and a fish and game enforcement officer in Haines. The City thinks it needs another trooper.

The fire department has one paid fireman and 24 volunteers. The equipment consists of a pumper, three make-shift tankers, and an ambulance.

There is a station in downtown Haines and one in Chilkoot. Both stations are considered inadequate and need replacing. The police quarters in Haines are also inadequate, and a replacement structure could house both fire and police.

Water and Sewers.

Recent water and sewer contracts will provide facilities that will be adequate for a 25% population increase. This work is funded by Haines G.O. bonds, EPA funds, and Department of Agriculture - Farmers' Home funds. The total cost will be \$1,598,000. The City bond share will be \$900,000. The City will need to provide \$13,000 for water extension to an area that presently doesn't have water.

Small Boat Harbor.

The City plans improvement to the small boat harbor because of harbor

conditions and a lack of adequate facilities. No estimate is given, nor the relationship to the pipeline impact.

Health and Medical.

The most serious problem seen in the field of health is that caused by the lack of proper hook-ups for campers and trailers. There is concern for the problem of garbage disposal at these and other camping sites. They believe more enforcement of the environmental health laws will be required. If the population increases as they predict, they think that the Department of Health and Social Services will need a District Office at Haines.

Medical facilities are fairly adequate, but there is no hospital or morgue. A private medical clinic is located in Haines, with a dentist, and Public Health nurse. Specialists visit on a scheduled basis.

Transportation.

Transportation services are generally adequate. However, mention is made of a chronic shortage of fresh food items, such as milk, and other fresh items. There are often delays in mail service, and a lack of transportation from the ferry dock to downtown, which is five miles.

Schools.

There were 319 elementary students and 130 secondary in the 72-73 year. Fire destroyed facilities for the "middle" elementary students, and they have not been replaced, thus, leaving a lack of facilities for them. Because of lack of space, the schools now have physical education classes outdoors. The plan is to reconstruct the lost facilities as soon as possible. To give an example of the growth in school population, they had 543 students this Fall during the first 9-week period as compared to 454 in the same session last year.

They say that if the student population increases that double shifting can be resorted to, but additional operational costs will be incurred.

If any significant increase in school population occurs, the Borough will need additional help in funding.

The foregoing doesn't specify the extent or cost of impact.

SECTION XII

MILITARY - ALASKAN COMMAND

The study submitted by the Alaskan Command, at my request, has been forwarded to all Committee members. There are several areas of mutual interest to the State and the military establishment in Alaska that appear to be important.

1. The study points out that the military will be here after the pipeline is completed, and that the Alaska Department of Labor should include the military employment needs in its' survey of manpower requirements and utilization.

2. The State and local merchants should attempt to maintain supplies and goods obtained by the military through local procurement.

3. Assistance should be provided to military personnel in obtaining housing in the local communities, especially Fairbanks and Anchorage.

SECTION XIII

CITY OF KENAI

Kenai submitted the attached letter as their statement. Although, obviously, additional information could, and should, be obtained, time would not permit.



BOX 580
KENAI, ALASKA 99611
Telephone 785-7535

City of Kenai

November 14, 1973

Mr. George Sharrock
Committee Director and Coordinator
Special Petroleum Impact Committee
326 H Street, Room 8
Anchorage, Alaska 99501

Dear Mr. Sharrock:

In reply to your inquiry of October 29, 1973 regarding special pipeline impact on the City of Kenai, we do anticipate a population increase somewhere between 1,000 and 2,000 people. This will come about mainly because of three reasons:

1. Moderate climate
2. Excellent transportation to Anchorage and the North Slope
3. Availability of some housing, primarily apartments and 4-plexes that can be had on a rental basis.

With this type of growth, there will be an increased demand on police, fire, sewage and waste disposal. The greatest demand here will be on the police protection and probably secondly, the water and sewer use demand. There definitely will be an additional revenue; however, revenues derived from residential generally will not offset additional cost for community services. The current revenue is about 1.6 million. Current expenditures is the same, 1.6 million.

The City of Kenai currently has expended itself to the limits as far as bonding, which will create additional problems when water and sewer expansion is required. Probably our one greatest need at this time is a community center, which will provide recreational and meeting facilities for the present population as well as any increased population.

The City of Kenai is a growth center and must fill some of the needs of the surrounding area for recreation, police and fire protection, as well as community facilities. It is felt that in addition to the growth in the City of Kenai, that the North Kenai area will enjoy a similar growth, at least for the period of construction and drilling on the north slope. There are currently many service companies located in the Kenai/North Kenai area which do service the oil industry. It is expected that these companies will increase the number of personnel and use this area as a base of operations.

Mr. George Sharrock
November 14, 1973
Page -2-

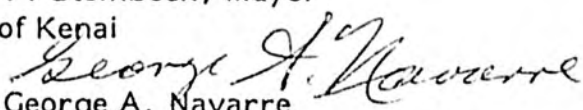
The one major problem that faces this community, as well as many other communities, is the competition for qualified personnel. It is felt that in order to compete with the pipeline construction, additional salary and benefits will have to be offered City employees in order to keep them on the job. This will be particularly true in our Police Department, Roads and Maintenance Department, and our Airport Facilities Operation.

The City has not done an official impact study; however, the experience acquired in a period of development of the Swanson Oil Field and the Inlet wells has been beneficial in preparing this report.

If we, in the City of Kenai, can be of further assistance to you, please do not hesitate to call on us.

Sincerely,

John F. Steinbeck, Mayor
City of Kenai

By: 
George A. Navarre
City Manager

GAN/db

SECTION XIV

MATANUSKA-SUSITNA BOROUGH

General Description.

The Matanuska-Susitna Borough lies generally between the Knik Arm and River, the Susitna River, and the Talkeetna Mountains, and to the north of Talkeetna. There are several cities and unincorporated communities included within the Borough. They include: the City of Palmer, the City of Houston, Butte, Montana, Sutton, Wasilla, and Willow. The area is 23,000 square miles.

The new Anchorage-Fairbanks Highway goes north through the heart of the Borough and the Glenn Highway goes to Palmer and turns east toward the Richardson Highway. The Alaska Railroad also goes north through the Borough.

The Borough is served by airports at Palmer and Talkeetna, and numerous other, smaller airstrips.

Population and Employment.

The 1970 U.S. Census gave the Borough a population of 6,500, with Palmer, the largest city, 1,140. The population of the area did not increase significantly from 1960 to 1970. Apparently, much expansion has taken place since 1970 because the State Department of Labor estimated 1972 population as 8,366. The Borough was having a census made in October, 1973, but we have not received the results.

The 1970 work force is given as 2,130 with 20% unemployment. This would make about 1,700 employed. The ratio of population to employment was 3.8. This is considerably higher than the State average, reflecting either larger families or a smaller number of working spouses, or perhaps both.

The Borough indicates a high rate of unemployment, running about 20%.

Since the State Department of Labor estimated the in-migration to the Borough at almost 26% in the two years from 1970 to 1972, the increase will no doubt continue through the pipeline construction period. The Borough expects the population to be 8,700 in 1975.

Services.

The Borough does not offer many services other than the schools. They have no police powers, no road construction or maintenance, no sewer or water services. They do have five fire protection districts.

The Borough also has subdivision control, but no building inspection or safety program.

Taxing and Debt.

The Borough does have a property tax, however, information given did not indicate the assessed valuation, nor any revenue or budget information.

The Borough did not state the amount of indebtedness. However, it is known that G.O. bonds are outstanding for school debt, and an additional \$12,600,000 was authorized this past October, which, they say, would double their debt service. Assuming 6%, 25 year bonds for the \$12,600,000, the annual debt service (level payments) would be \$986,000. If this amount were to double the payments, it can be inferred that their debt service could be close to \$1,900,000 to \$2,000,000 a year.

Impact.

The Borough believes the greatest impact will be people moving to the area to live. This may be expected if housing space becomes harder to

get in Anchorage and becomes more costly, which was predicted by some of the homebuilders. If this happens, the numbers of new housing units in Anchorage could be reduced.

The extent of subdivision in the Borough is indicated by the fact that they have over 24,000 more parcels of property than they had five years ago. This kind of growth will increase the responsibilities of the Borough, and cities, if the growth takes place in them.

The City of Palmer is the only entity that has water and sewer services at this time. Unless other areas provide these services, large development will probably take place in Palmer, or developers will provide these improvements themselves. The pattern of actual development must be observed or extensive research done to make any predictions as to what the pattern might be.

The deficiencies point the way as to what the Borough, or cities, will need to do if large numbers of people move in.

The Borough believes the Department of Environmental Conservation will need inspectors and enforcement agents stationed in the area to be alert to potential problems.

The Borough points out that rapid growth may create government costs that will not be balanced by revenues, at least for a year or two. The residential-type revenues may not be supplemented by corresponding increases in industrial-type revenues.

Palmer hopes that the Industrial Park that is being developed, with the help of Farmers' Home money, will attract new industry to the area, and at the same time bolster the local government revenues.

Because of the expected increase in family-type residential population, much of the impact pressures will be on the schools, and the Borough may

face both operational and capital improvement problems.

If the unemployment rate continues, the Borough will need increased State aid in meeting the problems created.

SECTION XV

CITY OF NORTH POLE

The City of North Pole is located in the Fairbanks North Star Borough on the highway east of Fairbanks some 7 or 8 miles. It has a population of 267 persons, an area of 360 acres, and 4 miles of streets. It is a First Class city with one representative on the North Star Borough Assembly.

North Pole has 68 housing units, with 5 houses now under construction. Some 30 to 40 multiple units are planned in or near the City for early construction, and there are 22 mobile home spaces now unoccupied.

North Pole expects an impact population of 600 people by the second year of construction. They have three reasons for anticipating this overload:

1. North Pole is closest to the pipeline corridor, and is very close to a 1,100-man work camp.
2. A new 1,000-student high school is scheduled for construction in North Pole next year.
3. The proposed oil refinery expected to be built in conjunction with the pipeline will be located at or near North Pole.

Impact on public services is expected in 6 categories: Police, Fire, Water, Sewers, Public Works, and General Government. In each category they have listed operational costs and capital investment. See Table 15-1 for a breakdown by subject matter and estimated amount needed due to pipeline impact. We will discuss each category.

Pipeline Generated Revenue.

The City of North Pole has a sales tax yielding \$6,000 per year, or \$20 per capita, but no personal property tax. Its' real property tax is 6 mills. There is no oil industry property in the City, and the proposed refinery will probably not be within the City limits.

TABLE 15-1

Total Projected Operational Costs Only

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
Police	10,600	66,900	92,900	116,900	142,900	168,900
Fire	15,600	66,900	92,900	116,900	116,900	116,900
Water	6,667	34,000	40,500	40,500	40,500	40,500
Sewers	6,667	34,000	34,000	34,000	34,000	34,000
Public Works	-0-	120,000	124,000	144,000	148,000	152,000
General Government	16,435	30,000	39,000	39,000	39,000	39,000
Totals		351,800	423,300	491,300	521,300	551,300

Total Projected Capital Costs Only

Police	7,520	30,000	4,500	5,000	6,000	6,000
Fire	1,419	49,000	38,000	3,500	50,000	5,000
Water	9,151	300,000	20,000	25,000	200,000	500,000
Sewers	9,151	400,000	150,000	85,000	550,000	350,000
Public Works	-0-	110,000	28,000	100,000	40,000	65,000
General Government	10,000	4,000	1,500	8,000	8,000	8,000
Totals		893,000	242,000	226,500	853,000	930,000

The expected population increase should cause the construction of 130 housing units in 1974, and 70 more in 1975. At least half of these will be mobile homes. Assuming \$20,000 taxable valuation per unit, \$2,600,000 will be added to the total assessed valuation in 1975, and \$1,400,000 more in 1976. At 6 mills this will produce \$15,600 in taxes in 1975 and \$24,100 in 1976. In addition, State shared revenues produce \$36.70 per capita now. Estimating \$35, the new population will produce \$14,000 in 1974 and \$21,000 in 1975.

Police Needs.

North Pole's Impact Statement lists a need for one full-time Chief of Police and four full-time officers in order to keep one man in the field 24 hours per day, 7 days a week. It is true that it takes five persons to man one position around the clock 7 days a week, but in this case it produces a ratio of 7.4 officers per 1,000 people, assuming a 400-person increase in population in 1974.

A full-time police department for a city the size of North Pole is highly uneconomical. At least two alternatives exist; to contract with the Alaska State Troopers for police coverage, and to participate in a borough-wide police force if unification is adopted.

If police coverage is contracted for, the cost would vary according to the intensity of patrol desired, however, it is difficult to see how North Pole could constitute more than one-third of a patrol beat.

A third alternative would be to hire two or three full-time officers to provide supplemental coverage in the evening hours when bars are open, and rely on the Alaska State Troopers during the rest of the time.

Still another workable arrangement would be to employ five full-time public safety officers, who serve as fire-fighters when needed, and who

would be backed up by 14 volunteer firemen.

If we assume the method where AST would be supplemented by two or three full-time local officers, and we estimate the cost of a police officer at \$22,000 per year including equipment, then we would estimate:

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
Personnel	44,000	66,000	66,000	44,000	44,000
Capital	<u>30,000</u>	<u>4,500</u>	<u>5,000</u>	<u>6,000</u>	<u>6,000</u>
	74,000	70,500	71,000	50,000	50,000

Fire Needs.

There is no agency with which North Pole could contract for fire protection, unless unification is approved by the voters and an area-wide fire service is established. However, they could use the public safety officer approach, or have a paid-volunteer force. In any case, a minimum of one full-time paid employee must be on duty at all times. Full time coverage for fire purposes will require the four full-time fire fighters and Fire Chief, as requested. Current budget costs for fire fighters in Anchorage are \$16,000 per year per position, including benefits and personal equipment. A Fire Chief will budget at \$20,000 to \$22,000 per year. Personnel, then should cost about \$86,000 per year to man a department with minimum full coverage. The present North Pole budget is \$15,600, so the increase would be \$70,400. The amount requested by North Pole for 1974 is \$66,900 for personnel, so this is reasonable.

However, this manning should be adequate to handle a substantial increase in population and protected property over the next few years. Subsequent expansions of manpower should not be necessary to meet the impact over the construction period.

North Pole proposes the acquisition of a 1,750 gpm pumper in 1974, a 2,000-gallon tank truck in 1975, and a second 1,750 gpm pumper in 1977. A pumper of that capacity is too great for a water system the size of North Pole's. It is doubtful if a unit that size could ever be used to capacity. It is a "big-city" unit, and even Anchorage does not use units that large. The best configuration for North Pole would probably be a 750 gpm pumper and 2,000-gallon tank truck. A 750 gpm pumper, fully equipped f.o.b. North Pole will cost about \$40,000, and a 2,000 gallon tanker with auxiliary pump and hose will cost about \$30,000. A second pumper unit should not be necessary; the amount of property in North Pole to be protected does not justify a second fire-fighting unit.

Water Service Needs.

The City of North Pole presently provides water to 68 homes and one school estimated at the equivalent of 240 people. The present City population is 267 persons. Adding 600 persons for pipeline impact, the system will need to serve the equivalent of 1,107 population.

In addition, North Pole wishes to plan system capacity to serve a proposed 100-unit mobile home park outside the present city limits, a 1,000-student high school planned for next year, and possibly the planned oil refinery. For each of these extensions the contracted service rates and extension agreements should amortize the expenses, and such costs do not need to be considered as oil impact costs.

The existing water supply and treatment facility has the following components, according to North Pole's statement:

1. Eight-inch well with 250 gpm pump.
2. Storage tank, 100,000 gallon capacity.
3. Filter, 60 gpm capacity.
4. Circulating pump, 2,700 gpm.

5. Two pressure pumps for system pressure of 50 psi on hydrants.
6. Two heat exchange boilers, 244,000 BTU capacity, for heating storage.
7. Emergency fire pump, 750 gpm capacity @ 100 psi.

The requested system improvements for 1974, necessary to meet the demands of an additional 600 people, are listed as follows in North Pole's statement:

1. A second well, 16" diameter, 750 gpm capacity.
2. Second storage tank, 200,000 capacity.
3. Second filter unit, capacity 250 gpm.
4. Chemical recharge system.
5. Pump house.
6. Heat exchanger and boiler - 500,000 BTU capacity.

North Pole estimates the cost of these improvements at \$300,000. Our analysis shows that a system to serve 1,000 people, plus or minus, should be able to produce 100,000 gpm for domestic use, and be able to meet fire flow requirements of 240,000 gallons in four hours (1,000 gpm @ 75 psi for four hours). Therefore, the request for 200,000 gallons of additional storage capacity is reasonable, assuming the need for fire storage under wellhead shutdown conditions. The request for additional filter capacity is also justified, since 1,000 population at 100 g.p.d. normal usage will require about 150 gpm of filtered water for domestic use in the high-use period of the day.

If the existing well can produce 200 - 250 gpm on a sustained basis, it can theoretically supply the needs of 1,000 people (200 gpm = 288,000 gpd, normal usage 100,000 gpd), but this allows no backup and very little time for pump maintenance shutdown. Therefore, we would consider the need for a second well justified. However, a 16-inch well is very big indeed; the largest wells used by Anchorage and Central Alaska Utilities are 12-inch. Two 12-inch wells drilled in Anchorage in recent years cost \$165,000 and \$75,000 respectively.

While the 1974 estimate of expansion needs is justified (except for the size of the second well), and the \$300,000 cost estimate is reasonable, the requests for 1975, 1976, 1977, and 1978 are questionable. The extension of lines to new customers should be defrayed by the customers. The need for a third supply well and storage tank is unjustified, unless the idea is accepted that North Pole should provide services to perhaps 3,000 people outside the City. The need for capital improvements fully justified by the impact within the City only will be:

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
Water System Capital Improvement	\$300,000	-	-	-	-

The requested operational budget increase of \$34,000 for 1974 is justified. It provides full-time coverage, with the cost split between the water and sewage treatment plants. The additional part-time operator in 1975 will probably not be needed, since the full additional capacity will be achieved by the 1974 expansion.

Sewage Treatment.

North Pole presently has a sewage treatment package plant of 60,000 gpd, or sufficient to handle 600 population. Although North Pole has an existing population of less than 300 persons, the school also on the system contributes the equivalent of 240 more persons. Therefore, the present plant cannot stand more load.

For an impact population of 600, an additional package plant of 60,000 gpd will be necessary. North Pole requests a 100,000 gpd plant in 1974, and a second unit of 100,000 gpd in 1977. In 1976 they request funds to extend collector and interceptor lines to the refinery, an item the refinery should pay for.

If a package treatment unit of 100,000 gpd is added in 1974, it is our opinion this will suffice to handle the impact population with capacity to spare.

The personnel request for a part-time supervisor and four part-time operators, to cover around the clock and to operate the water treatment plant also, seems reasonable. Thus operational costs for impact growth will be \$34,000 per year.

The impact cost for capital improvements in the sewerage system is estimated at:

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
Sewage Treatment Capital Improvement	\$400,000	\$50,000	-	-	-

Public Works.

The Public Works Department is expected to have additional pressure as a result of the impact. In addition to the full-time utility supervisor and four utility operator-maintenance men, who are already listed under the sewer and water categories, the Department will need one general clerk, two equipment operators, and one maintenance man. The request is for two maintenance men, but the equipment fleet is too small to justify two men.

The equipment requests cannot be justified by the size of the sewer, water, and street systems, even with 200 more homes. In communities of 1,000 population size, specialized equipment like sewage eductors, pumper trucks, boom trucks, and backhoes should be rented for the periods needed. Also, if a tanker truck is purchased for the Fire Department, this unit could also be used as a flusher unit by Public Works.

Based on this reasoning, the estimated need for impact-induced costs would be:

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
Public Works Operational Costs	\$44,000	\$48,000	\$52,000	\$56,000	\$60,000
Public Works Equipment & Equipment Rental	56,000	16,000	6,000	6,000	30,000
<u>General Government.</u>					

In this category North Pole proposes to add one clerk and one-half the City Administrator's salary, which is now paid from another source. In 1975, a full-time Bill-Clerk/Treasurer would be added. However, three full-time administrative people are sufficient to handle the business of a city of 1,000 persons. North Pole's impact statement proposes four. Bethel, with 2,600 population, has three, Nome has four, and Barrow three. For three full-time administrative personnel, the impact cost for General Government would be:

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
General Government Personnel	\$30,000	\$32,000	\$34,000	\$36,000	\$38,000
Equipment	4,000	1,500	2,500	2,500	2,500

In summary, the total impact expense found justified by this analysis for North Pole for all six categories is as follows:

<u>Operational Costs</u>					
	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
Police	\$44,000	\$66,000	\$66,000	\$44,000	\$44,000
Fire	66,900	70,000	70,000	70,000	70,000
Water	34,000	38,000	42,000	46,000	50,000
Sewer	34,000	38,000	42,000	46,000	50,000
Public Works	44,000	48,000	52,000	56,000	60,000
General Government	30,000	32,000	34,000	36,000	38,000
Totals	\$252,900	\$292,000	\$306,000	\$298,000	\$312,000

Capital Costs

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
Police	\$30,000	4,500	5,000	6,000	6,000
Fire	40,000	30,000	-0-	-0-	-0-
Water	300,000	-0-	-0-	-0-	-0-
Sewer	400,000	50,000	-0-	-0-	-0-
Public Works	56,000	16,000	6,000	6,000	30,000
General Government	4,000	1,500	2,500	2,500	2,500
Totals	\$830,000	\$102,000	\$13,500	\$14,500	\$38,500

Offsetting Revenues.

In order to arrive at the need for impact assistance for North Pole, it is necessary to deduct the offsetting revenues that will be generated by the new population. These revenues are sales tax, property tax, and shared revenue. We will project them at the same per capita rate they presently produce:

Impact Revenues

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
Sales Tax	8,000	12,000	12,000	12,000	12,000
Property Tax	-0-	15,600	24,100	25,000	26,000
Shared Revenue	14,000	21,000	21,000	21,000	21,000
Totals	\$22,000	\$48,600	\$57,000	\$58,000	\$59,000

Operational expenses due to pipeline impact could apparently be met in North Pole by a subsidy of \$580 per capita in 1974, \$405 per capita in 1975, and \$415 per capita in 1976. The capital costs could be handled through a subsidy for debt service, or a loan guarantee program.

SECTION XVI

CITY OF SEWARD

Description of Area.

Seward is on Resurrection Bay with a year-round port. It is one terminus of the Alaska Railroad, but has declined in importance due to the use of trainships coming to Whittier, and to the use of the Port of Anchorage.

Population.

The U.S. Census of 1970 shows Seward declining in population from 1,891 in 1960 to 1,587 in 1970. Statistics of the State Department of Labor show little increase through 1972.

Services.

The City of Seward provides the following services and utilities: Police, fire protection, street maintenance and lighting, a small boat harbor, water and sewer, and the electric utility. Library services are contracted for.

Taxing.

The 1973-74 budget calls for a 20 mill tax levy on a total assessed valuation of \$12,415,690, including personal property, with the exception of boats. A special tax on boats provided an additional \$1,330.

Debt.

The total G.O. bond debt on June 30, 1973, including interest due, was \$34,705.64. This amounts to 0.27% of the assessed valuation.

They have additional utility revenue bonds outstanding of \$104,373. Debt coverage seems to be comfortable on both utilities under present conditions: 1.63/1.0 for the water utility and 2.26/1.0 for the electric.

Impact - General.

Although Seward does not characterize the impact they will feel, it is assumed it will be in two fields.

It is expected that during the construction years, and the production well drilling on the North Slope, all seaports in Southcentral Alaska will see increased tonnages move over their docks. Seward should get some of it, as it does now.

Secondly, the City, with its' fine small boat harbor and marine facilities could experience an increase in recreational activities, however, the City believes these facilities may be used almost to the saturation point by present population.

Impact - Specific.

The City does not quantify any of the ways in which it expects to be impacted. There was insufficient time to do further research, so herewith is attached a copy of the letter submitted on behalf of Seward for your consideration. It outlines 9 ways in which the City Council believes Seward may be affected. I will comment briefly on two.

No. 1. The population increase of 250 to 600 would mean increased employment of from 100 to 250. This would represent an increase ranging from 15% to 37%. Either would be possible, depending upon the amount of increase in shipping tonnages and the direct and indirect jobs created. When I talked to the Manager of the Alaska Railroad, he had no information regarding the transportation needs of the Alyeska Pipeline Service Company nor its' contractors.

No. 4. If there is a population increase in any large amount, Seward believes there will be some increase in operational costs in the

police service. Water, sewage treatment, and the electric utility will need expansion.

CITY OF SEWARD



P. O. BOX 337
SEWARD, ALASKA 99664

CITY MANAGER CA 4-5214
COMPTROLLER CA 4-5216
INFORMATION CA 4-5215
CITY POLICE CA 4-5201

November 20, 1973

Mr. George Sharrock,
Committee Director and Coordinator,
Special Petroleum Impact Committee,
326 H Street, Room 8,
Anchorage, Alaska 99501

Dear Mr. Sharrock:

In reply to your letter of October 30, 1973, regarding the possible impact effects the pipeline construction project will have on Seward, the City Council and administration have made the following estimates:

1. Population is anticipated to grow and will be limited by lack of adequate housing in this area. We estimate a jump of from 250 to 600 persons during the construction period.
2. Housing is needed for any increase in population. We have no facilities for excess growth inside the city limits, i.e. a mobile home park, but areas outside the limits could be utilized for temporary housing which would impact us without adding to the local tax base.
3. High School is at maximum capacity but double-shifting would satisfy the local condition expected. Grade school construction would be required on a limited or temporary basis but added dollars for extra shift teachers would be required.
4. Additions to the Police Department in the form of one or two officers would be required, the number of volunteer firemen would have to be expanded. Water supplies are in the process of being expanded now and would suffice unless a new industrial demand were placed on the system. Since this proposal has not been finally approved yet it is still tentative. Electrical power supplies are to peak capacity now and negotiations are underway with Chugach Electric to provide added capacity for the Seward system. If added capacity cannot be provided then Seward will not be prepared for any growth in 1974.

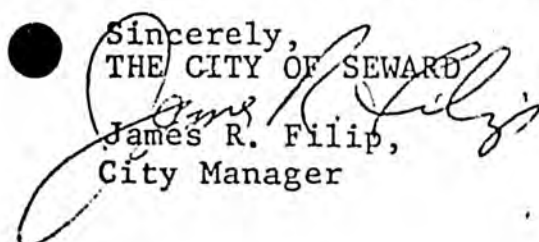
Plans are underway for a sewage treatment system, but construction is still months away from reality. If the City is called upon to provide new lines to pickup added residents then funds for this work must be available.

5. The local area has opportunities for summer recreation, but facilities are poorly developed and hundreds of visitors who live and work in the Anchorage area are anticipated here. During peak summer days the community reaches a heavy saturation and little excess for added growth is available.
6. The health problem cited as the most important is alcoholism. No local facilities are yet available for handling alcoholics but a local committee is beginning to function and some help may be ready on a limited basis. Also cited was the drug problem as likely to increase.
7. Medical facilities are adequate for anticipated growth. A need for a surgeon was noted.
8. In transportation it was acknowledged that daily bus service to and from Anchorage should be augmented as needed. Initiation of air service should be investigated and scheduled.
9. Additional revenues are expected to fall short of requirements. Impacts will be felt and have to be handled as quickly as possible while additions to the tax base will take months to complete and add to the assessment roll. The magnitude of the short-fall cannot be estimated at this time.
10. A copy of the approved Budget for 1973-74 is enclosed for your information.

Members of the City Council appreciated this opportunity to review our needs in light of possible developments and all were interested in receiving information from the Committee as the true impact of the line is realised or expected.

Thank you for your interest in this matter and for the chance of aiding in the review.

Sincerely,
THE CITY OF SEWARD


James R. Filip,
City Manager

SECTION XVII

CITY OF VALDEZ

General Description.

Valdez is located at the head of Valdez Arm, which is a fiord-like body of water off North Price William Sound. It is the terminus of the Richardson Highway and has a year-round seaport. Air transportation is not too reliable since neither instrument approach to the airport nor instrument landings are possible.

The Alaska State Ferry operates between Whittier and Valdez five days a week during the summer months, making a stop at Cordova two days a week.

The climate is marine in character and Valdez gets about 60 inches of precipitation a year.

Population.

The population of Valdez was relatively stable for the period 1940 to 1960. The 1970 census showed an increase of 81% over 1960, some due to the activities related to the pipeline in 1969 and 1970. The 1970 census gave the City 1,008 population.

Projections made by Mathematical Sciences Northwest seem to be as reasonable as any made. The following Table shows their numbers they estimate.

TABLE 17-1

Employment/Population Projections

<u>Year</u>	<u>Employment</u>	<u>Population</u>	<u>City of Valdez</u>
1972	467	1122	-
1973	584	1446	-
1974	1102	3008	1600
1975	1054	2613	2100
1976	952	2311	2500

The MSNW projections assumed a pipeline permit by October 1, 1973. The employment shown for 1973, therefore, is believed to be high. However, if the pipeline starts early next year, the build-up will be rapid, and employment and the population will rise quite rapidly.

Alyeska plans for 1,650 camp workers in the area in 1974 and 4,350 in 1975 and 1976. The population shown in the MSNW report does not include camp workers, with the exception of 5% which they believe may live in town. Of course, this percentage may be higher and any increase would be expected to increase the MSNW figures. The City projections are considerably more conservative than MSNW and may under-estimate the impact. Therefore, we are inclined, for the purposes of this report, to use the MSNW projections, with the exception of the impact on law enforcement and recreation, which should include camps.

Services.

Valdez offers nearly all normal urban-type services with quite modern, up-to-date facilities. The City was moved to a new site and rebuilt from scratch following the 1964 earthquake. The services will be discussed later in connection with impact needs.

Electrical energy and telephone services are provided by local units of the Copper River Electric & Telephone Cooperative (REA), with headquarters in Glennallen.

Taxing.

The City has a real property tax, but no personal property tax. The mill rate is different for different zones, depending upon the level of services provided. Zone I was 15.0 in 1972-73; Zone II, 12.0, and Zone III, 10.5. This averaged to 13.2 mills in 1972-73, on an assessed valuation of \$13,862,650. There is a tax rate limit of 30 mills.