SCOMM

#13:2

MEMORANDUM

December 10, 1973

TO: Senator Rettig
Senator K. Miller
Senator Groh
Senator Meland
Senator T. Miller
Representative McVeigh
Representative Warwick
Representative Fink

FROM: George Sharrock GS

SUBJECT: Preliminary Pipeline Impact Report

Enclosed is part of the first draft of the preliminary report to the Committee on the pipeline impact. This portion includes only the report and analysis of impact problems and costs which have been presented by several of the largest communities and school districts. Reports on others will be presented at the Seattle meeting, December 17th, and the summary and recommendations will be presented.

Also included are part of the Appendices that will accompany the preliminary report.

It has been difficult to get documented information from some communities, and we are yet receiving late information. Therefore, some of the statistical and other data are subject to change in the final draft to be prepared after the Seattle meeting.

GS/ta

Encls.

P.S. Be sure you bring your copy of this report to Seattle.

cc: Russ Mulder, LAA

Preliminary Report

On

ECONOMIC and SOCIOLOGICAL

IMPACT

of

TRANS-ALASKA PIPELINE CONSTRUCTION

By

Special Legislative
Petroleum Impact Committee

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SUMMARY

Magnitude of Pipeline Construction Job.

It has been said that the construction of the Trans-Alaska Pipeline is the largest job undertaken by private investors up to this time. Alyeska Pipeline Service Company has made more than one projection of the numbers of men they expect will be working on the line.

The peak employment figure has run from about 7,500 to 13,000. The latest figure is 12,000 to 13,000. If Phase I and Phase II construction are merged, so that upon completion of these phases through-put can begin immediately at the rate of 1,200,000 barrels of oil per day instead of 600,000, conceivably the workforce could be larger.

The increase in the number of workers, and the increased scope of the work, could therefore produce larger waves on the economy and everyday activities in much of Southcentral, Central and Northern Alaska.

Effects On Alaska.

Although much of the money spent for the pipeline construction will be spent for materials and supplies needed for construction, and its' transportation to Alaska, very large amounts will be spent in Alaska for labor and transportation in Alaska.

It is expected that a substantial portion of the manpower needed for construction will be imported from the other states; it can be expected that nearly all of the available local workers will be absorbed by the expanded economic activities, either directly on pipeline related jobs or others created indirectly.

Thousands of others will come to Alaska expecting to be hired for pipeline work. Most of those qualified will probably find work either on pipeline construction, or of another kind. However, many will not find

work and thereby create one of the undesirable effects of a large project such as this.

Although the announced Alyeska policy of prohibiting pipeline construction workers from bringing familes to Alaska may discourage the majority from doing so, most people believe that strict enforcement of such a restriction will not be possible. Therefore, we should expect that some percentage of workers will bring families. These people, in addition to the families of thousands of other workers working in the service and trade industries, and new local and State government workers resulting from the increased economic activity, will place a large demand upon the housing market, schools, service and trade industry and the many government type services.

In general, the impact of the pipeline construction on the individual communities will vary in nature and extent, depending upon the proximity of the community to the actual construction work, and the relative importance of the community to the normal economic activities of the State.

Construction contractors policies regarding off-time of workers and where they will be transported for recreation will have a large bearing on the nature and degree of impact on certain communities. These off-time practic e s will determine the level of certain government services, including police manpower, in affected communities.

The Special Petroleum Impact Committee has expressed as its' concern the economic and social impact of pipeline construction, and its' after effects, on the communities of Alaska. The Committee wants to determine what the State Government can, or should, do to help meet the expected impact, and how aid could be administered.

IMPACT COSTS ($000)

CATEGORY & CITY	OPERATIONS						CAPITAL IMPROVEMENTS					
	Requests			Recommendations			Requests			Recommendations		
	1974	1975	1976	1974	1975	1976	1974	1975	1976	1974	1975	1976
POLICE												
Anchorage Borough	60	102	104	60	102	104						
City of Anchorage	793	872	1,066	793	872	1,066						
City of Fairbanks	135	135	135	135	135	135						
North Pole	67	93	117	44	66	66	30	5	5	30	5	
Valdez				99	234	234						
Totals	1,154	1,436	1,656	1,131	1,409	1,605						
BUILDING SAFETY												
Anchorage Borough	23	4		23	4							
City of Anchorage	39	21	36	39	21	36						
Valdez				59	46	46						
Totals	121	71	82	121	71	82						

IMPACT COSTS ($000)

CATEGORY & CITY	OPERATIONS						CAPITAL IMPROVEMENTS					
	Requests			Recommendations			Requests			Recommendations		
	1974	1975	1976	1974	1975	1976	1974	1975	1976	1974	1975	1976
FIRE												
Anchorage Borough	134	228	240	134	228	240						
City of Anchorage	511	629	692	268	499	557	100			100		
City of Fairbanks	115	115	115	115	115	115	620			620		
North Pole	67	93	117	67	67	67	49	38	4	40	30	
Valdez	217	217	212	217	217	212	150			150		
Glennallen	69	69	69	15	15	15	12			12		
Totals	1,113	1,351	1,445	816	1,141	1,206	931	38	4	922	30	
TRAFFIC ENGINEER												
City of Anchorage	24	41	41	24	41	41						
TELEPHONE UTILITY												
City of Fairbanks							1,156			1,156		
11												

IMPACT COSTS ($000)

CATEGORY & CITY	OPERATIONS						CAPITAL IMPROVEMENTS					
	Requests			Recommendations			Requests			Recommendations		
	1974	1975	1976	1974	1975	1976	1974	1975	1976	1974	1975	1976
WATER												
City of Anchorage							4,830			2,150		
City of Fairbanks							4,100			742		
North Pole	34	41	41	34	34	34	300	20	25	300		
Valdez							1,025			425	600	
Haines							13			13		
Totals	34	41	41	34	34	34	10,268	20	25	3,630	600	
SEWERS												
Anchorage Borough	7	16	17	7	16	17		401	401		401	401
City of Anchorage							2,821	251		1,200		
North Pole	34	34	34	34	34	34				400	50	
Valdez							1,500			600		
Totals	41	50	51	41	50	51	4,321	652	401	2,200	451	401

IMPACT COSTS ($000)

CATEGORY & CITY	OPERATIONS						CAPITAL IMPROVEMENTS					
	Requests			Recommendations			Requests			Recommendations		
	1974	1975	1976	1974	1975	1976	1974	1975	1976	1974	1975	1976
PUBLIC WORKS												
North Pole				44	48	52				56	16	6
Valdez				150	171	203						
Totals				194	219	255				56	16	6
ROADS and DRAINAGE												
Anchorage Borough	23	67		23	67		164	791	1,186	164	791	800
City of Anchorage	45	54	46	45	54	46						
Totals	68	121	46	68	121	46	164	791	1,186	164	791	800
SOLID WASTE												
Valdez							20			20		
FERRY TERMINAL												
Valdez							300			300		

IMPACT COSTS ($000)

CATEGORY & CITY	OPERATIONS						CAPITAL IMPROVEMENTS					
	Requests			Recommendations			Requests			Recommendations		
	1974	1975	1976	1974	1975	1976	1974	1975	1976	1974	1975	1976
SMALL BOAT HARBOR												
Valdez				79	93	79	500			500		
ELECTRICAL UTILITY												
City of Anchorage							300	4,200		300		
City of Fairbanks							6,500			2,000		
Golden Valley Cooperative							3,000			3,000		
Totals							9,800	4,200		5,300		

IMPACT COSTS ($000)

CATEGORY & CITY	OPERATIONS						CAPITAL IMPROVEMENTS					
	Requests			Recommendations			Requests			Recommendations		
	1974	1975	1976	1974	1975	1976	1974	1975	1976	1974	1975	1976
PUBLIC BUILDINGS												
City of Anchorage							5,000	4,000		1,800		
Valdez							150			150		
Totals							5,150	4,000		1,950		
ADMINISTRATION												
City of Anchorage	121	129	109	121	129	109						
North Pole				30	32	34				4	2	3
Valdez				276	302	344						
Cordova	200	200	200	200	200	200						
Totals	321	329	309	627	663	687				4	2	3
PARKS AND RECREATION												
Anchorage Borough	179	300	329	179	300	329	3,720			1,200	1,200	1,200
City of Anchorage	217	286	286	217	286	286						
Totals	396	586	615	396	586	615	3,720			1,200	1,200	1,200

IMPACT COSTS ($000)

CATEGORY & CITY	OPERATIONS						CAPITAL IMPROVEMENTS					
	Requests			Recommendations			Requests			Recommendations		
	1974	1975	1976	1974	1975	1976	1974	1975	1976	1974	1975	1976
SCHOOLS												
Anchorage	1,745	3,473	4,128	1,514	2,684	3,144						
Fairbanks				197	647	832	6,100			6,100		
Valdez	546			546	546	546	570			600		
Delta Junction							1,500			1,500		
Totals	2,488	4,660	5,506	2,257	3,877	4,522	8,170			8,200		
LIBRARY												
Anchorage Borough	56	34	10	56	34	10						
City of Anchorage	56	34	10	56	34	10						
Totals	112	68	20	112	68	20						
HEALTH SERVICES												
Anchorage Borough	950	1,555	1,864	950	1,555	1,864	75			75		

IMPACT COSTS ($000)

CATEGORY & CITY	OPERATIONS						CAPITAL IMPROVEMENTS					
	Requests			Recommendations			Requests			Recommendations		
	1974	1975	1976	1974	1975	1976	1974	1975	1976	1974	1975	1976
NORTH STAR BOROUGH												
Library	33	95	115	27	64	58	1,000	10	10	1,000	10	10
Parks and Recreation	20	73	89	21	50	45	160	150	150	160	150	150
Environmental Services	47	133	162	38	91	81	100			100		
Dog Coltron	13	38	46	11	26	23	25			25		
Administration	213	612	744	175	415	373	60			60		
Totals	332	951	1,156	272	646	580	1,345	160	160	1,345	160	160
Less: Impact Generated Revenues				356,400	522,200	319,130						
Net Recommended Impact				-0-	122,762	261,530						

Community Totals

IMPACT COSTS ($000)

CATEGORY & CITY	OPERATIONS						CAPITAL IMPROVEMENTS					
	Requests			Recommendations			Requests			Recommendations		
	1974	1975	1976	1974	1975	1976	1974	1975	1976	1974	1975	1976
ANCHORAGE BOROUGH	1,432	2,306	2,564	1,432	2,306	2,564	3,959	1,192	1,587	1,439	2,392	2,401
CITY OF ANCHORAGE	1,806	2,066	2,286	1,563	1,936	2,157	13,051	8,451		5,550		
CITY OF FAIRBANKS	250	250	250	250	250	250	12,376			4,518		
FAIRBANKS SCHOOLS				197	647	832	6,100			6,100		
ANCHORAGE SCHOOLS	1,745	3,473	4,128	1,514	2,684	3,144						
VALDEZ SCHOOLS	546			546	546	546	570			600		
GLENNALLEN	69	69	69	15	15	15	12			12		
NORTH POLE	276	341	395	253	281	287	839	131	43	830	103	14
VALDEZ	880	1,063	1,118	880	1,063	1,118	3,645			2,145	600	
HAINES							13			13		
CORDOVA	200	200	200	200	200	200						
FAIRBANKS BOROUGH	332	951	1,157	-0-	123	262	1,345	160	160	1,345	160	160
TOTALS	7,536	11,719	12,167	6,850	10,015	11,375	41,910	9,934	1,790	22,552	3,255	2,575

NET IMPACT COSTS* ($000)

Year	O&M** Impact	CIP*** Impact	Impact Taxes	Impact Sh. Rev.	Impact Other Rev.	O&M Net Need
Anchorage Borough						
1974	1,432	1,439	-	75	-	1,357
1975	2,306	2,392	524	323	-	1,459
1976	2,564	2,401	1,722	362	-	480
City of Anchorage						
1974	1,563	5,550	-	74	55	1,434
1975	1,936	-	525	190	234	987
1976	2,157	-	978	206	320	653
City of Fairbanks						
1974	250	4,518	-	60	255	-
1975	250	-	150	80	340	-
1976	250	-	350	80	340	-
City of Valdez						
1974	880	2,145	43	9	95	733
1975	1,063	600	253	17	160	633
1976	1,118	-	964	24	209	-
North Pole						
1974	253	830	-	14	8	231
1975	281	103	16	21	12	232
1976	287	14	24	21	12	230
Anchorage Schools						
1974	1,514	-	-	-	-	1,514
1975	2,684	-	689	-	-	1,995
1976	3,144	-	2,275	-	-	869

* Revenues for other entities were too nebulous to make projections.
** Operations and maintenance.
*** Capital improvement program.

Possible Approaches To Impact Legislation.

The impact of the oil pipeline construction will be felt in varying degree by everyone in Alaska. The variations will be substantial between the areas of the State far removed from the pipeline, the population centers within commuting distance, and the settlements along the pipeline itself.

The impact will fall on organized local governments; i.e. Anchorage, Fairbanks, Delta Junction, Valdez; on people in unincorporated settlements like Glennallen and Copper Center; on persons scattered along highways, and on Alaska natives organized as village corporations and regional corporations. In another sense the land itself will be subject to use pressure in the areas where it can be reached by people, primarily along the highways near the pipeline corridor.

The needs that will be generated in the affected cities and boroughs can be divided into capital needs and operational, or service needs.

Operational aid could be determined by estimating the additional services required for the added population less the added revenue generated by the new people. Such aid might be made available during the period of accelerated growth only, and not be necessary after normal growth resumed, the population stabilized, or actually decreased.

Aid for capital expenditures might be justified if, in order to meet the requirements of accelerated growth, expenditures were required over and beyond those required for normal growth, especially if such expenditures had the effect of significantly raising local per capita taxes. This might happen if revenues generated by the new population were either insufficient in amount or lagged the expenditures by several years. It could

happen if expenditures were required for only a temporary increase in population, and subsequently an excessive debt service remained for a reduced population.

A city being deluged with several thousand new residents will find it must not only expand water and power capacity, but also add new police officers, building inspectors, and other services.

The State could deliver money, service, and loan assistance by several methods:

1. Grants-in-aid.
2. Reinforcement of existing shared revenue allocations.
3. Shared revenue designated for impacted communities.
4. State loan fund for private utility expansion.
5. State loan fund for housing (and mobile homes).
6. Land leasing program.
7. Expanded State agency budgets for impacted areas.
8. State-sponsored training programs to assist Alaskan hire.

Pipeline impact legislation can be designed to deliver assistance to the affected groups by:

1. Grand-in-aid to boroughs for capital improvements.
2. Grants-in-aid to cities for capital improvements.
3. Shared revenue allocations to boroughs.
4. Shared revenue allocations to cities.
5. Shared revenue allocations to unincorporated communities.
6. Special impact appropriations to State agencies.
7. Special loan fund for utility expansion.
8. Special loan fund for housing mortgages (and mobile home loans).

9. Special fund to guarantee bond issues for cities and boroughs.

10. Legislative authorization to issue short-term leases for State selected and University owned land.

Because of the apparent difference in kinds and amounts of per capita needs in the impacted communities, a completely general formula may not be possible if the total outlay is to be kept within reason. It seems quite evident that some communities have greater needs than others. In some cases, perhaps through no fault of their own, they have not been able, on their own, to provide for the kind of growth anticipated. This may require some discrimination on the part of the Legislature if these cities are to meet the demands placed on them by the pipeline construction, and not make across-the-board per capita grants to all communities. If there are genuine limitations on the State's funds for the next four years, a general distribution might lead to the elimination of some aid needed in the more heavily impacted communities.

Assumptions.

The following assumptions are made in compiling this report, and in making the conclusions and recommendations which follow.

1. The Trans-Alaska Pipeline will be built, starting in early 1974 and be virtually completed late in 1976 or early 1977.

2. The numbers of workers on the pipeline and working on the North Slope will be approximately as projected by the principals involved.

3. Employment patterns and population/employment ratios will be substantially as they were in earlier boom periods.

4. Any Federal assistance programs to aid communities in public improvements will not be forthcoming in time to meet the immediate needs.

5. State government agencies will respond to service needs which

will be required in the communities and organized boroughs.

6. Pipeline workers within the boundaries of a local government are not considered as part of the local population, although the local government may include them as population for State revenue sharing purposes.

Conclusions.

The statements and testimony of the communities, and discussion with many individuals knowledgeable in their fields, have led to the following conclusions relative to the impact of pipeline construction.

They are drawn with the aim of placing in perspective the possible courses of action which may be open to the Committee and which are discussed later in this Summary.

1. The communities found it very difficult, in most cases, to determine what effects pipeline construction would have on their communities. Most did not have the staff to do research or make employment and population projections. They had very little information on the specific plans for the pipeline at a date early enough to be helpful.

2. The early impact will be that due to an influx of people, and the social and health problems created: law enforcement, recreation, unemployment, drugs, alcohol, and welfare problems. These matters will increase the operational costs of local governments with little potential revenues created. These problems will be associated with a transient population and with pipeline workers looking for recreation.

3. The more permanent kinds of population will place demands on schools, public facilities, housing, utilities and other government services which in some communities will be difficult to meet. Although revenues to the local government will rise, there will be a lag, especially

with property tax revenues. Some categories of State shared revenues will rise in proportion to population increases, and where sales taxes are in effect, the increase should be felt almost at once.

4. The effect of the increased population will have the effect of accelerating the need of many public improvements. This acceleration means the need of financing, in some cases quite substant i a l, at a date earlier than would normally have been necessary. In some cases this presents the community with a problem of meeting higher debt service payments, and a question in the minds of community leaders as to whether substantial tax increases will be required. Without some assistance, this may be the case in certain communities.

5. Population increases will occur in most cities in Alaska. The impact will be in proportion to the increase. However, the relative severity of the impact to any community will be more related to the <u>percentage</u> of population increase rather than <u>numbers</u>.

6. Some government leaders are concerned that public improvements made to meet demands during construction may lead to over-building and the debt be a burden on the community after the construction is finished. In nearly every case my conclusion is that the cities will not decrease substantially in population after construction is completed. Fairbanks, and especially Valdez will have a period of adjustment. Valdez should not build for the peak 1974-75 population.

7. Even with a lag in revenue receipts, indications are that by 1977 most community revenues will have reflected the population increase and further impact aid, per se, should not be required.

8. The agencies of the State Government will have an important

role in meeting many of the problems associated with the pipeline construction, both in the organized communities and in the unincorporated communities, and in the unorganized borough. The effectiveness of these agencies will depend upon the money available to them and the direction given by the Administration. We have been unable to determine the administrative plans to meet specific impact problems. The Committee or the Legislature will need to review these plans to determine their adequacy.

9. Some of the communities find themselves deficient in certain facilities or utilities and include funding of these deficiencies as a need to meet the impact. Even though there may be a deficiency, the community will find it necessary to arrange financing if it is to meet the demands of a large number of people. Therefore, the total demand for financing must be considered along with the amount needed only to meet the impact.

10. Some communities desire to provide at this time improvements which are in excess of the need for the impact alone. In these cases, the impact portion should be isolated, and the additional funds needed considered separately (see Appendices C & D).

11. There are capital improvement projects being accelerated because of pipeline construction, but which will be needed anyway within a reasonable period of time under normal growth conditions. Aid made available should be designed to help the community in short-range, interim period only, in meeting debt service, interest payments or other aid aimed to ease the burden of debt payments before compensating revenues are generated.

Communities which are required to make capital improvements many

years in advance of normal requirements may need a higher degree of immediate help, but not beyond the point when local revenues are created which will support debt service.

12. Inflationary pressures will be a factor in operational costs of local government. It is believed that this factor need not be considered except for the first year of the impact. (See Appendices C & D.)

13. State income taxes will increase substantially during the pipeline construction years (See Appendix F).

RECOMMENDATIONS

It has been suggested by several city officials that increases in State Revenue Sharing would provide aid needed by the local governments. This would be a simple solution, from the standpoint of ease of administration, assuming that a general increase in the various categorical formulae used in revenue sharing would provide the amounts of aid deemed necessary in the individual cases.

This method has been tested against the net needs of the five communities requesting the largest amounts of aid. Such an approach does not appear to be the answer if a general formula is to apply. The per capita needs for operational aid range from about $15 per capita in the larger communities to almost $250 per capita in the smaller ones.

Categorical grants could be made to the communities in response to formal applications. This could lead to many problems and would not provide a general solution covering all communities.

The first recommendation will be a tentative attempt to formalize grants for operational impact aid.

Recommendation No. 1

As stated in Conclusions, it is believed the percentage increase in population is more significant to the community than the actual numbers. Therefore, a formula can be devised which would provide revenue sharing grant increases that will generally meet community needs and apply to all communities affected by population increases.

Assume that a 12% increase in population would warrant a $20/capita grant, then a 150% population increase would require a $250 per capita grant. In order to fit the situation of the boroughs with service districts, the

grant should be broken down to percentage about as follows: 50% for general government, 17% police, 17% fire, and 16% roads.

Recommendation No. 2

The revenue sharing grants for impact operational costs should be requested by the cities by formal application, with supporting evidence of need.

Recommendation No. 3

The evidence is that generally the per capita impact costs drop in 1975 and again in 1976. The program should be reviewed for 1975 applications to determine the need, and if it exists, to establish a new per capita grant formula.

Recommendation No. 4

Caution should be used in making substantial allowance for inflation because adjustments for inflation have been made in the past by passing on the costs to the beneficiaries.

Recommendation No. 5

Aid for capital improvement programs undertaken on an accelerated basis by the community, and which under normal growth conditions would be needed by 1976, should be in the form of a State loan or bond guarantee program. This program would be available to all cities, and would enable the smaller communities to obtain debt financing, which now may not be able to sell bonds, or if they can, a guarantee program should provide lower interest rates.

Recommendation No. 6

In cases where capital improvements will be needed now to meet the pipeline impact, but under normal conditions wouldn't be needed for over

five years, the State should set up a program to pay a portion of the debt service, or interest, for a period of time, not over three years.

Recommendation No. 7

In those cases where debt limitation on G.O. bonds makes it impossible to sell bonds for a capital improvement necessary to meet the impact needs, the State should consider a grant program, if the need is very urgent.

Recommendation No. 8

In those cases where funds are urgently needed by a municipal utility and the earnings potential is such that the required debt coverage cannot be maintained, the State should set up a loan program, at reasonable interest rate, to cover the period until bonds can either be sold or utility rates increased to improve the earnings. If the State already has a grant program for facilities or utilities (water), grants under this program should be considered for impact aid.

Recommendation No. 9

Legislation similar to SB 235 should make available a loan program for municipal and cooperative electric and utility systems to use when other financial sources are unavailable.

Recommendation No. 10

The State needs a stronger program to make loans, or purchase mortgages for housing, to be used if normal financing sources are not available.

Recommendation No. 11

Much of the impact aid must be administered through the services of the State departments. They will need funds to provide the health services and health nurses; state-operated schools; police protection; highway

maintenance in the impacted areas; airports and airstrip construction and maintenance; training programs; environmental health law enforcement; protection of fish and game along pipeline route; expansion of motor vehicle division; review of voter registration capability; review adequacy of court system in impacted communities, and the prosecution of crimes.

Without the advise of the various departments it was not believed a valid assessment could be obtained of the needs in the State administrative departments, except to note the beliefs of many of the communities that many services needed to be expanded.

? Recommendation No. 12

Aid amounts to district and borough schools varies to a great extent. The per student amounts range from over $450 to over $900. Since the Foundation Program and the other State contribution programs are quite intricate, I would recommend each of the communities needing school operational needs be met again by a formula based upon percentage increase of the student body and a per student formula.

? Recommendation No. 13

Some school districts request funds for either new construction or for temporary classrooms. ~~Encouragement~~ Consideration should be given to resort to double-shifting until the population trend is fully established. Where there is a clear need for more classrooms, temporary quarters should be provided until, again, the growth pattern is clear.

Recommendation No. 14

Action be taken, either legislatively or administratively to protect fish and game along the pipeline route, with one aim being to preserve the resource as a means of subsistence living for those who need it.

Recommendation No. 15

The road north of the Yukon River not be taken over by the State until completion of the pipeline, or if it is, it be closed to traffic.

Recommendation No. 16

Encourage the postponement of non-essential construction projects until after the peak of construction of the pipeline.

Recommendation No. 17

Make State royalty oil and gas available to communities along the pipeline, if such will lower fuel costs for power or other uses.

Recommendation No. 18

Legislature give consideration to training and employing native people as auxiliary police in the villages.

Recommendation No. 19

Consideration be given to extending Egan Avenue in Valdez and relocating the Ferry Terminal.

Recommendation No. 20

That State pilots be required on tankers before entering the entrance waters of Valdez Arm.

Recommendation No. 21

The Legislature authorize, if appropriate and necessary, the University of Alaska to lease U of A land for temporary housing at places where private land is not available.

COMMUNITY IMPACT ANALYSES

COMMUNITIES SURVEYED

Most of the communities contacted have indicated some form of impact caused by the pipeline construction. The form and extent of the impact is not always the same, however, it has been most often in the form of added operational costs and/or the need for accelerated capital expenditures. It has also been stated that part of the impact will be from inflated costs, shortage of competent labor, inadequate transportation, the social consequences of crime, and the feared degradation of a family-type community.

Despite problems, the majority favored the pipeline and the consequent development and benefits for Alaska. Most think the problems can be overcome with the State aid they hope to receive.

There is not complete agreement on the extent of the economic impact involved, nor how long the effects could be considered as an added burden to the local community. Some believe the accelerated growth will last during the pipeline construction years, and thereafter; if the increased population becomes permanent, increased local revenues will normalize the situation. Others believe the burden on the local government will continue for several years, and aid will be needed for longer periods.

Aid for operational costs can be justified by assuming that the needs for some public services will be greater than the revenues generated by the added population.

It is generally believed that the per capita revenue figure, as far as local government is concerned, will fall, at least in the period of pipeline construction.

It should be borne in mind that most of the agencies asked to submit statements did not have an abundant amount of time to prepare them. For these reasons, it has been found that some important factors may have been overlooked and others more heavily weighted than warranted, because of the lack of time needed to do the necessary study and preparation.

In Appendix A is a list of communities contacted and asked to submit a statement. Not all responded, so it is assumed, for the purposes of this report, that the local officials did not expect any significant impact, or did not have sufficient information to determine what it would be.

Many individuals were interviewed whose job or position was such that he could be expected to give valuable information on certain social or economic aspects of accelerated growth. Separate reports have been made on most of these interviews; and information gained has been incorporated in the following sections as contributing to information about community problems or in recommendations for their solution.

The following analyses made of the individual communities were based upon the best information available, and that could be obtained in the time permitted. The information was inadequate in many respects to make an intelligent review or analysis. However, attempts were made, where possible, to document or verify information given.

The statements submitted by the local governments have been analyzed with respect to relevance to pipeline construction, costs, validity of projections, comparison to normal growth needs, and other factors believed to be important in supporting the requested aid.

SECTION I

GREATER ANCHORAGE AREA BOROUGH

Description of Area.

The Greater Anchorage Area Borough is composed of the so-called Anchorage Bowl Area, between the Knik River, Knik Arm, Turnagain Arm and the Chugach Mountains, from the Knik River Bridge to and including Girdwood.

Population.

The Borough Area is roughly 160 square miles, exclusive of the State parks. The 1970 population, exclusive of those on the military bases, was roughly 104,000, and is estimated to be 124,200 in 1973.

There are several projections of the population growth with considerable variation.

TABLE I-1 (Less Military Bases)

Year	MSNW*	Anchorage Borough	Impact Committee
1973	118,314	-	124,200
1974	128,500	135,900	134,200
1975	141,416	150,800	150,040
1976	145,266	158,500	158,400

*Mathematical Sciences Northwest Study for Alyeska.

It will be noted that my projections are quite close to those made by the Borough. (For calculation of my methods, see Appendix B .)

Services.

Government services within the Borough are provided through several channels:

1. Special services by service areas and the City of Anchorage.

2. Borough-wide services such as schools and sewers, etc.

3. Contract services with the City for specific services in a specific area or Borough-wide outside the City.

Taxing.

This complicated system of delivering services makes a complicated taxing system and one difficult to estimate both impact costs and additional revenues created by the pipeline impact.

Three of the service areas outside of the City of Anchorage are being taxed at mill rates almost as high as the City's, and are receiving urban-type services. However, two of them are not providing their own police protection and rely on State Trooper service.

Debt.

The total debt of the Borough is as follows:

G.O. Bonds - Sewer Utility	$ 30,395,000
G.O. Bonds - General	11,385,000
G.O. Bonds - Schools	95,931,000
Total Bonds	137,711,000
Long Term Contracts	6,255,278
Grand Total----------	$143,966,278

**

This bonded debt is 7.17% of the total assessed valuation of the Borough ($1,919,614,490).

Impact - General.

Although not many pipeline workers themselves will live in the Anchorage Area, a large percentage of the other jobs created by the economic boom will probably be located in Anchorage, if the past experience is repeated (see Appendix B on employment projections). Anchorage will continue to be a transportation hub, the financial center, and the

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** This percentage applies only on property outside the City of Anchorage. (For debt picture of Anchorage, see Anchorage Section.)

administrative center for much of the oil and pipeline related activities. This means more people and all the facilities and services they will need.

Employment is expected to increase by a great amount, particularly during the three years of construction. Following past boom periods the population of the Anchorage Area did not drop drastically. The number of jobs here has continued to climb and no significant reduction is anticipated after the pipeline is completed, even if no other large project is started immediately.

Therefore, the impact, though significant, will be an acceleration of normal growth, and necessary expenditures for capital improvements will not likely create any over-building which might result in a burden following the construction period.

There will be additional local government operating costs over and above normal which will be a direct result of the influx of people. Not a little of these costs will be because there will be many unemployed and their families looking for work. There probably will be more temporary, seasonal workers (See Peak Populations in Appendix B).

Specific Impact.

Employment projections for the Anchorage Borough Area Are:

TABLE I-2 (Civilian Employment Only)
Annual Averages

Year	MSNW	Impact Committee
1973	50,636	55,700
1974	54,485	61,000
1975	59,946	68,200
1976	61,844	72,000

Note: See Employment Projections, Appendix B.

Housing.

Housing needs during the pipeline construction years are as follows, based upon Anchorage Borough housing estimates:

TABLE I-3

Year	Borough Area	City	Total
1974	2,000	2,000	4,000
1975	2,600	2,600	5,200
1976	1,352	1,248	2,600
			11,800

It would be expected that some of the needed units will consist of mobile homes and trailers.

Presently there are an estimated 6,000 (Anchorage Borough estimate) mobile homes in the Borough. This represents about 13% of the 46,000 housing units estimated to be in the Borough. If the new housing was to be similarly proportioned, we would need 1,534 mobile homes. A survey of mobile home park owners indicated a maximum potential capacity during the next two years for mobile home spaces would be about 1,850. If the plans go through for the additional spaces, they should be adequate, unless there is a greater demand than in the past.

The mobile home park owners do express concern for a number of problems associated with mobile home parks and with getting mobile homes for the spaces.

1. Land is difficult to get.

2. Borough approval is difficult to obtain and can be approved only by exception. Time for approval is almost one year.

3. Zoning laws require a density lower than R-2, and close to R-1.

4. Alaska has the toughest construction code regulations in the Nation and it amounts to a performance code.

5. Most manufacturers are not anxious to comply with the Alaska code because of the small market and the special requirements. Only 17 manufacturers out of some 3,400 have seen fit to comply, or whose product has been approved by the State. A big problem of construction code approval has to do with the requirement that State inspections must be made during construction. Whereas most mobile homes are made in the other States, this has not been practical.

6. Because of a feared transportation shortage, mobile home dealers are concerned with getting new mobile homes to Alaska.

7. Financing of mobile homes is difficult to get through most present means, even harder than that for conventional homes.

The Anchorage Homebuilders Association is more optimistic about the ability of homebuilders to meet the conventional housing need. There are about 250 homebuilding contractors in the area, of which 50 are capable of building 100 homes each season. They do not expect a labor shortage, but are concerned with the transportation of materials to Alaska. They are also worried about land with satisfactory soil conditions for home building and sewer and water connections, as the subdivisions are farther away from the present urban areas. Eagle River and Palmer will become more attractive for subdividers.

One big problem homebuilders face is that of obtaining interim financing, especially at feasible rates.

Other facilities needed for new housing will now be considered.

Sewers.

Sewer services are a Borough-wide function and the tax is Borough wide. The Borough estimates additional sewer-line costs due to the pipeline impact as follows. The capital improvements are required because of trunkline construction one year ahead of normal need. The Borough Impact Statement says operational costs will be balanced out by the additional revenues created. Therefore, these costs are not shown here.

TABLE I-4

Fiscal Year	Increased O & M Costs	Capital Improvements
1974-75	$7,035	-
1975-76	15,925	$400,500
1976-77	7,035	400,500

Water.

The City of Anchorage provides some water service to areas outside the City. The impact on this system will be discussed under the City impact section. Central Alaska Utilities offers services in other Borough areas.

Central Alaska Utilities is financially capable, they say, to provide water service to new areas and subdivisions. Their plan of operation calls for new wells to be drilled where water is needed. Good water must be available at a nearby site in the necessary quantities.

A joint investigation between the City and Central Alaska Utilities as to future source of raw water is now under way. They are again looking at damming the headwaters of Ship Creek and if this proves unfeasible to determine if wells in the Eagle River Valley may be a source.

All the answers are not yet available, but more information should be available before the Legislature convenes.

The Borough does not yet have water powers, but it may be necessary to consider such a move if adequate water supply is to be assured the expanding urban areas.

Building Safety.

An increasing pace of building construction in the Borough will mean more building inspectors. This is a function of the Borough and the costs

are included in the Borough General Fund appropriations. The function will be important to insure compliance with building codes and zoning laws. Following is the Borough estimate of operational needs caused by the accelerated building, mostly personnel costs. The additional costs will be largely borne by an increase in license and permit fees, so only the excess is shown here.

TABLE I-5

Building Inspection Impact Cost

Year	Excess Cost
1974	22,630
1975	4,070

Roads and Drainage.

Only those road and drainage projects outside the City will be considered here. The expenditures will be for operation and maintenance and for capital improvements. An additional Civil Engineer to handle subdivision review and street design is included in their impact operational costs. The Borough cost figures are based on a 12% increase in roads above the normal need, and increased maintenance because of increased use. Although the Borough shows increased costs extending into 1979, for the purposes of this report those shown for the rapid population build-up are shown here. (See Appendix B for rationale.)

TABLE I-6

Roads and Drainage Pipeline Impact Costs

Year	Capital Improvements***	Operations & Maintenance
1974	150,000	-0-
1975	755,000	22,500
1976	1,137,500	67,000

*** Borough Public Works could not identify specific areas, but said the pattern of housing development would determine.

The roads and drainage function is performed only in those service areas taxing themselves for this purpose. Increased revenues would accrue to these areas because of increased property assessments (providing millage rates remained the same).

Special Services.

The special services category, as defined by the Borough Impact Statement, includes such things as placement and repair of signs, park maintenance, maintenance of buildings and grounds, and the administration of the public works program. Only those costs outside the City of Anchorage are included in this report section and only those through the construction years.

TABLE I-7

Special Services Impact Costs

Year	Operational Costs
1974	13,625
1975	35,530
1976	47,660

Fire Protection.

Fire protection is not a Borough wide function, however, service areas tax themselves for this purpose. According to the Borough financial report for 1973, six service areas do have fire protection services. Three are a volunteer type department, whereas the larger areas, Spenard, Muldoon, and Sand Lake, have a paid fire department, merged and it operates under one Chief. Stations are located so that coverage of the three contiguous areas is possible.

Costs are covered by local, service area taxes and State shared revenues. The Borough, in its' Impact Statement, treats fire protection in one category only, and not as six departments. Limited protection is provided to non tax-supported areas on a fee basis. The projection of fire-fighting needs is based on the assumption that operational costs for fire protection are increasing at the rate of 19% per year, based upon experience of the past five years. It seems reasonable to assume that part of the increased costs of the past are probably due to population increases.

Following is an analysis of the Borough fire protection impact costs:

TABLE I-8

Anchorage Borough Fire Protection Impact
Operational Costs ($000)

Year	Outside City Population****	Projected Total Costs	Increase From Previous Year	Impact Costs
1973	63,800	1,456	234	-0-
1974	70,500	1,735	279	134
1975	78,000	2,060	325	228
1976	82,000	2,460	400	240

**** Population projections based upon split between City and outside City population as predicted in Borough Impact Statement.

Police.

Police protection is not a function of the Anchorage Borough, however, the government is concerned with the adequacy of protection. Within the Borough the City provides police within the City limits, and on a contract basis with the Spenard Service District through the Borough administration. Other areas in the Borough are under the jurisdiction of the State Troopers.

The Borough government believes the Troopers are not manned to handle present problems and will be extremely understaffed to meet the problems of pipeline impact. They present three alternatives to meet the situation:

1. State Trooper strength be expanded to provide adequate protection.

2. State Troopers increase their strength to meet the impact the first year. In the interim, the Borough would attempt to obtain area wide police powers through a vote of the people.

3. The Borough assume area-wide police powers by State legislative action during the next session.

With the large influx of new workers and residents, many temporary workers, and hundreds looking for work, there is bound to be many law enforcement problems. In addition, this kind of a boom attracts those engaged in illegal activities which itself requires a higher level of enforcement. Therefore, the contention that more police officers are needed directly because of the pipeline construction can be supported.

The U.S. Chamber of Commerce recommends about 2.5 police officers per 1,000 people in a metropolitan area. The City of Anchorage (including Spenard) had until recently about 1.8 officers per 1,000 population. New officers are being added which will increase this ratio.

The Borough Impact Statement based their police requirements on 1.25 officers per 1,000. They have since increased the ratio to 1.5/1,000.

The recommendation of the Borough government for impact aid is shown in the table below. I include only those for Spenard and the Borough Area outside the City. The Borough computations, they say, are based on police costs of $60. per capita. This comes close to the City's costs, which were over $61/capita in both 1971 and 1972.

TABLE I-9

Police Costs Induced By Pipeline Construction
And Personnel Needs

	Personnel*		Costs ($000)	
Year	Spenard	Balance of Borough	Spenard	Balance of Borough
1974	2+1	9+3	60	342
1975	3+1	14+5	102	579
1976	3+1	16+5	103.8	645

* Personnel are broken down as to officers and support personnel. They are not cumulative, but represent needs above normal for the year shown.

The analysis would indicate that the increase of officers indicated for the Spenard service area is about correct, based upon our estimate of the population increase in Spenard (see Appendix B).

There are presently 25 sworn officers for protection in the areas outside the City and Spenard. For the estimated 40,600 population in the area they cover, this would be 0.6 officers per 1,000 people. (This ratio is probably a little low because only officers assigned to field duty are included.) This coverage is no doubt low, especially in the Muldoon, Lake Otis and Sand Lake areas. With the additional officers recommended by the Borough, and the increased population expected, the ratio rises to 0.73 officers per 1,000 population.

Since it is estimated roughly 70% of the population outside the City and Spenard lies in the Sand Lake, Muldoon and the so-called South Lake Otis Area, a higher level of police protection is probably warranted in these areas. It would appear that in these more densely populated areas a ratio of at least 1 to 1.25 officers per thousand might be required during the impact period. At a ratio of 1.0 per 1,000 in the more dense

urban areas, the figure would be about 10 more officers than the Borough recommends.

Health Services.

The Anchorage Borough believes that health problems will create the greatest impact resulting from pipeline construction. They attribute this to the type of people who are expected to come to work and who will be attracted for other reasons.

The Borough breaks down the types of services for which aid will be required, including both those in the public health field and the environmental health area.

TABLE I-10

Health Services - Pipeline Induced Costs ($000)

Category	1974	1975	1976
Administration	68	70	70
Home & Health Specialties	120	140	150
Family Services	66	132	197
Family Planning	25	76	70
Addictions	125	454	454
Early Intervention	130	140	145
Mental Health	200	300	500
Forced Expansion of Facilities	30	50	60
Other Health-Related Activities	136	147	157
TOTALS	900	1,503	1,803

The record shows that the costs of all the health services administered by the Anchorage Borough have risen at the rate of 49.7% a year, average, since 1970. I understand part of these increases are the result of taking

over other health functions from the State, and that there are yet others which may be turned over to the Borough. It may be expected that in the next few years that the increase may be almost as high.

Another factor that must be considered is that the costs of health services will be in proportion to the maximum population and not the annual average that we use for most of the economic calculations. Maximum population in the Anchorage Area could run as high as 164,000 in 1974, 184,000 in 1975, and 194,000 in 1976. These additional people will consist of those looking for work, seasonal workers, their families, and other visitors. (See Appendix B, Population Peaks.)

This, coupled with the fact that the type of people the Borough expects will create per-capita costs higher than normal.

The health service costs have been about 75% funded by State funds, and the last two years even more than that.

Emergency Medical Services.

The Borough provides emergency medical services on a borough-wide basis, and therefore, it is funded from the Borough General Fund. The Borough projects the impact costs to be as follows:

TABLE I-11

Expenditures For Emergency Medical Services ($000)

Year	Impact	Capital Expenditures
1974	50	75
1975	52	-0-
1976	61	-0-

Only $75,000 can be identified as a capital expenditure-construction. The other costs are in line with present per capita expenditures for this service.

Library.

The library function is not an Anchorage Borough function and the Borough contracts with the City of Anchorage. It is funded by a special levy in Service Area 30, which is outside the City. The City government also made projections for the impact cost on the Borough library and arrived at slightly higher figures.

TABLE I-12

Borough Library Impact Costs ($000)

Year	Impact
1974	56
1975	34
1976	10

The total costs will average out to about the same per capita costs as library costs are now outside the City.

Parks and Recreation.

With the additional population that will be living in the Anchorage Area in 1974, 1975 and 1976, present parks and organized recreational activities will be inadequate according to the Borough. They say that there should be 2-1/2 acres each for neighborhood and community parks, and an additional 5 acres of large urban parks for each 1,000 population. This amounts to a total of 10 acres/1,000 people.

The following Table shows the requested impact aid for park land acquisition and development:

TABLE I-13

Park Acquisition & Development ($000)

	Acreage	Acquisition	Development	Maintenance
Outside City	124	2,480	1,240	114

Based upon the desired acreage per 1,000 people, the peak impact population of 12,480 in the Borough outside the City would indicate the additional acreage to be in line. The costs of land is estimated to be $20,000 per acre in the urbanized areas. A real estate man's opinion confirms this possibility.

The maintenance cost is an annual cost based upon $7,000 per year per neighborhood park, for 12 parks ($84,000) and $10,000 per year per community park, for 3 parks ($30,000). This appears to be the total cost of maintaining the 15 parks per year, for total population use. Following is a Table allocating the appropriate portion to the so-called impact population.

TABLE I-14

Park Maintenance Cost Allocation ($000)

Year	Requested	Total Population	Impact Population	%	Impact Maintenance
1974	114	72,900	6,700	9.19	10.5
1975	114	79,250	11,350	14.32	16.3
1976	114	83,000	12,480	15.03	17.1

Recreational program costs per year requested are shown in the following Table.

TABLE I-15

Recreation Program Costs Due to Pipeline Impact ($000)

Year	Requested	Impacted Population	P/Capita	Cost @ 25.00 P/Capita
1974	217	6,700	32.38	168
1975	368	11,350	32.42	284
1976	373	12,480	29,88	312

The amount requested appears to be somewhat high since per capita costs are higher than City of Anchorage program costs. Using the City per capita cost, the total needs are as shown. The Borough per capita cost was only $4.50 in 1973 and the 73-74 budget shows approved amounts amounting to a per capita cost of about $17.00. It is recognized that Borough recreational programs till now have probably not been adequate. However, it was presumed that the Borough budgets for the next three years would not rise significantly above the $25.00 per capita amount.

Borough Revenue Projections.

An attempt is made to project revenues that are created by the impact population which would help meet the impacted costs as presented by the community involved (in this case the Anchorage Borough). This is done by projecting the assessed valuation of the jurisdiction which contributes to the costs.

The additional homes needed to house the impact population are allocated to the different areas in the amounts which appear to be reasonable. Housing units are assumed to cost $30,000* per unit. Only half of the new homes constructed in a given year are assumed to be on the tax rolls for the next taxing year. This amounts to an 18 month lag between construction and tax revenues on the property accruing to the taxing jurisdiction.

Only residence property is projected, since business property projections were not attempted. Therefore, assuming the housing develops that is expected, any business property additions would improve the revenue figures.

Projections of State shared revenues, and other State aid, are calculated using the projected impact population figures and the present formulae.

* Based on estimated 20% units being mobile homes.

New housing property tax revenues are estimated in the Table below. The 1973 millage rates are used. Personal property tax is estimated to be 25% of the real property tax.

TABLE I-16

Borough New Property Tax Projections & Allocations ($000)

Year	Assessed Value	9.19* Schools	1.66 Svc. Area 30	0.60 Svc. Area 40	0.33 Library	2.67 Gen. Fund
1974	120,000	Real P/P**	Real P/P	Real P/P	Real P/P	Real P/P
1975	156,000	551+138	100+25	36+9	20+5	160+40
1976	78,000	1,820+455	329+82	119+30	65+16	529+132
1977		2,895+724	523+131	189+47	104+26	841+210
1978		3,253+813	588+147	212+53	117+29	945+236

* 1973 Mill rates.
** Personal Property.

Taxes shown in the above Table for 1977 and 1978 are for perspective only, and are not used as a deduction against impact costs.

Tax revenue projections for the service areas are projected on the same basis as the Borough as a whole -- estimated assessed valuation in the service area, at the 1973 mill rate for the service area, and allocated in the same proportions as the average for 1972 and 1973 to police, fire, and roads.

The following Table gives the estimates:

TABLE I-17

Service Area New Property Tax Projections & Allocations ($000)

Spenard	1973 Mill Rate	1974	1975	1976	1977	1978
Assessed Val.	5.23	9,000	11,700	6,090	-0-	-0-
Total Tax		-0-	24+6*	78+20*	124+31*	140+35*
Police		-0-	11.1	36.3	-0-	-0-
Fire		-0-	8.7	28.5	-0-	-0-
Roads		-0-	10.2	33.2	-0-	-0-

Sand Lake	1973 Mill Rate	1974	1975	1976	1977	1978
Assessed Val.	5.30	18,000	23,400	12,180	-0-	-0-
Total Tax		-0-	48+12*	157+39*	252+102*	284+71*
Fire		-0-	21.9	71.5	-0-	-0-
Roads		-0-	38.1	124.5	-0-	-0-
Muldoon						
Assessed Val.	5.10	12,000	15,600	8.100	-0-	-0-
Totax Tax		-0-	31+8*	101+25*	161+40*	182+46*
Fire		-0-	14.9	48.3	-0-	-0-
Roads		-0-	24.1	77.7	-0-	-0-

* Personal property tax, estimated as 25% of real property taxes. Tax estimates for 1977 and 1978 are given only for perspective.

Revenue Sharing.

Revenue sharing increases are computed using the existing grant formulae, at 78% of eligibility, and applying them to those items that will most clearly be affected by the population increase. The items are further narrowed by limiting the increases only to those functions for which the Borough is requesting aid, namely, Health Services and Parks and Recreation for Borough-wide functions, and Police, Fire and Roads & Drainage for the service areas. It is recognized that other funds received from the State will increase in proportion to population, however, no attempt was made to factor in these items since they were not part of the so-called Revenue Sharing and usually smaller in magnitude.

TABLE I-18

Borough Revenue Sharing Projections for Impact Population ($000)

Year	Impact Population	Air/Water Pollution	78%	Parks - Recreation	78%	Hospital Beds	78% Health	Increase
1974	6,900	13.4	10.4	33.5	26.1	422	329	-0-
1975	11,350	22.7	17.7	56.7	44.2	636	496	167
1976	12,480	25.0	19.5	62.4	48.6	636	496	167

Although there will be two new hospital facilities in 1975, the additional grant revenue is not shown.

TABLE I-19

Service Area Revenue Sharing Projections for Impact Population.

Year	Impact Population	Police	78%	Fire	78%	Miles Roads	Road Grant	78%
Spenard								
1974	900	9.0	7.0	4.5	3.5	75.47		
1975	2,070	20.7	16.1	10.3	8.0	75.47	(no additions)	
1976	2,679	26.8	20.9	13.3	10.3	75.47		
Sand Lake								
1974	1,800	-	-	9.0	7.0	40.31	60.4	47.1
1975	4,140	-	-	20.7	16.1	46.01	69.0	53.8
1976	5,358	-	-	26.8	20.9	57.47	86.1	67.1
Muldoon								
1974	1,200	-	-	6.0	4.7	44.87	67.3	52.4
1975	2,760	-	-	13.8	10.7	48.67	73.0	56.7
1976	3,570	-	-	17.8	13.9	56.27	84.4	65.8

It will be noted that no attempt has been made to determine what increases might be expected for Federal grants.

SECTION II

CITY OF ANCHORAGE

Description of Area.

The City of Anchorage presently covers an area of about 51.1 square miles, according to the City Engineering Department, and now includes the military bases.

Population.

There have not been as many population projections of the City itself as there have of the Borough. The following Table shows those of the Impact Committee.

TABLE 2-1

Population Projections for Anchorage
(Exclusive of Military Bases)

Year	Impact Committee	City Government
1970 U.S. Census	48,081	48,081
1973 "	57,000	58,718
1974 "	65,600	-
1975 "	72,750	-
1976 "	74,520	-

* Based on a normal growth of 3.4% + impact population breakdown presented by the Borough.

Services.

The City provides all the normal urban-type services, except those that have been assumed by the Borough, namely, sanitary sewers, planning and zoning, tax assessment and collection, and dog control.

Taxing.

The City residents are subject to taxes for some Borough-wide functions, namely, schools, sanitary sewers, and the general operating costs

of the Borough government. In addition, the City residents pay taxes for the City services.

Debt.

The General Debt for the City of Anchorage is as follows:

G. O. Bonds	$25,796,606
Special Assessment Bonds	31,242,547
Total General Debt	57,039,153
Utility Revenue Bonds	96,199,828
Total Bonded Debt	$153,238,981

The general bonded debt is 6.77% of the total assessed valuation of $841,736,695 in 1973.

Impact General.

Anchorage will not only house and service large numbers of new workers whose jobs will be created directly or indirectly by pipeline construction, but will be the administrative center of much of the oil related and construction activities. It will be one of the few transportation hubs serving the north and central areas of oil related activities.

Many of the pipeline workers, and those seeking work of any kind, will come to Anchorage for recreation or for short periods. Most of the impact will be on services such as police protection, housing, schools, public facilities and recreation.

Since the City provides services such as water supply to much of the area, a seaport, telephones, and electrical power, an influx of large numbers of new residents will require expansion of most of the services.

To meet demands placed on the services, operational costs will increase and some capital improvements will be required earlier than normal.

For employment projections in the Anchorage Area, see Section I on the Anchorage Borough, Page ____.

Housing.

For housing projections for the City, see Section I, Anchorage Borough, Page ____. The Borough figures for housing are used rather than those of the City, because the Borough used an average of three persons per housing unit while the City used four. It is believed that three may be more accurate for the added population.

Police.

The City expects a large increase in the incidence of crime and other illegal activities to accompany the increase in population, particularly in the central city area. The City claims this impact has already hit the area.

The additional costs of law enforcement will be in the operational budget and can be attributed mostly to additional manpower.

As of November 1, 1973, the City had 139 sworn officers for Anchorage and Spenard, making about 1,8 officers per 1,000 population. Since then more officers have been authorized, bringing the total to 160.

The manpower estimates of the City are shown in the following Table.

TABLE 2-2

Estimated Impact Police Manpower Needs

Year	Sworn Officers	Support	Total	Total Cost ($000)
1974	31	10	41	793
1975	31	10	41	872*
1976	39	10	49	1,066*

* Amounts added by Impact Committee Staff based upon 10% annual increase in costs.

The City Impact Statement includes their estimates on manpower needs for the Service District of Spenard. The Service District contracts, through the Borough government, with the City for police protection. The level of protection and the amount of the contract must be acted upon by the Borough Assembly. It is assumed that the Borough government is knowledgeable as to the level of service needed and desired by the Spenard people, and therefore, the Borough figures were used instead of those of the City in determining the impact on Spenard police, even though there was a large discrepancy. This discrepancy was called to the attention of the Borough, and they revised their figures upward. Both the City and the Borough's revised police manpower impact requirements are shown in the next Table, for your information.

TABLE 2-3

Estimated Impact Police Manpower Needs - Spenard

Year	City Estimate	Borough Estimate
1974	16	3
1975	19	4
1976	16	4

The City estimates would make 7.2 officers per 1,000 population, at the peak, using our estimates of the impact population for Spenard. The Borough estimate would make 1.4 officers per 1,000 for the added population, a more reasonable estimate, it seems.

Fire Protection.

The City Impact Statements do not document too well the fire protection needs. They say that a new nine-man engine company will be needed in the eastern section of the City, and a new twelve-man company in the downtown

area because of increased activity at the Port and industrial areas and an increase in high-rise structures.

The following Table has been constructed using information supplied by the City for the year 1974 only.

TABLE 2-4

Estimate of Impact Costs of Fire Protection ($000)

Year	Estimated Manpower	Impact Population	Costs	Cost Per Capita (present 36.96)	Cost @ 40.00 Per Capita
1974	25	6,700	511	76.26	268
1975	28*	11,350	629*	55.41	499*
1976	28*	11,520	692*	60.06	557*

* Impact Committee Staff figures, based upon 10% increase of manpower the peak years, and 10% annual increase in costs.

It will be noted that in the above Table that the projections of additional fire costs attributed to the impact are considerably higher per capita than the per capita costs of the revised 1973 budget. The last column reflects a lower per capita cost, since the cost appeared to be entirely operational. If the City projections were inteded to cover the cost of two new fire engines, it is understood that a pumper and a ladder truck can be obtained for about $100,000 for the two. Because of the long life of such equipment, for the purposes of this report, they should be treated as a capital investment, the same as other public improvements.

Water Utility.

The impact of the pipeline will require the City to accelerate the addition of new sources of supply by two to three years. The peak demand during 1973 was 22 million gallons per day. The maximum capacity, they say, is 10.5 million gpd from the treatment plant and 14.5 million gpd from wells.

Another well will be on the line in 1975 and add two million gpd. An additional well or two may be added to meet the demand, however, if the construction of a dam on Ship Creek proves engineeringly feasible, this will be the course taken by the City, and will provide a source of supply that could provide up to 50 million gpd. This would meet the need for a population three times the present one.

The average use at present is 16 million gpd. The City now has total water storage capacity of 5,500,000 gallons. The plan is to increase storage capacity so the peak demands can be better met.

The City presently supplies about 65% of the customers within the City and 35% of those outside the City, with room for expansion of the system both inside and outside the City.

To meet the impact need the main problem with the City is in financing. The accelerated program will require substantial funds, about $16,000,000, almost immediately, the City says.

It had planned for 50% from the Federal Government and 25% from the State. By the time the improvements would normally be needed, two or three years from now, the City expected earnings to be such that they would support the sale of bonds for the other 25%.

The following Table will give a picture of the net income for 1973.

TABLE 2-5

Total operating revenues	$3,029,500
Total operating expenses	1,246,880
Net operating income	1,782,620
Total non-operating revenue	120,000
Net income	1,902,620
Assessment collections	600,000
Net available for debt service	$2,502,620
1973 debt service	$1,961,032
Bond coverage	1.28

Revenue bond buyers require a coverage of at least 1.4 to 1, and usually want it higher. City projections see the debt coverage declining for the next five years. Under these conditions, it is not expected that bonds could be sold at this time, and the impact with new customers doesn't appear to improve the earnings situation, unless a substantial rate increase should be made. To realize the minimum of a 1.4 to 1 bond coverage, it would require a rate increase of about 5.4% in 1974 and an additional increase of 15.6% in 1975. This assumes that bonds will be sold to meet the needs as they arrise. These percentage increases are my own and do not reflect the policy or intent of the City of Anchorage in connection with rate increases.

It should be noted that the City does not anticipate revenue increases in 1976, 1977, and 1978. This may or may not be realistic, however, it does not appear that the City has taken into account probable inflation of costs in their projections of operating expenses. (See Appendix C, Inflation.) If costs are increased substantially because of inflation, the debt coverage would be lowered and the rate increases higher, or customer revenues must increase much more than projected by the City.

The capital improvement aid as submitted by the City in the Preliminary Impact Statement of August 17, 1973, and the revised statement of October 19th are shown in the following Table.

TABLE 2-6

Water System Capital Improvements Impact Need ($000)

	1974	1975	1976	1977	1978	Total
Costs	17,075	(12,245)	(55,000)	(1,250)	(1,375)	2,150
Revised	17,075	(12,245)	-	-	-	4,830

Credits for normal construction needs are not projected beyond 1975 in the second statement. Because the proposed Ship Creek dam will provide water supply capacity for long into the future, and because of pipeline construction it may be required earlier than normal, aid could be either in the form of loans, or payment of early debt service. Because of the low earnings capability at present water rates, the Legislature should explore the possiblity of loan guarantees, or set up a loan program to be effective until the system earnings could be increased. It is apparent that the City must provide for long-range needs in conjunction with the pipeline impact and may now be in the position of being unable to do so immediately.

The general question of aid for accelerated capital improvements will be covered in the Summary Section. The Legislature has some program already available for aid on water projects and/it should be used in this case, if applicable.

Because of the difficulty of tapping a large source of water supply near Anchorage, and because of the increasing costs of water system supply investments, the City may have to face the metering of water to reduce consumption. Fairbanks has metering and has a per-capita daily consumption of 81 gallons. We understand that part of the difference is accounted for by higher industrial use, however, it seems evident that metering would reduce consumption.

Electrical.

Electrical energy in the Anchorage Area is provided by the City of Anchorage, Chugach Electric Association (REA) and the Alaska Power Administration (Eklutna Hydroelectric Plant). The two military bases supply their own generation. There is a tie-in capability for all entities, although

there is no working pool arrangement.

The City and CEA both use gas fuel for the majority of energy generation. CEA has a total of 224 megawatts capacity with a load of about 175 megawatts. This leaves them with a minimum reserve capacity. CEA plan to add another 70 MW unit at Beluga which will be on early 1975, or possibly late in 1974. The City has presently a total of 106 MW capacity with a load of 80 MW. The reserve capacity is also minimal.

Below is a Table showing the expansion plan of the City, however, because of the pipeline construction impact, this schedule is apparently being set ahead.

TABLE 2-7

Generation Expansion Schedule

Year	Capacity	Load	% Increase
1973	106 MW	80 MW	12%
1974	148 MW (add 40 MW)	92 MW	15%
1975	167 MW (add 19 MW)	106 MW	15%
1976	167 MW	122 MW	15%
1977	226 MW (add 59 MW)	142 MW	15%
1978	226 MW	163 MW	15%
1979	264 MW (add 38 MW)	187 MW	15%
1980	264 MW	215 MW	15%

Generation must be added in increments that will provide economical power. A reserve capacity at least as large as the largest unit is considered to be essential in the industry. The units shown as added in 1974 and 1975 just provide the required reserve in 1976.

The City plans funding for the expansion through 1975 as follows:

TABLE 2-8

Debt Funding For Electrical Generation ($000)
Effects On Debt Service

Bond Issues	1974	1975	1976	1977
2/1/73 6,500	358	544	544	544
12/1/73 3,100	180	266	266	266
4/1/74 2,300	104	200	200	200
3/1/75 4,200	-	210	392	392
Totals*	642	1,220	1,402	1,402

* The totals are additions to debt service in respective years.

The following is derived from the City's projection of earnings and expenses through 1978 to show the probable bond coverage induced by the above bond issues. It does not consider the effects after 1977 of additions planned in 1977 and later because investment amounts are not known.

TABLE 2-9

Electrical Earnings and Debt Coverage ($000)

Year	Operating Revenues	Operating Expenses	Available For Debt	Debt Service Projections	Debt Coverage
1973	7,131	4,479	3,034	1,767	1.72
1974	8,900	5,600	3,640	2,000	1.82
1975	9,800	6,300	3,840	2,587	1.48
1976	10,800	7,100	4,040	2,769	1.45
1977	11,600	7,800	4,140	2,769	1.49
1978	11,600	8,000	3,940		

It would appear that investments made in 1977 would create debt service that would not give the 1.4 to 1.0 debt coverage required, unless

revenues will be higher than projected, or electrical rates are increased.

It is evident from Table 2-9 that the earnings projections indicate a declining debt coverage.

The City's earnings projections are based upon a 10% annual increase in revenues and a 12% annual increase in expenses.

The City shows the following to be assistance needed in funding the expansion program, accelerated because of pipeline construction.

TABLE 2-10

Impact of Pipeline On Electrical Generation Program ($000)

	1974	1975	1976	1977	1978	Total
Capital Improvements	300	4,200	(4,500)	-	-	-0-

This has since been revised to delete the credit in 1976 and the City indicates the full $4.5 million to be an amount needed at an earlier date than would be the case under normal growth. Based on the expansion schedule, it would appear that no great amount of acceleration is being made, perhaps no more than one year.

Streets and Storm Sewers.

The City will need to accelerate construction of storm drains and street paving in new subdivisions. Below is a Table showing the City estimates of capital improvements attributable to the impact of pipeline construction.

TABLE 2-11

Pipeline Impact On Subdivision Development ($000)

	1974	1975	1976	1977	1978	Total
Storm Sewers	2,093	188	(225)	(175)	(985)	895
Paving	728	63	(75)	(65)	(345)	305

Population - Excluding Military Base (000)
0
50
100
150
200
1972
1973
1974
1975
1976
1977
1978
Impacted
Normal
Population Projections
Greater Anchorage Area Borough
CHAMPION LINE NO. 510
CROSS SECTION - 10 SQUARES TO INCH
58

The revised statement made for the Special Session of the Legislature did not show credits made to the projects in the years 1976, 1977, and 1978. It should be noted that these improvements are being required at an earlier date than would normally be required and that the impact is the requirement of capital funds at an earlier date than would be necessary under normal growth conditions. Please refer to the attached graph of population projections of the Anchorage Area. It will be noted that the population projected for 1974 would, under normal growth, be reached in 1976. The population projected for 1975 would have been reached in 1978. The graph depicts two things: First, that the impact occurs in the first two years, and that thereafter, a normal, parallel growth curve resumes. Secondly, the acceleration of the need of services and facilities to meet the jump in population is about three years, or three and one-half years at the most. This suggests that assistance in meeting the costs of accelerated capital improvements projects may be related more to the method of local funding, the ability to meet debt service payments, and when, and if the project is needed for normal growth. (See Appendix D, Capital Improvements, Financing and Inflationary Factors.)

Building Safety.

Permits and fees do not fully cover the costs of building imspection. Past records show from 65% estimated for 1974 up to over 80% for 1972. Using the $3.20 per capita to cover the deficiency, the calculations are shown in the following Table of the City's request.

TABLE 2-12

Impact Building Safety Costs ($000)

	1974	1974*	1975*	1976*
Costs	39	21	36	37

* Impact Committee Staff projections based upon the projected population increase in the City and the City's per capita subsidized cost of the 1974 budget estimate of building inspection costs and revenues.

Library.

The estimates of the additional library costs shown below are those related only to the libraries within the City. The Borough libraries, although under contract with the City, are covered in the Anchorage Borough Section.

TABLE 2-13

City Library Impact Costs ($000)

	1974	1975	1976
Costs	56	34	10

The City estimates that Public Works street maintenance costs will rise during the impact period. These costs are projected in the following Table.

TABLE 2-14

Street Maintenance Due To Impact ($000)

	1974	1975	1976
Maintenance Costs	45	54	46

Parks and Recreation.

The Preliminary Impact Statement submitted by the City indicated only an insignificant impact cost for the parks and recreational programs. The revised statement indicated the following as the impacted costs.

TABLE 2-15

Parks and Recreational Impacted Program Costs ($000)

	1974	1975	1976
Costs	217	286*	286*

* The City did not make projections beyond 1974. These estimates have been added by the Impact Committee Staff, based upon the impact population and the present per capita costs of the City's parks and recreation programs ($25.23).

Traffic Engineering.

The City's estimate of additional costs created by pipeline construction in the traffic safety division is as follows:

TABLE 2-16

Impact On Traffic Safety & Engineering ($000)

	1974	1975	1976
Costs	24	41	41

Although the City did not project a need in 1975 and 1976, the Staff has projected figures based upon the same per capita cost as the City projects in 1974.

Other Operational Costs.

The City includes in their impact costs an administrative charge for personnel and time chargeable to the several services affected by the pipeline construction. This request is shown in the following Table.

TABLE 2-17

	1974	1975	1976
Administrative Costs	121	129*	109*

* These figures were supplied by the Impact Committee Staff in the same proportion as those shown for 1975 and 1976 in the original City Impact Statement.

Public Buildings And Other Facilities.

In the revised Statement of the City there is included an additional impact factor which covers public buildings and facilities. I am told this item is mainly to cover the second phase cost of the Port of Anchorage Terminal 3. Other costs are for library construction and office space.

These capital items will be needed about three years ahead of normal schedule and, therefore, come under accelerated funding program.

Revenue Projections.

The following Table shows the City's projections of revenue attributable to pipeline construction. Checks have been made on the principal items and they indicate that the projections are reasonable and probably will be realized. The property taxes are a little higher than my projections indicated, particularly in the first year, however, I made no provision for increased taxes on new commercial or industrial property.

TABLE 2-18

New Revenues Generated By Pipeline ($000)

	1974	1975	1976	1977
Property Taxes (7.9 mills)				
Real		408,825	762,350	1,093,360
Personal (25%)		102,206	190,588	273,340
Taxes - Other				
Gas & Elec. (% incr. Prop. Tax)		13,500	25,000	36,500
Licenses & Permits (% incr. Population)	13,500	45,500	40,000	15,000
Fines & Forfeitures (% Population)	33,000	111,500	98,000	36,500
Business Licenses (% Population)		46,000	154,500	136,000
Aviation Fuel Tax		2,000	2,500	2,500
State Shared Revenue	73,500	189,750	206,000	188,500
Federal Shared Revenue				
Recreational	8,500	29,000	25,000	9,500
Totals	128,500	948,281	1,503,938	1,791,200
Population	2,940	7,590	8,240	7,540
Per Capita	44	125	182	238

Inflation.

The City has included a statement of added costs of capital improvements and operations due to inflation for the years 1974, 1975, 1976, and 1977, as shown in the next Table.

TABLE 2-19

General Government Capital and Operating Budgets
Inflation Increase 10% Per Year

	1974	1975	1976	1977	Total
Population*	61,650	68,150	70,570	72,110	272,480
CIP	21,529,600	19,470,400	8,519,780	5,192,560	54,712,340
Inflation	2,152,960	4,088,784	2,820,046	2,409,867	11,471,657
Per Capita Increase	35	60	40	33	42
Operations	20,779,323	21,558,495	22,420,834	23,317,667	88,076,319
Inflation	2,077,932	4,527,283	7,421,294	10,821,727	24,848,236
Per Capita Increase	34	66	105	150	91
Total Inflation	4,230,892	8,616,067	10,241,340	13,231,594	36,319,893
Per Capita Increase	69	126	145	183	133

* Population excludes 17,892 military annexed in 1973.

It probably is a valid assumption that continuing inflation will increase all costs, including those of government. However, the costs of inflation are normally adjusted for by passing along the additional costs to the consumer, or in the case of governments, to the taxpayers or users of services (see Appendix C, Increased Costs Due To Inflation).

For the purposes of this report, it is presumed that normal methods will need to be used by local governments to meet inflationary costs, and that if any aid is undertaken by the State it would be only for a year to allow the local government to adjust income to the higher costs.

SECTION III

ANCHORAGE BOROUGH SCHOOL DISTRICT

The construction of the pipeline will induce population in Anchorage Borough, which will of course load the School District with additional students. Added student load produces increases both in operational expenses and in capital improvement programs. However, in ABSD, impact enrollment projections are not triggering a school plant expansion program.

During the last five years, ABSD has been expanding its school plant, and now has sufficient classrooms to house the present enrollment comfortably, and even to accommodate 4000 more students within the theoretical capacity. Still more could be handled through slightly increasing class size, double-shifting, or going to a year-around school program. Therefore, we do not consider capital costs or debt service as an impact item.

School operational costs will be directly affected by increased enrollment, however. The budget impact for each year can be calculated by multiplying the per pupil cost by the student enrollment generated by the impact population. From this amount should be subtracted the fresh tax revenue that will be generated by the impact population, to arrive at a net impact cost.

While the method of arriving at net impact cost is fairly simple, the process itself is not. The percent of population enrolled in school, the real cost per pupil for operations (which changes each year), and the assessed valuation that will be added by the new population.

According to the impact projection of Mathematical Sciences Northwest, Anchorage Borough will receive 13,400 persons in 1974; 22,700 in 1975; 24,000 in 1976 (figures not cumulative). The Borough, City and School District are all using this projection.

At the present time, 34,519 students are enrolled in Anchorage schools, or 25.4% of the total population of 135,900. Historically, the ratio of students to population in Anchorage has been:

1950 ----- 9 %

1960 ----- 19 %

1968 ----- 28.5%

1970 ----- 28.0%

1972 ----- 26.0%

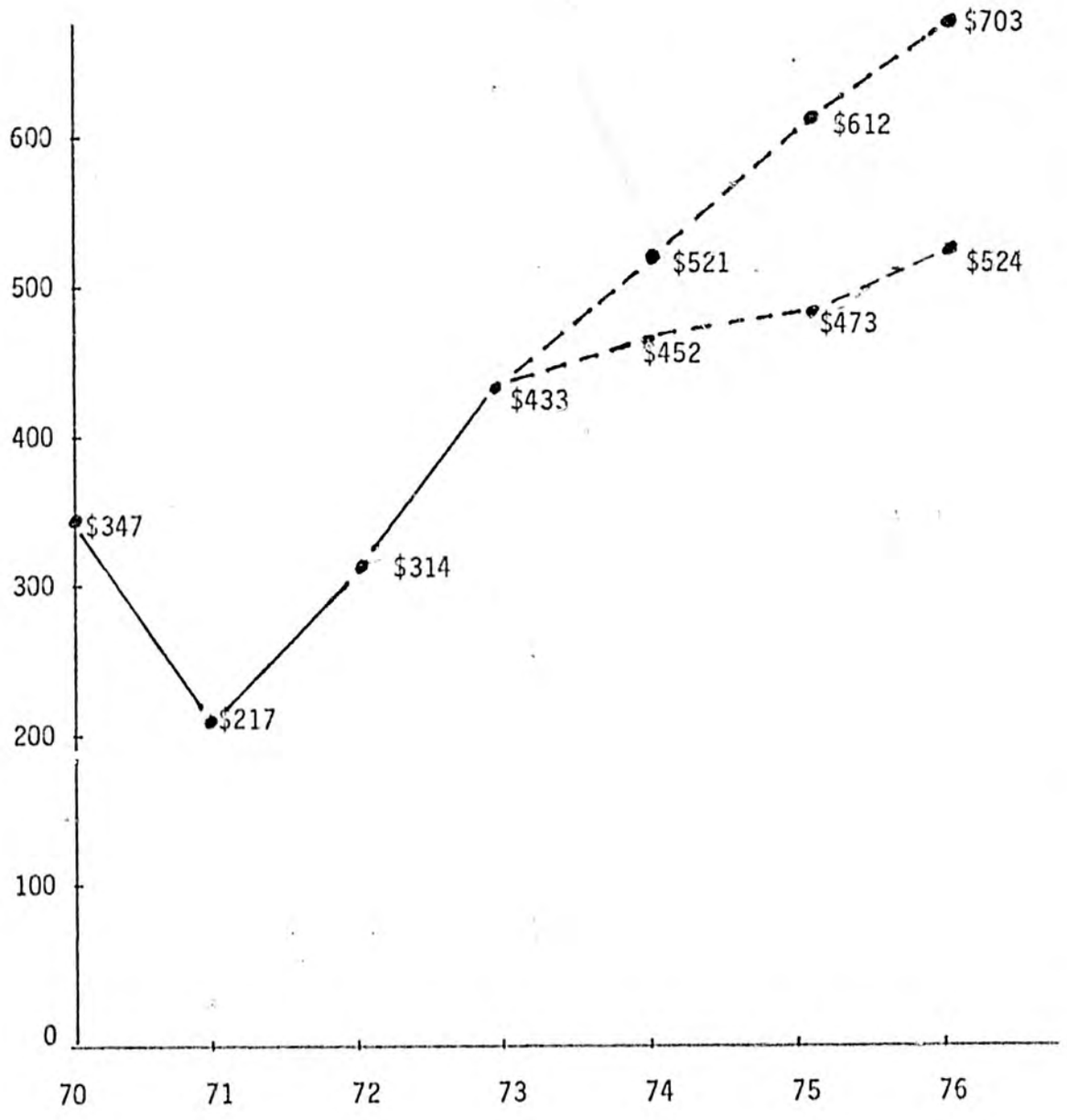
1973 ----- 25.4%

The ratio reached a peak in 1968, and forced a building expansion program. Since that time, it has been slowly dropping, and ABSD now uses 25.0% for future projections.

For comparison, Fairbanks North Star School District has a current student-population ratio of 27.3%. For projecting student enrollment and operational impact costs over the next three years, we will also use 25.0% for each year.

The cost per pupil for operations to be met from local taxes is a figure obtained by dividing the total enrollment into the local tax contribution needed for that year from the operations budget. Since the operation budget is funded some 75% through the state foundation grant, a short-fall in the state contribution causes radical variations in the local contributions from year to year. The graph below shows local per pupil costs for operations since 1970, and projected by extrapolation to 1976. The estimates of $512 in 1974; $612 in 1975; and $703 in 1976 were supplied by ABSD, and were obtained by extending the trend since 1971.

COST PER PUPIL FOR OPERATIONS



In the foregoing graph, the Impact Committee staff has calculated an alternate per pupil cost estimate for 1974 (1974-75 school year). The method used here was to take the estimated cost of a "maintenance-level" budget for next year, assume no change in the foundation grant, and divide by the forecasted total assessed valuation of $2,264,813,000. This produces a projected mill rate of 10.30, compared to a 1973 rate of 9.19 for operation and debt service. The dollar amount for this rate for operations would be $16,623,700. Fifty percent of this amount, plus fifty percent of $15,068,000 (the current year levy) produces the amount of $15,846,000 to be raised from local taxes. This figure divided by the projected 1974-75 enrollment of 35,126 produces a per pupil cost figure of $452.

The above described process would become too tenuous for a second-year projection, because of the large number of variables involved. For 1975, we assumed a $2.5 million increase in local tax contribution to operations, and for 1976, another $3.0 million. Using the same method of dividing by the projected student enrollment, we arrived at per pupil costs of $473 and $524 respectively.

TABLE I shows projections for the years 1974, 1975, and 1976, using ABSD estimates. Item (7) shows the calculated amounts of impact cost due to pipeline induced population.

TABLE I

SCHOOL DISTRICT PROJECTIONS

	ITEM	1974	1975	1976
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

ITEM	1974	1975	1976
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

	ITEM	1974	1975	1976
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)

1974	1975	1976
$130	$123	$ 81

PER CAPITA IMPACT COST (SPIC)

1974	1975	1976
$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 opertional 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 will need to 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 catagory.

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 fantacy.

With an already limited staff there is no accurate mathod 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 Hufman 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:

Borough	State of Alaska	Private Sector
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

Category	1973 - 1974	1974 - 1975	1975 - 1976
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	10,866	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 perecentage 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

	1973-74	1974-75	1975-76
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

CATEGORY	ITEM	1974	1975	1976	TOTAL
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

YEAR ENDING 6/30	AMOUNT	POPULATION	PER CAPITA
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

YEAR	NEW POPULATION	SALES TAX	PROPERTY TAX	SHARED REVENUE	TOTAL
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

ITEM	SOURCE	1974	1975	1976	TOTAL
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

YEAR ENDING 6/30	AMOUNT	MILL RATE	POPULATION	PER CAPITA
1970	3,325,920	10.0	30,618	$109
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

YEAR ENDING 6/30	AMOUNT	POPULATION	PER CAPITA
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 2½ 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

Year	Employment		Population	
	MSNW*	Staff	MSNW*	Staff
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)

Year	G.O. Debt	G.O. Debt Service	% of Assessed Val.	Revenue Bonds	Debt Service
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)

Year	Available For Debt	Debt Service	Debt Coverage
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)

Year	Sworn Officers	Support Personnel	Increases Officers	Increases Support	Personnel Costs	Equipment Costs	Total
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)

Year	Additional Personnel	Personnel Costs	Cost of Substation	Cost of Equipment
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

Year	Peak Load Projections KW	Installed Capacity	Firm* Capacity	Projected Normal Growth 5%	Impact Capacity
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)

Year	Impact Earnings	% Increase	No Impact	Difference*	Available For Debt @ 33.3%
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

Year	Area Population*	Stations - Population Basis	% Increase	Stations By Capability
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)

Year	Inside Plant	Outside Plant	Total
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 proposed, and would likely provide adequate peak flows for the piepline 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 Debt Impacted	Normal	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)

Year	Impact Population	New Housing Units	Value @ $25,000	Property Tax * @ 12 mills (1973)
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)

Year	Population Increase	Tax Per Capita	Projected Sales Tax Increases Total	Gen'l Fund	C.I.P.
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)

Year	Population Increases	Police $10/capita	Fire $5/capita	Parks & Recreation	Total
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

	1974	1975	1976
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

	1974	1975	1976	1977
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
349
Total existing classrooms to be retired---------- 46
Net existing classrooms----------303

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.

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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 AAAF 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)	$78,000 to 81,000

* 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 obstretric 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, Price 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.

City of Kenai
BOX 580
KENAI, ALASKA 99611
telephone 283-7535

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 definately 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 smiliar 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.

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

George A. Navarre

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 Richardscn 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

	1973	1974	1975	1976	1977	1978
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:

	1974	1975	1976	1977	1978
Personnel	44,000	66,000	66,000	44,000	44,000
Capital	30,000	4,500	5,000	6,000	6,000
	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:

	1974	1975	1976	1977	1978
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:

	1974	1975	1976	1977	1978
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:

	1974	1975	1976	1977	1978
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

General Government.

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:

	1974	1975	1976	1977	1978
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:

Operational Costs

	1974	1975	1976	1977	1978
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

	1974	1975	1976	1977	1978
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

	1974	1975	1976	1977	1978
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 shortfall 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

Year	Employment	Population	City of Valdez
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.

Operations Impact.

Public Safety.

Valdez anticipates problems with law enforcement similar to other cities, however, perhaps aggravated by the 4,350 camp workers that will be within a few miles of town. The police force will need to be expanded. The following Table shows the impact costs for this department.

TABLE 17-2

Police Department Impact Costs ($000)

Year	Officers	Support Personnel	Personnel Costs	Equipment and Supplies	Total	Impact*
1973	4	0	64	-	64	-
1974	4	2	141	26	167	99
1975	8	4	270	36	306	234
1976	8	4	270	40	310	234

* Assuming that under normal conditions wages would increase @ 6% annually.

The present fire protection is done by a volunteer department, with a token payment, it is believed, to the Chief. The City believes that a small full-time force will be required. Following is a Table showing estimated costs.

TABLE 17-3

Fire Department Impact Costs ($000)

Year	Firemen	Chief, Dispatch Marshall	Personnel Costs	Equipment and Supplies	Total	Impact
1973	-	-	-	-	-	-
1974	6	3	210	7	217	217
1975	6	3	210	2	212	212
1976	6	3	210	2	212	212

The City collects a sales tax of 4%. A projection of the assessed valuation for future years is difficult, however, an attempt will be made below under Projected Revenues.

Debt.

The City of Valdez has very little debt of any kind. General obligation bonds outstanding on June 30, 1973 were in the sum of $46,000, which was only 0.33% of assessed valuation. Other debt amounted to an additional $97,859. The nature of this debt was not defined.

Impact - General.

Valdez, being situated at the terminus of the pipeline, will receive the greatest impact of any community, percentage-wise. This is because of the present small economic base and the large expected increase of both service workers living in town and camp workers located nearby. As shown in Table 17-1, the resident population is expected to increase almost 200% in only a year or so. The permanent population following the completion of the pipeline is expected to be over 100% of the present figure.

Services, trade and commerce, shipping, and government services, both State and Federal, will expand rapidly in order to meet the demands. The City will be faced with the many problems of providing facilities for new housing, new commercial facilities, and the services necessary for a comparatively large transient population. All these will put a strain on the present government structure and its' ability to finance the public improvements called for.

Valdez is fortunate that it has a fairly solid base to start with in respect to community facilities, and practically no debt.

Following are the areas of concern expressed by the City government and their specific requests for financial assistance.

Because of an increase in both housing and commercial structures, building inspection will need to be done on a full-time basis. Heretofore, this work has been done on a professional fee basis, at a cost of about $5,000/year.

Following is an estimate of the impact need, including camp ground maintenance and supervision.

TABLE 17-4

Building Inspection Costs Induced By Impact ($000)

Year	Building Inspector	Camp Custodian	Personnel Costs	Equipment & Supplies	Total*	Impact
1973	0	1/2	5	-	5	-
1974	1	1	50	14	64	59
1975	1	1	50	2	52	46
1976	1	1	50	2	52	46

* Assuming a 6% annual increase under normal conditions.

Public Works.

Streets, sewers, water, refuse, and snow removal operations and maintenance costs will rise in proportion to the population increase and the itinerants, and recreation seekers. The following Table depicts the estimates of costs of these activities.

TABLE 17-5

Impact Costs of Public Works ($000)

Year	Personnel	Personnel Costs	Equipment & Supplies	Total	Impact*
1973	5	58	-	58	-
1974	6	160	51	211	150
1975	8	211	30	241	171
1976	10	261	12	273	203

* Assuming normal personnel cost rise @ 6% a year.

Dock and Small Boat Harbor.

The dock and boat harbor operations to date have required together about one full-time person. The City estimates three full-time people will be needed to cover these functions. The next Table shows the impact costs.

TABLE 17-6

Estimated Dock and Small Boat Harbor Impact Costs ($000)

Year	Personnel	Personnel Costs	Equipment & Supplies	Total	Impact*
1973	1	10	0	10	-
1974	3	82	8	90	79
1975	3	82	22	104	93
1976	3	82	9	91	79

* Assuming normal personnel costs will rise 6% annually.

The City anticipates administrative costs will rise as government services increase. The following Table shows the estimated increases in costs.

TABLE 17-7

Estimated Administrative Impact Costs ($000)

Year	Personnel	Personnel Costs	Equipment & Supplies	Total	Impact*
1973	2	46	-	46	-
1974	5	137	53	190	141
1975	6	158	46	204	152
1976	7	179	46	225	170

* Assuming 6% increase in normal personnel costs annually.

The Finance Department heretofore has consisted of a billing clerk and a bookkeeper. The City contemplates a large increase in work-load. There is no City Attorney full-time, and this function is obtained on a contractual basis. No additions are included in the Valdez statement. Impact costs of the Finance Department are shown in the following Table.

TABLE 17-8

Estimated Impact Costs of Finance Department ($000)

Year	Personnel	Personnel Costs	Equipment & Supplies	Total	Impact*
1973	2	25	-	25	-
1974	4	117	44	161	135
1975	5	142	36	178	150
1976	6	167	36	203	174

* Based upon a 6% annual increase in normal personnel costs.

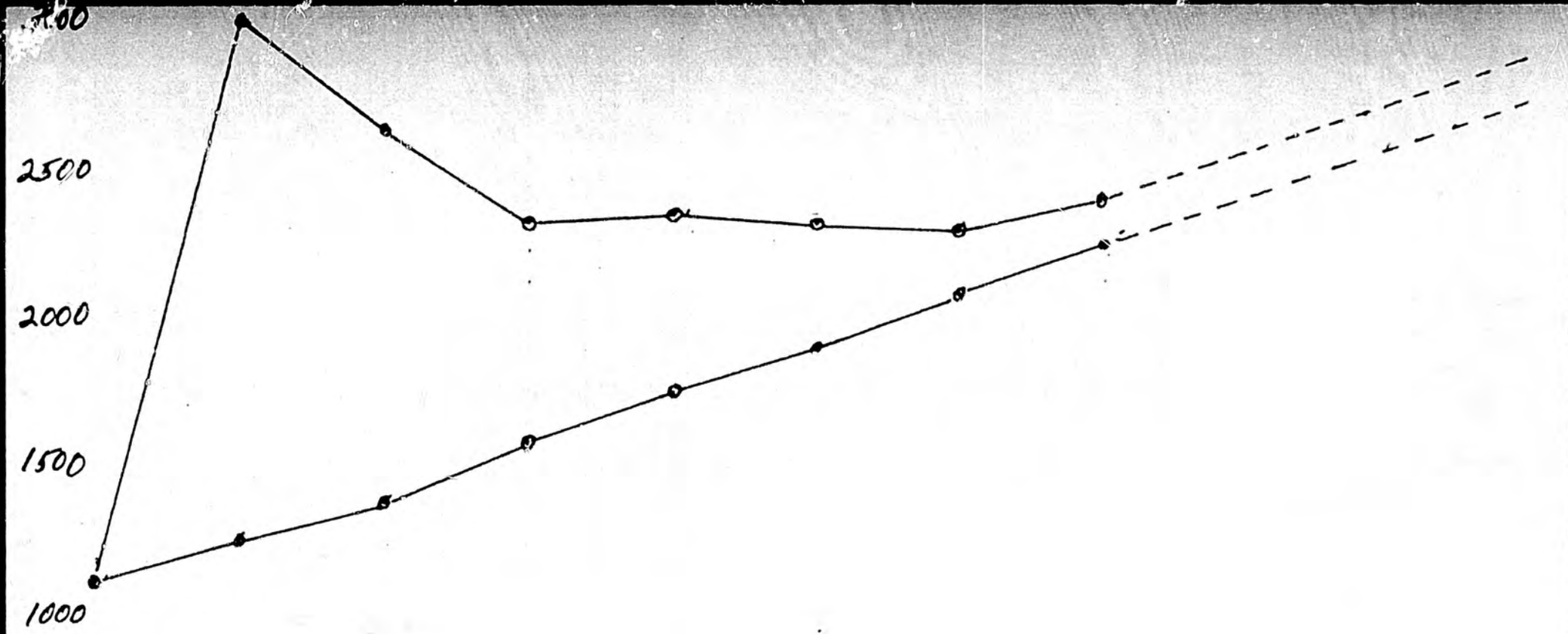
The seven categories of operational costs listed in the above seven Tables are not all-inclusive of the City's operational functions, but are those that they feel will be heavily impacted. The impact costs will be further analyzed in the Summary Section.

Schools.

The Valdez school system has three schools at present. There is a school population of 310 and only 51 additional students can be accomodated without increasing classrooms or going to double-shifting, or year-round schools. (They do not show year-round schools as an alternative.)

The 1973-74 budget recommended a mill rate for school purposes of 5.51 mills for the local contribution. Local contribution covers about 10% of the costs and amounts to $246.46 per pupil in the 1973-74 budget.

The schools of Valdez estimate the operational costs for the first



Valdez

Population Projections - MSNW

1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983

year of the pipeline construction to be as follows. They did not project beyond 1974.

TABLE 17-9

Estimated Impact Costs of School Operations ($000)

Year	School Population	Local Contribution	Per Pupil Contribution	State Contribution	Additional Needed
1973	310	76.4	246.46	687.6	-
1974	600*	108.5*	180.83	976.5*	546*
1975	750	Not Projected			
1976	700	"	"		

* Based upon Valdez school administration projections.

Capital Improvements.

The capital improvements needed to meet the pipeline induced needs are covered below. The City of Valdez is concerned about making improvements that may not be needed if the population drops significantly following pipeline construction. It may be noted that Valdez is somewhat unique among the impacted communities in that the relatively large population projected in the first year or so will be a number of years ahead of the time when that population figure would be reached under normal conditions. Please refer to the graph attached and note that the population projected for 1974 would probably not be reached before 1985 under normal growth. The graph would indicate that, even after the population stabilizes in 1976, no significant growth starts again until 1979, when apparently a normal growth curve is resumed.

If these projections can be relied upon, it would seem to be wise for Valdez to make public improvements based upon a population of not more than 2,300 until the picture becomes a little clearer as to what

really is going to happen. The following analysis of the capital improvements will reflect this thinking.

Housing.

Valdez presently has 192 residential lots with conventional housing. In addition, it has 112 mobile home park spaces occupied. Land for additional housing is available, but rather limited. Following is an inventory of the potential.

55 Residential lots serviced with streets, sewers and utilities.

10 Residential, multi-family, serviced with streets, sewers and utilities -- 52 units could be built on these lots.

34 Residential lots need streets, sewers and utilities.

19-1/2 Acres of City land could be subdivided, and improvements to streets extended. This could make 160 additional family units.

The above unimproved properties could be improved for: 34 lots, $175,000, and 160 lots, $600,000.

There are six mobile-trailer parks within the City, three near town with 68 spaces, and three, 4 miles out with 118 spaces. One-hundred twelve spaces were filled in August, 1973.

The U.S. Army Recreation Camp can accomodate 33 trailers, the spaces being served with facilities and utilities. The City is attempting to trade land for the trailer park. It has room for 66 more units, however, utilities would cost an estimated $250,000.

Thus the picture is as follows:

Conventional Housing

107 - ready for building.
194 - need streets, sewers and utilities.

Mobile Homes

74 - ready for moving in homes.

Trailer Spaces (assuming trade goes through)

33 - ready for use.
66 - need facilities.
374

With an average occupancy of three persons per unit, the above, if needed improvements were made, would handle 1,122 of the new population. If the temporary population goes up to 3,000, more temporary housing space will be needed. There are two alternatives.

1. There is University of Alaska land in the downtown area that is adjacent to utilities, sewers, et cetera, and which is suitable for housing. If the University could lease it for temporary housing, if it becomes necessary, it could help solve the problem.

2. By the extension of Egan Avenue to the west, it would open up new land for development. The extension of this street is also needed, according to the City, to provide access to their proposed site of a new State ferry dock (more later on this).

It would appear that the City should arrange for the funding of the costs of developing the 194 potential home sites as soon as possible at the total estimated cost of $775,000. If the trade with the Army is successful, the additional 66 trailer spaces should be developed at the cost of $250,000.

Water Utility.

The City operates the Water Utility and obtains its' supply from two wells capable of producing 1,100 gallons per minute. In addition, they have a 700,000 gallon storage tank. The daily per capita consumption is estimated at 150 gallons. The system capacity is large enough for a much larger population than is expected during the next few years.

In the previous discussion of housing, it was stated that new

residential lots not being served by utilities would need water extensions, and the amounts needed were there estimated and included in development costs.

Sewers and Sewage Treatment Plant.

The City advises that the existing sewer system is adequate to serve the established townsite. Sewage is treated in a treatment plant and the effluent goes into the Bay. The plant is inadequate for the present population, although it was designed for a population of about 1,500. It seems water in-flow to the sewer system overloads the treatment plant. No method has been found to stop the infiltration of water, so the treatment plant must be enlarged.

The City says that the cost of a new treatment plant is $1,500,000. Based upon an analysis of the report filed with ASHA, who managed the urban renewal project when Valdez was moved, the 150 gallons per capita per day design criteria, Valdez will need another 300,000 gallons per day of treatment capacity. At an estimated cost of $200 per capita, the additional treatment unit would cost $600,000. The City agrees that this might be considered the impact costs, providing it meets all EPA requirements.

Public Buildings.

Presently, the whole City government occupies the City Hall. This includes the administrative staff, police, fire department, city council, and State Magistrate. The building is completely filled. With the new personnel in all functions, more space will be necessary. There have been alternatives considered.

1. Build a new wing to house the police.

2. Rent or build a new administration building and turn the old building over to the police and fire departments.

3. Move in temporary mobile space.

Building the new wing would cost an estimated $150,000. This plan has not been selected, or dropped, so it is included in the capital improvements impact.

Fire Station.

As the City builds out beyond the reasonable response time for the fire trucks located in the center of town, a new station should be located away from the center. The City has on order a new pumper, but they need a structure to house it and believe it could best be located near the airport. The new structure is estimated to cost $150,000.

The City believes also that because of the expected new State government personnel that will be stationed in Valdez during and after the pipeline construction, that more State offices will be needed. The State has land in the central area.

Small Boat Harbor.

With the new resident population and the thousands of workers in the area, the present small boat harbor will be entirely inadequate, according to the City of Valdez. The harbor at present can accomodate 176 boats, ranging from 10-foot skiffs to 60-foot fishing boats. They expect that the demand will require doubling this capacity.

The work necessary to expand the harbor is estimated to cost as follows:

Excavation	$405,000
Drive new piles	70,200
Re-locate ramps	25,000
Total cost	$500,200

The value of the small boat harbor to Valdez, not only as an economic factor, but as a recreational facility, cannot be overestimated.

Solid Waste Disposal.

Refuse disposal is provided by the City with one truck which is adequate for projected populations. The disposal site will need to be relocated, however, to handle the larger volumes expected. Estimated costs of covering the present site and relocating to a new site is $20,000.

Schools.

As stated above, the City has three schools, with space capacity (November, 1973) of 51 students. The school administration estimates they will have approximately 600 students the first year of pipeline construction.

Based upon a permanent population of about 2,300 for a few years, this figure seems to be reasonable. Based upon 20 pupils per classroom, the additional classrooms needed would be about 12.

The school administration is consieering the following alternatives:

1. Rent available space on a temporary basis.
2. Provide modular classrooms.
3. Double-shift grades K - 8.
4. Double-shift grades 9 - 12.

They do not consider year-round schools as an alternative.

There has been consideration given to adding five classrooms to the elementary, and expanding related facilities, including the heating plant. The cost is estimated at $570,000.

Also under this possible plan, the existing high school building would be used for the lower grades and a new high school would be constructed. It is believed these construction plans would serve over a longer range than just the pipeline construction period.

Assuming 12 classrooms were needed for the impact period and based

upon the alternatives considered above, costs could be estimated as follows (Staff estimate):

Alternative 2 above:

12 relocatable units	$ 600,000

Alternative: New construction

Classrooms needed - 12

Assume 6 elementary @ $130,000 per unit----------	780,000
Assume 6 secondary @ $175,000 per unit----------	1,050,000
Total	$1,830,000

Electrical Utility.

The electric utility is operated by the Copper River Valley Cooperative and has a peak capacity of about 3,600 KW and a firm capacity of 1,800 KW. With the new B & B Freezer-Storage Plant going on the line recently, additional generating capacity will be needed to serve any new population. From the information I can get, it appears that the Cooperative may be unable to obtain additional funds for expansion of this utility.

The following courses of action have been discussed.

1. Arrange for the Cooperative to borrow money under some State program.

2. The City set up a temporary generating unit.

3. The Cooperative be aided in their attempt to purchase power from Alyeska.

From the standpoint of ease of implementation, the first alternative seems the most logical, even if the unit provided were only a temporary unit.

The second alternative would be only a last resort and would have

to be worked into the Copper Valley system. It should be resorted to only if the Copper Valley directors refused to take the appropriate steps.

The third alternative has been attempted. Alyeska was approached and the result was a firm negative -- they don't want to get into the power business. However, I believe the legal barriers, if they exist, could be overcome. Such a solution would necessitate the construction of a transmission line to Valdez from the pipeline terminal site, and in itself would be costly, but would eliminate other capital expenditures at this time. The feasibility of this alternative would depend upon the cost of power to the utility, the cost of the transmission line as compared to the amount of power that could be purchased and over what periods, and the extent to which transformers were needed at both ends of the line, and their cost. (See Appendix G, Valdez Power.)

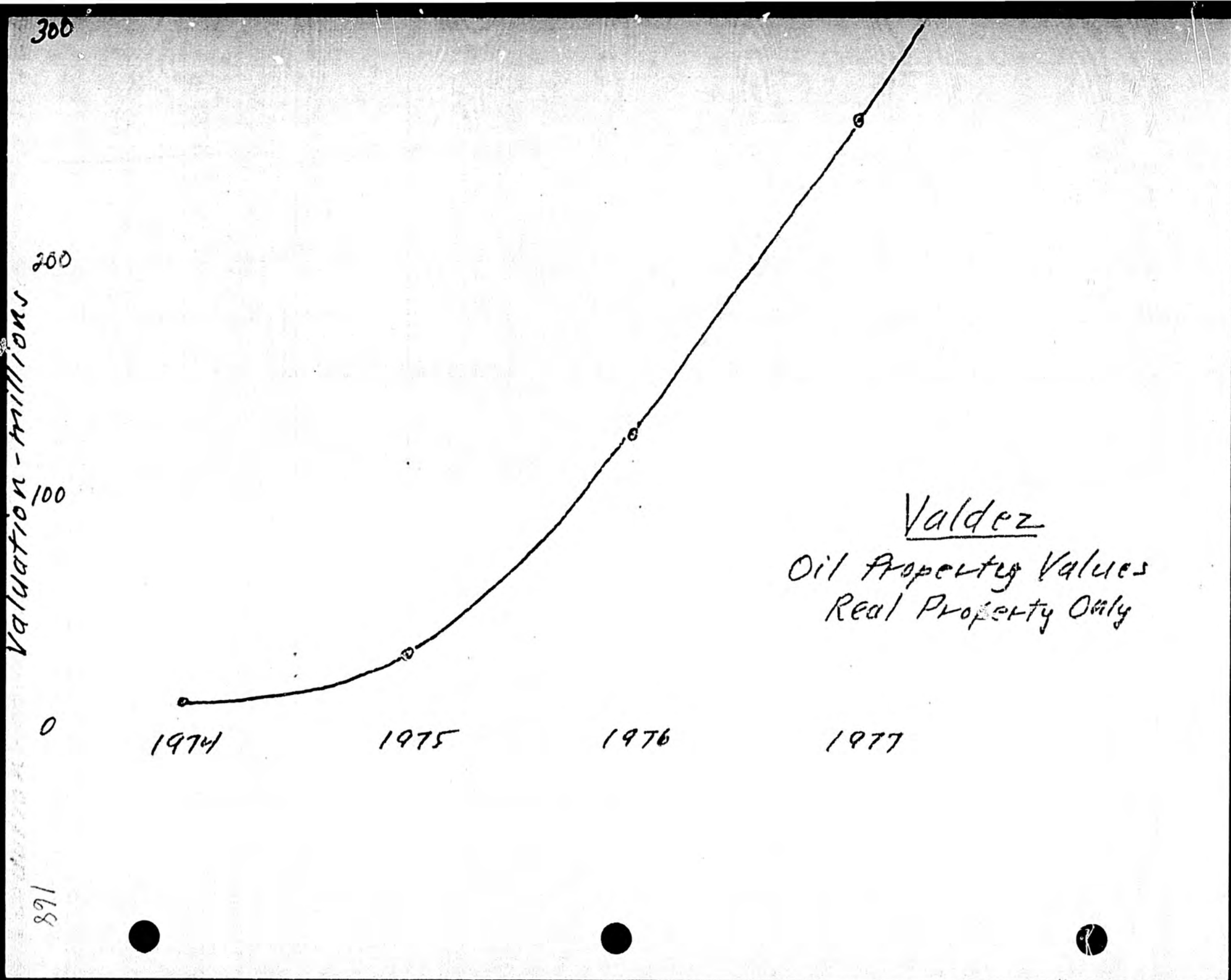
State Ferry Terminal.

The City says the State Ferry Terminal is presently at a poor location because passenger traffic on and off the ferry is in constant conflict with other port activities. This situation is expected to be aggravated by the larger volumes of marine traffic that will be moving over the dock during the construction period.

The City proposes that the Ferry Terminal be relocated to the Mouth of Mineral Creek and that the present dock be turned over to the City to help service the marine traffic.

The cost of the new Ferry Terminal is estimated at $300,000.

In order to relocate the new terminal, Egan Avenue would have to be extended west. The right-of-way has not yet been acquired, the City says, and the project should be undertaken as a part of the State's primary road system. No estimate of cost is made.


300
200
100
0
Valuation - millions
1974
1975
1976
1977
Valdez
Oil Property Values
Real Property Only

Revenue Projections.

The following projections of property tax revenues for the City include those made by the City Manager prior to the passage of the new State ad valorem legislation.

Also included are my own projections that were made after discussion with the State Department of Revenue.

The Department projects real and personal oil property as $131 million in 1975; $279 million in 1976 and $540 million in 1977. They estimate the personal property to be $100 million. By deducting this, they get $31 million in 1975, $179 million in 1976, and $440 million in 1977. I have chosen lower figures for my projections, allowing almost 50% of the State real and personal projections for personal property during the construction years. The attached graph and the Table show these projections.

TABLE 17-9

Property And Sales Tax Revenue Projections ($000)

Year	City* Projections	Oil Real Property	Tax** @ 7 Mills	Other Prop. Values	Tax @ 13.5 Mills	Sales Tax	Totals
1973	320	-	-	-	-	160	-
1974	570	10,000	70	11,500	155	232	457
1975	813	30,000	210	17,500	236	305	751
1976	1,165	125,000	875	21,800	294	363	1,532
1977	1,400	260,000	1,820	27,300	369	435	2,624

* City projections include sales and other taxes.
** 7 mills used only as a shot in the dark. No decision has been made by the City as to making a new tax zone for oil properties.

It will be noted that my projections are lower in 1974 and 1975 than those of the City, but are higher after those years.

State Shared Revenue.

The following projections cover only those revenue sharing categories dependent upon population.

TABLE 17-10

State Revenue Sharing Projections

Year	Populations Projections*	Police	Fire	Parks	Totals
1973	1,100	11	5.5	5.5	22
1974	1,600	16	8.0	8.0	32
1975	2,100	21	10.5	10.5	42
1976	2,500	25	12.5	12.5	50

* City projections.

It should be noted that the property tax picture would change radically if Valdez should assess and levy taxes on personal property.

SECTION XVIII

VILLAGES

The following relates to the impact of the pipeline on the native villages. Specific reference here is to the people living in the Copper River Valley and along the Yukon near the route of the pipeline. It was believed that their opinions should be sought regarding the way pipeline construction would affect them and what they were most concerned with.

It is reported that there are about 1,000 natives in the Ahtna Corporation. Rampart Village has 68 inhabitants, and Stevens Village about 74. The latter two are in the Doyon Corporation.

Generally, the people seem to know much about what the construction job is, and how it will be built, and they are aware of how it may affect their way of life.

Although there is a desire to have the opportunity to work on the line, there is the feeling that for most natives the work should be such that they will have to train only for short periods, 30 to 60 days. They want to work near home, or close enough so they can return home periodically. Instead of being transported to the point of hire, they would want the contractors to return them to their village.

The natives would like to register with their own native corporations for work, rather than go to the large cities.

Many of the native people would prefer permanent employment rather than short-term construction work, even though the pay would be lower.

Other pipeline-associated jobs for which some native people feel they can qualify, or be trained for are as follows:

1. Contract with Alyeska, or its' contractors, for providing gravel

needed for pipeline construction and associated road work. There is some question about their having the authority to use such gravel. First, it has not been determined if gravel is a surface or sub-surface resource. They do not know if they can use or sell gravel in their townships of selection before they have title to the land.

2. The natives believe some of them, or their corporations, can contract for security patrol, both during construction and after.

3. They believe native corporations could salvage timber in the pipeline right-of-way if it has any value.

4. They would like the opportunity of contracting for reclamation projects after the pipeline is completed.

5. There is some thought being given to groups or individuals entering business or offering services that would be needed during the pipeline construction.

6. They would like the State to train natives for auxiliary police work and employ them in the villages to maintain order during the construction period.

An important part of the pipeline construction project of great importance to the natives along the line is the effect of the corridor withdrawal upon the village's selection of land. Several of the villages are either adjacent to the line, or the line runs through townships which they want to select for the village.

It is their opinion that in the areas where there is conflict, the right-of-way be designated and the remainder of the corridor be released. The Secretary of Interior promised to consider this problem.

The native people are much interested in the education of their

children. They see education as the way for them to improve their way of life. Even though there seems to be resistance to changing their ways, they see change coming.

Because of the distances involved in going to school, most would prefer lower quality, temporary classrooms and be able to maintain regular school hours rather than double-shifting.

The quality of housing in the villages is not high. Most have no running water. The belief is that many of the younger generation who are now in Anchorage and Fairbanks will return to the villages during pipeline construction. New housing will be needed and any housing finance program should help them, too, since most programs will not.

There are several other matters that the native people are thinking about in connection with the construction period and the large number of people that will be "invading" their home territory.

1. Despite the fact that the pipeline may provide jobs, many native people are skeptical about their being able to depend upon full time employment, from here on out, for their livelihood. They fear that they may still have to depend upon subsistence living sometime in the future. Therefore, they are worried about what will happen to fish and game with the thousands of workers along the pipeline, and with the new road opening up the country to north of the Yukon.

They claim that game is already scarce and that a native family needs at least one, preferably two moose or caribou to survive the Winter. They find they must travel further away each year from the areas where sports hunters go to get their game. They believe that subsistence hunting should have some State protection.

The fish spawning streams in the path of the pipeline should be protected, since these streams are a source of livelihood for the subsistence hunters.

2. State health services should be improved to the villages.

3. The village governments should have the right to review liquor license applications for dispensary or package outlets near the village.

4. The State should pass and enforce laws along the pipeline and highway to prohibit junk, other discarded material, and waste from being dumped.

5. Firefighting training in the villages and the distribution of fire extinguishers should be expanded.

6. Any measure that is possible should be taken to protect the native gravesites.

7. An improvement program for the native village airstrip should be initiated.

8. As soon as possible, telephone communications should be made available to villages that do not have them -- at the very least, a public phone that could be accessible for emergencies.

APPENDIX A

CITIES AND GOVERNMENT AGENCIES ASKED FOR IMPACT STATEMENTS

Cities and Boroughs

Anchorage BBRRoad
Cordova
Delta Junction
Fairbanks
Fairbanks North Star Borough
Greater Anchorage Area Borough
Haines
Juneau
Kenai
Kenai Peninsula Borough
Matanuska Valley Borough
North Pole
Palmer
Seward
Valdez
Whittier

Other Agencies

Fairbanks Schools
Anchorage Schools

APPENDIX B

POPULATION AND EMPLOYMENT

EMPLOYMENT AND POPULATION PROJECTIONS

Mathematical Sciences Northwest did a study of the economic and sociological impact of construction and initial operation of the Trans Alaska Pipeline. Their report is available in our office for any Committee member who hasn't seen it.

Generally, it is believed that their projections of employment are low for the State and most of the communities for which separate projections were made. Consequently, the population projections are considered low, with the exception of Fairbanks. It is believed their population figures for Fairbanks are probably high because it appears they used a population/employment ratio higher than presently exists in Fairbanks. The ratio they use averages about 1.4 additional persons in the population for each worker; therefore, a multiplier of 2.4. My calculations of this ratio, based on the population/employment figures for the past few years indicate a present multiplier of about 1.8 exists, and it probably will drop during the pipeline construction period.

However, to maximize the possible impact, we have kept in mind MSNW population figures for Fairbanks in analyzing the impact statements from that area.

EMPLOYMENT PROJECTIONS -- METHODS AND ASSUMPTIONS

1. The employment figures are for civilian employment and, therefore, exclude uniformed military personnel. The base figures used are those published monthly by the State Department of Labor, "Alaska Workforce Estimates."

2. No attempt has been made in this effort to project beyond 1976, because of many unknowns and the time required to develop such information. Several other studies have been made and they indicate some slowing of employment growth after 1976, if no new large projects are started.

Regardless of whether the economy continues at an increased pace after 1976 or not, the accelerated growth picture, as seen at present, will probably not change radically. If the impact is faced by assuming an adjustment period after 1976, the consequences of over-building can better be accounted for and avoided.

3. A "Basic" industry, as used here, means the project which creates the new demand for workers. Examples would be military construction during the Korean War; the construction following the Alaska earthquake; and the North Slope oil activity in 1968, 1969 and 1970.

4. Employment figures are annual averages. Peak annual figures may be 12% (or more) higher or lower than shown in the peak or off-seasons, respectively.

5. The 1960 - 1970 employment in the State increased at an annual average of 4.65. This includes two "boom" periods. The earthquake reconstruction period and the beginning of the North Slope oil exploration.

6. Population figures are all calculated on the exclusion of all persons living on military bases. These figures are:

Statewide	45,800
Anchorage	23,339
Fairbanks	15,246

as per 1970 United States census figures.

7. Eliminating large employment increases generated by large, short term projects, civilian employment in the period 1960 to 1970 increased about 3.4% annually, on the average. This rate of increase would appear to be close to the increase that would occur due to the natural increase of our population and an accompanying expansion of the economy to accomodate it.

8. The relationship between population and employment shows a decreasing ratio and varies from city to city, and statewide. Recent statistics, from 1970 to 1973, show a slight increase, probably due to the slowdown of the North Slope oil activity and the consequent lower number of single workers. However, the ratio is very close to 1.40 "dependents" for each person employed statewide. It is expected that with the influx of many single workers, or workers who do not bring their families, this ratio will drop.

The ratio in Anchorage is a little lower: about 1.24. Fairbanks is even lower: about 0.8, indicating a higher ratio of single people among the workers there than elsewhere.

In my projections, I use lower ratios all the way through in projecting population figures, because of the probable influx of a high percentage of workers without families during the construction phase.

9. An analysis of employment experience during the two "boom" periods in the 1960 - 1970 period indicates the following:

a. For each job in a "basic" industry, sustained for two to three years, approximately 2.4 "other" jobs were created, with some lag time (1 to 2 years).

b. Of the "other" new jobs created, roughly 50% or more, have been created in Anchorage, about 15 - 17% in Fairbanks (if Fairbanks is involved, such as in the North Slope activity) and the remainder scattered, being weighted to other areas in relationship to the location of the "basic" job location. Since Fairbanks has not grown dramatically in the 1960 - 1970 period, and since there has been considerable fluctuation, I have chosen to use Mathematical Sciences Northwest report impact figures for Fairbanks for 1974, 1975 and 1976. The new jobs, however, will be in the neighborhood of 15 to 20% of the statewide increase, but apparently will be associated more directly with pipeline work.

Because Valdez growth will be relatively large and closely related to the pipeline and terminal construction, other employment was difficult to project without much more research. Therefore, it was decided to base these projections on the MSNW report also.

c. Because of the preponderance of camp workers, and because it is presently not known to what extent Alyeska included their own transportation and other logistic workers in their "direct" pipeline employment, I have chosen the following to derive the multipliers for total statewide employment:

1st year: 1.0 additional job for each pipeline job
2nd year: 1.4 additional job for each pipeline job
3rd year: 1.8 additional job for each piepline job

10. Methods used are as follows:

a. Determine the normal annual employment increase in the various categories of employment, as normally used: construction, manufacturing, mining, non-categorized, Federal Government, state and local governments, communications and utilities, retail trade, wholesale trade, finance, insurance and real estate, transportation and services.

b. Determine the increase in each category which has been generated by a surge in a "basic" employment activity.

c. Add the increases in all the categories of employment for the year or period under study. Divide this total figure by the increase in the employment of the "basic" activity to give the ratio, or the number of "other" jobs created by the "basic" employment.

d. Perform the above steps for both the statewide employment and the local area employment to get the multipliers which may be used for future projections.

e. Use Alyeska projections for direct employment on the pipeline, and the British Petroleum and ARCO projections for North Slope employment for the years 1974, 1975 and 1976, to derive statewide employment projections and local area projections.

f. Using the employment projections, calculate the population projections for the State and local areas.

11. Alyeska has projected direct pipeline employment as follows:

1974	5,000 - 6,000
1975	10,000 - 13,000
1976	10,000 - 12,000

I have used the figures in the third column shown above. If lower employment is realized, my employment and population projections will be high.

Atlantic-Richfield and British Petroleum have estimated employment on the North Slope in production drilling operations and in construction of the oil-gathering system as follows:

	Construction Contractors	Company Personnel	Non-construction Contractors	Totals
1974	235	72	155	462
0 - 2 years	690	130	245	1065
0 - 1 years	670	220	390	1280
0 + 2 years	320	660	330	1320

"0" year is the year of beginning of pipeline operation. It has been implied that the employment will be fairly level between 0 - 1 years and 0 + 2 years. These people are in addition to pipeline workers and do not include further exploration work, if any is done in this period.

CALCULATION
OF
EMPLOYMENT & POPULATION PROJECTION

1974 - State

New pipeline and Slope jobs---------- 6,462
Multiplier---------- 2.0 x 6,462 = 12,924 jobs above normal

Normal increase @ 3.4%
1973 employment: 118,700 x 1.034 = 122,800
1974 projection: 122,800 + 12,924= 135,724

Anchorage

1974 State----------	135,724
1973 State----------	118,700
Additional jobs----------	17,024
Less new "basic" jobs----------	6,462
New "other" jobs----------	10,562

50% of above---------- 5,281 new Anchorage employment

Fairbanks

20% of 10,562 = 2,112 new Fairbanks employment

1975 - State

1974 pipeline/Slope jobs----------	6,462
1975 added pipeline/Slope jobs----------	7,603

6,462 x 2.4 = 15,509
7,603 x 2.0 = 15,206
Jobs above
normal------ 30,715

Normal increase 122,800 x 1.034 = 126,975
1975 projection: 126,975 + 30,715 = 157,690

Anchorage

1975 State----------	157,690
1974 State----------	135,724
Additional jobs----------	21,966
Less new "basic" jobs----------	7,603
	14,363

50% of above---------- 7,182 new Anchorage employment

Fairbanks

20% of 14,363 = 2,872 new Fairbanks employment

1976 - State

1974 pipeline & Slope jobs	5,677
1975 pipeline & Slope jobs	7,603

5,677 x 2.8 = 15,896
7,603 x 2.4 = 18,247
Jobs above normal 34,143

Normal increase 126,975 x 1.034 = 131,292
1976 projection: 131,292 + 34,143 = 165,435

Anchorage

1976 State	165,435
1975 State	157,724
Additional jobs	7,711

50% of above = 3,856 new Anchorage employment

Fairbanks

20% of 7,711 = 1,542 new Fairbanks employment

PRELIMINARY
EMPLOYMENT/POPULATION PROJECTIONS
1974, 1975, & 1976

STATE
(Less 45,800 Military)

	Employment	%	Population	%	With Military
1972	117,600		278,481		324,281
1973	118,700	1.0	273,000	1.75	327,119
1974	135,700	14.0	298,500	6.0	344,300
1975	157,700	16.0	347,000	16.0	392,800
1976	165,400	5.0	363,880	5.0	409,680

(Population increases include pipeline workers.)

ANCHORAGE BOROUGH
(Less 23,339 Military)

1972	54,000		120,800		144,139
1973	55,700	3.0	124,200	2.75	147,539
1974	61,000	9.5	134,200	8.0	157,539
1975	68,200	12.0	150,040	11.5	173,379
1976	72,000	5.5	158,400	5.5	181,739

FAIRBANKS BOROUGH
(Less Military Est. 8,100)

	Employment		Population	
	My Projection	MSNW	My Projection	MSNW
1972	17,325			
1973	17,325		32,900	34,220
1974	19,400	16,275	36,860	39,125
1975	22,300	17,748	42,370	42,306
1976	23,850	17,907	45,300	42,172

VALDEZ

	Employment	%	Population	%
1973	500		1,200	
1974	1,000	100.0	3,000	150.0
1975	1,250	25.0	2,600	-13.0
1976	1,000	-20.0	2,300	-11.5
1977	1,100	10.0	2,300	0.

POPULATION PEAKS

Population figures used in this report are based on employment only and do not include those looking for work or temporary visitors for any reason. It is assumed that those that can't find work in a reasonable time will go back to where they came from and that other transients will not affect schools, normal housing or capital intensive public services.

However, those looking for work and other transients will definitely affect public safety costs, certain health services, recreation and transportation, and must be accounted for in the impact in respect to additional costs in these services.

Also, as pointed out earlier, seasonal employment will increase the average population figures by around 12% in the summer months and decrease the average by about the same during the winter months, if past experience is repeated. These people added during the annual peaks will be employed and probably need housing and normal government services, except schools, and they will be here when the electrical demand is not at the peak.

Therefore, when calculating the need for police services and some health services, the average population should be borne in mind. For Anchorage, the additional people here looking for work, their families, and summer seasonal workers could be as high as almost 35,000 persons in the peak year, 1975. (See attached calculation.)

PEAK ANNUAL POPULATION

A = Employment, annual average.

K = Population/employment factor (off-base population and civilian employment)

R = Percentage of annual average employment added during peaks. Assume these employees are single and will leave after employment terminates in the fall.

E = Unemployment percentage, of the total work force.

AK = Population derived from annual employment average.

AR = Seasonal employment figure.

$\frac{EA}{1-E}$ = Unemployment figure.

$K\left(\frac{EA}{1-E}\right)$ = Unemployed and families.

Pmax = Total peak population due to seasonal peaks and unemployed and families.

$$= AK + AR + K\left(\frac{EA}{1-E}\right)$$

$$= A\left(K + R + K \times \frac{E}{1-E}\right)$$

$$Pmax = A\left[\left(1 + R + \frac{E}{1-E}\right)\right]$$

$$Pmax \text{ for Anchorage} = A\left[\left(2.21 + .12 + \frac{.10}{(1-.1)}\right)\right]$$

$$= A(2.7082)$$

APPENDIX C

INCREASED COSTS DUE TO INFLATION

INCREASED COSTS DUE TO INFLATION

For a number of years we have faced the consequences of inflation. It has become customary to think it terms of everything costing more next year than it does now. Understandably, those who are responsible for government administration need to consider the effects of inflation.

Even though we believe that costs will rise and have seen them do so for years, we know there are compensations and adjustments that go along with inflation which somewhat balances out the effects.

One factor is that of increased productivity. Theoretically, if the inflationary and productivity factors are equal, the effects of the inflation of costs are supposed to be minimal or non-existent. However, this has not been the case in recent years; costs have increased faster than productivity.

But other adjustments are made, though. If they weren't, we would all be out of business, including government agencies. Costs would have increased to the point where income would have been entirely inadequate. In other words, we would all be bankrupt.

Fortunately, compensating adjustments are made, even though the process may be disturbing and painful. Wages rise, government receipts increase and total income and receipts rise to meet the rise in costs. The real question then is, how long does an inflation of costs affect the person, business or government that is called upon to meet the increases, before adjustment takes place?

The answer is, only long enough to be able to pass the increase along to the sources of income. For an individual it means a salary increase, for business it means increased prices for commodities or services, and for governments it means increased revenues in one form or another.

These increased revenues could be in the form of increased tax rates or increases which are caused by the inflated prices themselves, such as increased sales taxes or an increase in property taxes because of an increase in the value of property caused by the inflation.

The significance to the individual, business or government is the length of the period after the inflation of prices begins to the time when the increase in the income take place. If it is a long period, some belt-tightening is necessary; if it is a short period, the inflation of prices and costs has little effect.

Based upon a recent article in Fortune (July, 1973), real estate values are increasing faster than the cost-of-living index. In Alaska, where property assessments are made on full market values, such increases should be reflected in increased property taxes, and, therefore, compensate, for the inflation on that portion of costs paid from property taxes. The only problem here is the lag of the increased revenues because property re-evaluation is not done yearly. If it were, there would only be a one year lag.

To counter inflationary costs, other government revenue sources do go through periodic increases in rates. Therefore, over-time, inflationary costs to government agencies are balanced by increased revenues. The experience has been that the revenue increasing process has been evolutionary and is almost concurrent with the inflation.

In Alaska, since 1970, revenue sharing has helped the communities. Originally, I believe the program was intended to reduce local taxes, however, it appears that it has done little more than help reduce the effects of inflation. Without the revenue sharing, the local communities

would have relied more heavily upon passing the increases along to the citizens in more current up-dating of property values and in the costs of other services, thereby increasing revenues sufficiently to meet inflated costs.

Without advocating an increase in taxes, one could point to the fact that increasing wages and increases in property values will probably have to support the increases in government costs caused by inflation. The only answer is a lower level of government services (or a large increase in efficiency).

No legislative body wants to increase tax rates and usually does so as a last resort. The usual increases in revenues come from new property added to the tax rolls, more people paying taxes, and, of course, increases due to the rise in property values and the cost of services. Such increases, although just as painful to the taxpayer, seem to be more acceptable than tax rate increases.

If State funds during the next three years are going to be limited, and many communities of the State in a boom economy, it would appear that the people of a community should bear their share of local government costs by contributing in amounts commensurate to existing wage levels and current property values, rather than on wages and property values that were in force prior to the inflation caused by the boom.

This will mean annual adjustments of property values and keeping current the rates and prices of all services and fees, so that the inflation of costs to government are fully passed on to the beneficiaries of government, without the normal lag. If this is done, we could practically ignore the inflationary effects, as far as considering aid to the local government is concerned.

HYPOTHETICAL DEBT ISSUE FOR CAPITAL IMPROVEMENT

1973 Cost of project - $1,000,000

Interest rate 7%, 20 year maturity.

Annual debt service $94,300., 20-year cost $1,885,000. at an inflation rate of 10% (used by some).

1974 Cost would be 1,100,000.

1975 Cost would be 1,210,000.

1976 Cost would be 1,330,000.

Debt service on these issues would be:

1974 issue $103,700 -- 20-year cost $2,080,000

1975 issue $114,000 -- 20-year cost $2,280,000

1976 issue $125,700 -- 20-year cost $2,550,000

Thus, if a community was required to provide capital improvements in 1973 which, under normal growth, would not be needed until 1976 the following cost picture would prevail:

1976 construction -- 20-year cost $2,550,000

1973 construction -- 20-year cost $1,885,000

Additional cost for waiting------ $ 665,000

APPENDIX D

CAPITAL IMPROVEMENTS, FINANCING, AND INFLATIONARY FACTORS

CAPITAL IMPROVEMENTS, FINANCING AND INFLATIONARY FACTORS

Several communities face the probability of the need for capital investments to meet the accelerated growth because of pipeline construction. In most cases the improvements will be needed in a few years because of expected normal growth. Under these circumstances, what is the extent of the burden on the local governments because of early construction?

If the community were to pay cash for the improvement, the additional cost to the community would be either the loss of investment revenue which could have been earned until the money was needed under normal growth, or the loss of benefits which could have accrued to the community if the money had been spent for other immediate needs.

However, if cash is not available and the improvement requires considerable capital, the community will resort to debt financing. Under these circumstances, and if the investment will need to be made in a few years anyway, the only money that the community must furnish, prior to the date when it will be needed under normal growth, is the debt service payments. For long-term debt these amounts will be small compared to a cash investment. Therefore, loss of investment interest or benefits from other uses will be comparatively small.

The bonding capacity of the community, or the ability to sell bonds at reasonable rates, will be an important factor in whether the community will, or can, resort to this kind of debt financing.

If cash is not available or bonds cannot be sold, other means of financing should be available, and the Legislature should consider State programs aimed to do this, alternative methods will be discussed later.

If costs of capital improvements are expected to be higher in the future becuase of inflation, there are advantages, cost-wise, to the community to build now and pay later, within certain limitations. These limitations are quite wide, however, and mainly are concerned with the interest rates which would apply if the funds were invested instead of used for the improvements; also with interest rates paid on indebtedness; and with the rates of inflation currently existing and expected in the period from now until the capital improvements would normally be needed.

Computations (see Appendix C for details) show that savings are considerable if there is any significant inflation of costs over time. For example, at inflationary rates of 7.5%, bond interest rates at 6% and surplus capital investment rates at 7% a $3,000,000 capital investment project built now would cost the local government $1,219,000 more if built three years from now. Their debt service payments over the 20-year life of bonds would be $63,500 less per year by building now. In the above example the rate of inflation would have needed to drop to less than 1/2 of 1% a year before savings would not have been realized. Some people are saying that construction costs are inflating as much as 10% a year. It can be seen that, at this rate, very substantial savings would result if capital improvements were undertaken as early as possible.

Despite assured savings, it is assumed that a local government would not undertake capital improvements unless there was a reasonable assurance that they were needed or that benefits would accrue to the community now. They would also want assurance that the benefits would be commensurate with the expenditures and further that an increase in revenues would pay the added debt service. In other words, capital improvements would not be made before needed just to reduce costs.

If pipeline construction creates demands now for facilities which cannot wait, the local community must weigh all factors and select the method of financing which will reduce the short term and long term burden to the community and also meet the long term service needs of the community.

Savings formula:

$$\text{Savings} = Pr\left[\frac{(1+r)^n}{(1+r)^n-1}\right]\left\{n\left[(1+i)^N-1\right]-\left[\frac{(1+R)^N-1}{R}-N\right]\right\}$$

P = Amount of improvement (bond sale or debt).

n = Number of years to bond maturity.

r = Interest rate on bonds.

i = Rate of inflation per year.

N = Number of years from now until improvement would normally be built.

R = Interest rate realizeable for surplus funds investments.

If the community were to pay cash from surplus or reserve funds for an improvement needed for accelerated growth caused by pipeline construction, the above does not apply. The future value of this money would depend upon the investment rate and if it was as high as the rate of inflation, there would be no savings. If it were higher, there would be a loss.

Under present conditions, a community impacted by the pipeline construction will not be burdened by accelerated construction of public works, provided the improvements will be needed at a future date and the community has bonding capacity now and the ability to make debt service payments.

Not the need for money at a date earlier than normal, but its' impact on the community's ability to fund the project and to meet debt service payments earlier than normal, should be the determinants in whether to provide aid, or how to do so.

APPENDIX E

INTEREST RATE LIMITATION

INTEREST RATE LIMITATION

Businesses in Alaska often find it necessary to resort to some debt financing when making substantial purchases of services or equipment. This usually is accomplished by arrangements with local banks. However, local financing has not always been possible and some method of financing with outside money has been used.

Some national manufacturers have found it advantageous to provide financing for sales of their products, through local dealers. At interest rates that prevailed in the other states and in Alaska such financing, if it wasn't profitable to the manufacturer or his banker, it didn't lose him money. Presently, interest rates prevailing in the other states, vis-a-vis legal rates in Alaska, are such that financing sales here is not a good investment.

In the past, some manufacturers sold goods and financed them on a "time sales" basis, with the understanding that such sales were not loans of money in Alaska. Therefore, the interpretation was that Alaska usury laws were not applicable. When interest rates started rising in general, the interest on the "time sales" financing rose to a point above the Alaska limit.

It is understood that a number of other states have usury laws similar to Alaska in respect to interest rate limitations. A recent court case in one or more of these states ruled that "time sales" financing was legally a loan of money, and therefore, came under the state's usury laws, and interest rates applying to such loans must be within the legal limitations.

I find that time sales agreements in Alaska are being looked at by

national suppliers with disfavor and in one case, at least, a large manufacturer of electrical and other equipment has advised dealers in Alaska that they will not in the future finance sales in Alaska because of the court decisions, and because the limitation on the interest rate would amount to actual loss of money.

The pipeline construction period will mean large demands for money by Alaskan business firms. Because of the high general interest rates, the flow of money to Alaska will not increase and is likely to decrease. Unless Alaskan banks can sell paper outside or get participation by outside banks, it is very unlikely they can meet the demands for money in the next two or three years. Interest rates could drop radically in the other states, however, this is not expected.

Some say, let foreign banks come in and they will bring capital. This is extremely unlikely unless interest rates in Alaska are two or three percent higher than anyplace else. Money goes where the rate is best, so these banks could actually drain off Alaskan capital to be invested elsewhere.

APPENDIX F

STATE INCOME TAX PROJECTION

STATE INCOME TAX PROJECTION
(Pipeline Construction Created Jobs)

One of the impacts of the pipeline construction will be on the magnitude of the State income tax revenues. Using even a conservative figure for the average salary for workers on jobs created by the pipeline construction, a modest amount of revenue will accrue to the State on a current basis during the construction period.

The following figures were derived using these assumptions:

(a) The average annual salary of all new jobs created by the pipeline construction is $15,000. It is expected that pipeline workers themselves will earn much more than this amount, however, the 1970 census indicates the average salary to lie between $10,000 and 15,000 per year, and this was during fairly heavy oil-related activities.

(b) The per worker income tax figure is based upon three exemptions and a total of $1,000 deductions.

(c) The average worker in the above category will pay $350 State income tax.

Additional State Income Tax Revenue

Year	Jobs Above Normal	Individual Tax	Revenue
1974	12,900	$350.	$4,515,000
1975	30,700	350.	10,745,000
1976	34,000	350.	11,900,000
	Total - three years		$27,160,000

APPENDIX G

VALDEZ ELECTRIC POWER

Several proposals have been made which would increase the electric power generating capability for Valdez.

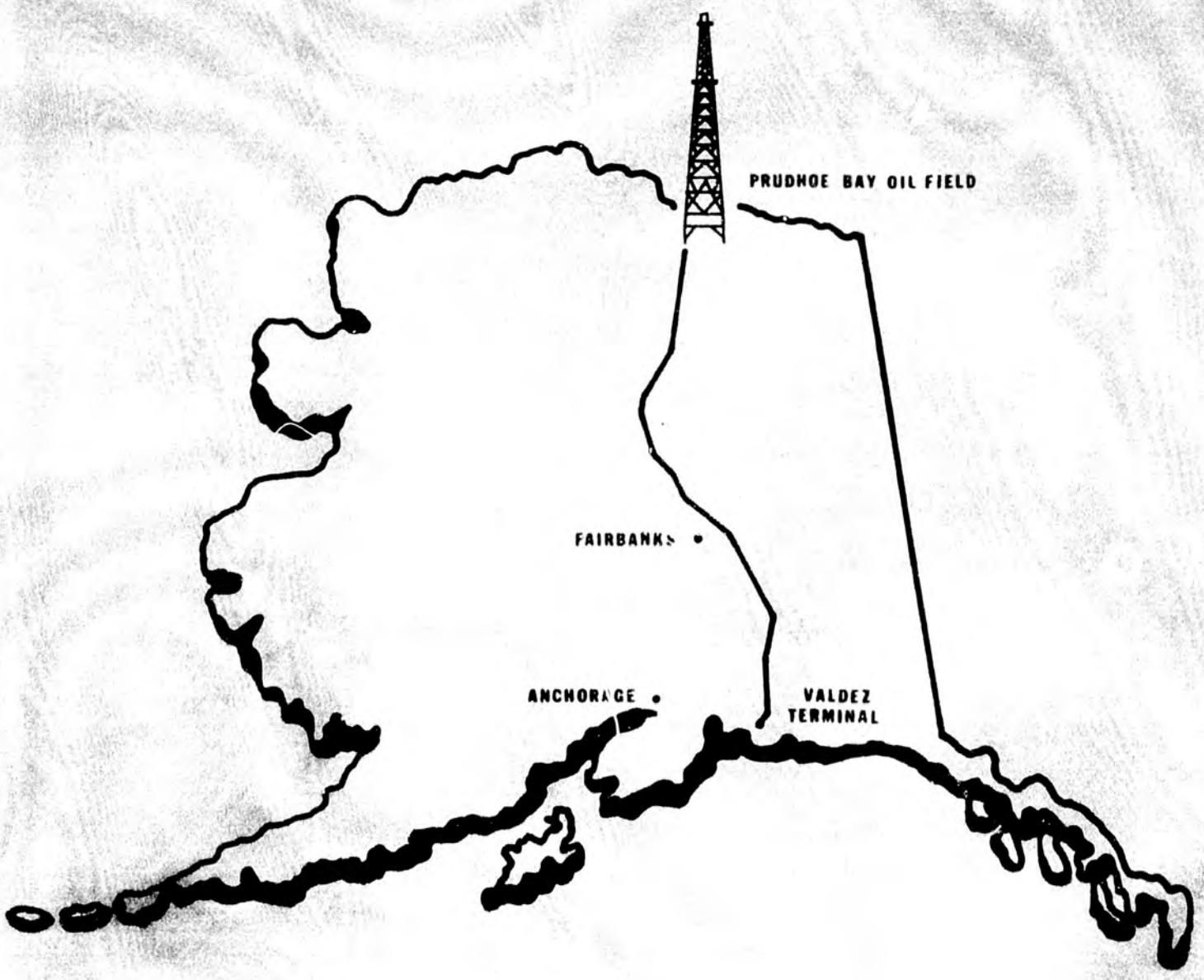
One would be to construct a hydro-electric plant across the Bay from Valdez which could serve Valdez, and Alyeska if they desired. Generating equipment already is in Alaska which could be used for such an installation and could be done quite rapidly.

The second proposal would require the cooperation of Alyeska, and is quite an intriguing method of producing power. The oil that arrives at the pipeline terminal is at high pressure. The pressure must be dissipated before the oil can go into the terminal tanks. The way Alyeska proposes to do this is by routing the oil through several pressure reducing units. The power generating proposal would have the oil flow through one or more turbines. The turbines would use the energy of pressure to turn electric generators and thereby produce power much like hydro-power is produced. These turbines would necessarily need to present a constant load to the flowing oil and therefore the electrical loads on the generators would have to be fairly constant. This could be accomplished by using the excess electrical energy for pumping water to the hydro-electric water impoundment area for use in peaking requirements.

The size of the latter project would envision the construction of a transmission line to Glennallen, Alyeska using part of the generated power for their terminal needs and also using power for their service needs only at pump stations south of Glennallen.

The beneficiaries in both cases would be Valdez, and in the second proposal Glennallen and points in between.

CITY OF ANCHORAGE, ALASKA



TRANS-ALASKA OIL PIPELINE IMPACT STATEMENT

Prepared by Office of the City Manager
Revised December 18, 1973

ALL-AMERICA CITY 1956 & 1965

International
Polar air crossroads of the world

CITY OF ANCHORAGE ALASKA

CITY OF ANCHORAGE NOV. 23, 1920

POST OFFICE BOX 400
ANCHORAGE, ALASKA
99510

December 17, 1973

Mr. Bernard E. Kelly, Chairman
Northwest Federal Regional Council
1321 Second Avenue
Seattle, Washington 98101

Dear Mr. Kelly:

We appreciate this opportunity to present on behalf of the City of Anchorage the enclosed statement concerning the impact from the construction of the Trans-Alaska Oil Pipeline and related petroleum industry activities.

This statement contains an overview of the additional demands that we feel will be placed on the City of Anchorage for governmental and public utility services and facilities from pipeline and related construction based on the information and studies completed to date. There are many areas on which very little information has been developed or made available to us. For example, there could develop a grave shortage of professional and skilled personnel essential to the provision of additional services and facilities. No attempt to our knowledge has been made to measure the inflationary impact from such a large construction job or to develop counter measures to minimize it.

We urge the Northwest Federal Regional Council to use its considerable resources in providing financial and other assistance to the City of Anchorage and other impacted local governments in Alaska. We particularly urge the council to consider and favorably act at an early date on the following:

A. Criminal Justice - Approve adequate LEAA grants to fund the additional costs for law enforcement personnel shown in Attachment "D". In this connection, an LEAA application is being submitted in a few days. It is being coordinated with the District Attorney's Office and the Alaska Court System.

B. Water System - Approve a grant of $5,562,500 for water source improvements to be made to the City of Anchorage Water Utility. This represents one-half of the estimated capital improvement costs listed in Attachment "F". The balance of the funding is planned from a twenty-five (25%) per cent State of Alaska grant and City of Anchorage Water Utility Revenue Bonds. We feel there is an urgent need to firm up this financing so engineering can be completed and initial construction contracts let in 1974.

C. Port of Anchorage - Approve a grant of $2,894,000 for providing one-half the funding to complete the construction of the dock at Terminal No. 3, Port of Anchorage. The City of Anchorage will provide the other half of construction costs from approved General Obligation Bonds. It is essential that this construction be completed in 1974; and to do so requires a firm funding plan now.

We need financial assistance in all areas of operation and maintenance and capital improvement programs cited in this statement, but the foregoing are the most urgent.

We suggest the Council, and the State of Alaska, develop as soon as possible manpower data and take affirmative action to avoid shortages of professional and skilled personnel.

We feel that inflation is a real threat to the impacted communities and that counter measures must come from the Federal and State governments.

We appreciate that conventional grant and other programs may not be designed or funded to allow immediate approval of the requests for financial and other assistance contained herein. In that event we ask that authority and funding be immediately requested and obtained at the earliest practicable date.

In view of the wide public interest in this matter copies of this letter and statement are being distributed as indicated below.

Again, we appreciate your having invited us to make this presentation and the interest of the council in providing assistance to local governments in Alaska.

Sincerely yours,

Robert E. Sharp,
City Manager

RES:py

cc: Mayor and Council
Governor of Alaska
Washington, D. C. Delegation
Anchorage Area Legislators
All Anchorage Media

CITY OF ANCHORAGE, ALASKA

TRANS-ALASKA OIL PIPELINE IMPACT STATEMENT

GENERAL

The City of Anchorage, and the surrounding environs, has felt the impact from the petroleum industry development for the past decade, and more. This impact was generally well within manageable limits, but since 1969 the growth effect on both the private and public sectors has accelerated.

Following the State oil lease sale on September 10, 1969, the private sector economic activity showed a marked increase which inevitably increased the demand for governmental facilities and services in the City of Anchorage, and the surrounding area in which municipally-owned public utility services are provided. A few of the economic indicators listed below demonstrate this point:

POPULATION	1970	1973
City of Anchorage	65,973*	76,610**
Greater Anchorage Area Borough	126,333	154,610**

*Includes Military Bases annexed in 1973.

**Percent Increase - City 16.12%, GAAB 19.21%

CITY BUILDING PERMITS ISSUED (Values in Millions of Dollars)

	1969	1970	1971	1972	1973
Issued	$34.8	$52.2	$55.2	$70.2	$78.0 (Est.)*

*Percent increase in 1973 over 1969 - 124.16%

CITY OF ANCHORAGE TELEPHONE UTILITY

	1970	1973
Number of Telephones	56,607	79,000 (Est.)*

*Percent increase - 39.55%

CITY OF ANCHORAGE MUNICIPAL LIGHT AND POWER

	1970	1973
Peak Demand	56.472	80.000 MW (Est.)*
Kilowatt Hours Sold	267,756,305	417,188,507 (Est.)*
*Percent increase - Peak Demand	41.7%	KW Hours 55.8%

CITY OF ANCHORAGE WATER UTILITY

	1969	1973
Millions of gallons of water delivered	4,525	5,560 (Est.)*
*Percent increase		23%

CITY OF ANCHORAGE COMBINED GOVERNMENT AND UTILITY EXPENDITURES (In Millions of Dollars)	1969	1972
Operating	$29.2	$50.8
Capital	11.5	18.8
Totals	$40.7	$69.6
*Percent increase - Operating	Capital	

These economic indicators are cited to show what has already happened before the recent Congressional action allowing the issuance of the Trans-Alaska Oil Pipeline permit by the Secretary of Interior and before the construction of this multi-billion dollar project is commenced. They are impressive, and have already caused a strain on the governmental and utility financial capability of the City of Anchorage. However, with the issuance of the permit and commencing of construction of this project, the impact in the next few years will be many times greater. It is the purpose of this statement to discuss this future impact and the need for federal and state financial assistance.

The City of Anchorage and environs is the transportation, financial, cultural and population center of the state. The pipeline construction will not come through this vicinity, but because of existing facilities and services and climate, it is and will remain the headquarters for oil firms and

petroleum related operations. It will also serve as the major rest and recreation center for pipeline employees, and the residence of their dependents. The economic impact on municipal services will come almost immediately, and will be felt primarily in the people-oriented services and facilities, such as police, fire, street and road maintenance, traffic, parking, housing and public utilities. These types of services (except utilities) are generally tax supported, and as such, the expansion created by the pipeline activity will impose a definite hardship on permanent residents unless assistance is provided by the Federal and State governments.

EMPLOYMENT AND POPULATION

The key to an analysis of the impact lies in the employment and population generated from the pipeline construction. The City of Anchorage has used the Anchorage Area estimates prepared by the Department of Interior and published in the Pipeline Environmental Impact Statement in December of 1971. Attachment "A" summarizes this data which we feel is still valid for general planning purposes. It should be noted that we have also assumed a gas pipeline will be under construction by the third year of oil pipeline construction. This data includes direct, associated, and indirect employment, which ranges from 4,400 in the build-up year to 7,200 at the peak in the second year of construction, and down to 2,800 after the first year of operation of the oil pipeline. Alyeska Pipeline Company has recently increased the peak year estimate to 10-20,000. Similarly, the population will increase by 13,400 in the build-up year to 24,000 in the second year of construction, and down to 15,700 after the first year of operations of the oil pipeline.

The Anchorage area has approximately 125,000 people residing off of the two military installations. The increase of 24,000 by the second year of construction means a population growth of almost 20 percent in two years time. Obviously, this tremendous growth will create many problems for both

the government and private sectors. To compound the problem, we see little, if any, slacking in the previous annual growth pattern of about four percent. Combined, then, the annual rate will be in the magnitude of 12 to 14 percent per year in each of years 1974 and 1975. This is an increase of about 12,000 people a year, which is greater than the population of all but two or three communities in the state. To provide the facilities and services for this number of people poses a great challenge to all levels of government.

HOUSING

The City of Anchorage, earlier this year, analyzed the existing and projected housing needs based on the population assumptions in Attachment "A", and the results are summarized in Attachment "B". This forecast of housing requirements was made on the further assumption that 4,000 to 6,000 units were vacant in mid-1973. 1974 is the year of peak demand, requiring almost 6,000 new starts to meet the increased cumulative population growth of over 30,000 people in the area by the first year of construction (22,700 pipeline and 10,000 normal growth at end of first year of construction as reflected in attachment "A"). The prime responsibility to meet this need rests with the private sector, particularly lending institutions, but the FHA insurance program will be required to play a key roll. The housing construction industry is capable of meeting this demand for housing if the subdivision and utility improvements are provided by the responsible governmental and public utility agencies There are sizeable areas in the City of Anchorage either vacant or occupied by single family residences that are improved with streets and public utilities on which multi-family units could be constructed with a minimum of capital outlay for public and utility improvements.

GOVERNMENTAL OPERATIONS AND MAINTENANCE

The impact will affect all City governmental services and capital improvement programs, with the public safety and public works areas receiving the greatest initial impact. In fact, this impact has already started, and it is particularly noticeable in police activity (See Attachment "C" - Police Statistics 1970 - 1973).

Attachment "D" is a summary of the impact on operations and maintenance activities of the City of Anchorage in 1974. A total of 111 additional employees and an annual expenditure of $2.2 million is required to maintain a reasonable level of governmental services.

POLICE SERVICES

During the pipeline construction, a "boom" situation in Anchorage is inevitable. With it will come criminal elements looking for a fast buck. The size of this boom will make potential vice operations big enough to attract the professional criminal capable of organizing these operations. We must provide adequate manning for the Police Department (as well as the District Attorney's Office and the Trial Courts) if the people of the City of Anchorage are to be safe in their persons and property. This impact, coupled with the already heavy crime rate, causes us a great deal of concern. Attachment "C" demonstrates the great increase in Part I crimes already experienced in 1973. Forty-one (41) commissioned and support personnel should be hired early in 1974 by the City of Anchorage. This will bring the total force to 186, which is over two police personnel per thousand of population. An additional sixteen commissioned and support personnel are needed in the Spenard Service Area of the Greater Anchorage Area Borough which has a population of about 28,000 and is policed by the City of Anchorage under contract. This will bring the Spenard Force up to a total of fifty-five commissioned and support personnel. This increase in police manpower will not be fully effective

unless the presently understaffed State District Attorney's Office and Trial Courts are also adequately manned. It does little good for the police to make an arrest unless there is vigorous prosecution and a trial court that can hear the cases. Otherwise, violators of the law that otherwise would be convicted will continue to prey on society.

FIRE SERVICES

Two additional engine companies and twenty-five men are needed for fire prevention and suppression. These engine companies would be housed in existing fire stations, and they are needed to protect additional residential, commercial and industrial properties. The Port of Anchorage and adjacent industrial park with its petroleum tank farms is a critical area requiring increased protection. Early funding of these two fire engines and hiring and training of personnel is ranked high in our priorities.

TRAFFIC SERVICES

The population growth, coupled with the increased industrial and commercial activity to provide logistical support for the pipeline construction companies, will bring a rapid increase in motor vehicle traffic requiring increased traffic engineering services. The present street system, and the signal system, is inadequate with considerable traffic congestion already evident. Substandard streets, particularly intersections, cannot accomodate the increased traffic without immediate improvement. The accident rate is already among the highest in the country. The need for immediate improvement of high accident intersections will be further discussed in the capital improvement section.

PARKS AND RECREATION AND LIBRARY SERVICES

Anchorage will be the principal rest and recreation center for oil pipeline construction workers and workers in related activities.

This will cause a great increase in the useage and need for parks and recreation, library and related facilities. An additional nineteen employees are needed for operation and maintenance of these facilities. The need for new facilities will be discussed later in this statement.

OTHER SERVICES

Other operations and maintenance personnel needs include one in street maintenance and six in support activities.

EXISTING SERVICE LEVELS

For statistical purposes Attachment "E" has been prepared to show the existing manning and expenditures for governmental services of the City of Anchorage. The City has 927 employees and a budget of $18.6 million to provide a broad, comprehensive range of governmental services. Per capital expenditure for governmental services will amount to $296 during 1973.

CAPITAL IMPROVEMENT PROGRAMS

The City of Anchorage's regular capital improvement program for 1974 totals about $45 million for governmental and public utility improvements. The impact from the projected population will increase the demand for all types of capital improvements. The impact can be absorbed initially in some cases without financial assistance, and in others it cannot. The impact also has the effect of advancing the need for capital facilities from one to seven years. We have selected the capital improvements of greatest concern at this time and which require the early provision of funding and construction. There will be other capital improvements

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requirements developed in 1974 and 1975 which will be addressed at a later date. Attachment "F" summarizes the selected capital improvement program needs related to the impact of the oil pipeline construction.

HIGH ACCIDENT STREET INTERSECTIONS

Increased population brings more motor vehicles which will add to the problem on those streets that are already congested. We are not going into the overall problem at this time except to point out a critical problem at over fifty high accident street intersections. These intersections involve City, State, and Borough streets and highways. We feel it is mandatory to start construction in 1974 to improve these substandard intersections. To do so the engineering, right of way, and other work to let this important work to contract cannot be handled in a routine manner. All agencies will have to give special handling to these projects. An estimated $1.2 million in funding is required, with most of it needed in 1974. The amount is not too great but the expeditious handling may pose a challenge to the agencies concerned.

SUBDIVISION IMPROVEMENTS

Subdivision improvements will require an additional $3,070,000 during 1974 and 1975 if the housing needs are to be met. These improvements include street and storm drainage facilities. This additional engineering and contract administration can be accomplished by the Department of Public Works if its present professional staff can be retained. Public agencies do not have the flexibility when competing for salaries and other benefits offered by the private sector. This may be a serious problem area.

PORT OF ANCHORAGE

The Port of Anchorage has one petroleum terminal, one combination petroleum and general cargo terminal, and one general cargo terminal, and a third general cargo terminal under partial construction. There is an immediate need to complete the dock at Terminal No. 3 at an estimated cost of just under $6 million. The City has funding approved for one-half this amount but must obtain financial assistance for the balance. Another POL terminal is needed, and it is estimated to cost about $6.2 million. No funding is available and it should be built no later than 1975. We feel

the Port of Anchorage is an essential facility for the logistical support of the oil pipeline construction. The Port of Anchorage serves South-central Alaska and the North Slope. The new Anchorage area population must be served along with the Interior Alaska areas served through the Port of Anchorage. These latter areas will place an increased demand on the marine trade and port facilities at Anchorage. The largest tank farm capacity is at Anchorage and served through the Port's facilities. We must have federal and/or state financial assistance during the next two years.

LIBRARY

The City of Anchorage operates a headquarters library and two major branches. The headquarters library also serves the three GAAB libraries. The headquarters library should be expanded immediately if this important service is to be maintained at a reasonable level. It is estimated $4.5 million will be required to build the needed space for this facility and it should be built no later than 1975. No local funding has been approved.

ADMINISTRATIVE OFFICE SPACE

The added personnel that must be hired to handle the impact will require at least $300,000 in expansion of administrative office space in 1974. No funding has been approved for this project.

CITY OF ANCHORAGE WATER UTILITY

The Water Utility has consistently been concerned with the ability to meet the projected demands that would be placed upon its system and water source studies have periodically been made to insure an adequate supply for our citizens. A comprehensive study made by the U. S. Geological Survey, begun in 1965 and completed in 1972, indicated the Anchorage Bowl area would need a source of water around the 1980's, depending upon the

demands that new industry would place upon the system. Upon the completion of the U.S.G.S. report, a local engineering firm was commissioned to prepare a more detailed report leading to definite recommendations for development of Anchorage's future water source, and to prepare cost estimates of the capital expenditures necessary with associated time tables to adequately meet this need.

As a result of the impact created by the pipeline, we now find ourselves unable to enjoy a comfortable lead time to plan, finance, and develop a new source, but instead suddenly find ourselves in the position of having to accelerate this time table to 1974, some six years ahead of the original U.S.G.S. prediction.

Attachment "G" depicts the demands placed upon our system on a normal peak day and indicates the projected water needs based on a normal growth pattern, and also shows the effect of the pipeline impact in accelerating the development of new sources of water. As is shown on the graph, under normal conditions the Water Utility would have needed to provide a 30 MGD supply around 1980. Because of the demand created by the pipeline, this 30 MGD supply will have to be on line in 1975. In addition, another 10 MGD will have to be provided to meet fire protection requirements.

Our consulting engineer's report is presently being drafted in final form and is due within several weeks. Even though this information is not presently published, sufficient data has been developed and furnished to us to determine the course of action recommended to supply this additional water. To meet this demand will require the capital expenditures of $4,625,000 in 1974, $1,000,000 in 1975, and $5,500,000 in 1976. A detail of these requirements is shown in Attachment "H" enumerating the need to immediately begin a well exploration program in logical areas to determine the amount of ground water available, followed by the installation and development of a minimum of six wells capable of producing at least one million gallons of water per day. This must be followed by an expansion of the water treatment plant, construction of a second main water transmission line and installation of a 5-million gallon storage tank for

treated water. In 1975 work on off-stream storage would have to begin and also modification of an existing diversion structure to permit additional water withdrawal. Construction of an addition to the Water Treatment Plant to increase its capacity to 30 MGD along with more treated water storage and additional off-stream storage reservoirs would have to commence in 1976.

Because of the magnitude of these expenditures, the Water Utility cannot absorb the financial impact of such a construction program at this time. In addition, we have the added problem, even without pipeline impact, of trying to recover from the recent loss of funding by deletion of Department of Housing and Urban Development's program for Basic Water and Sewer Grants. It was our original planning, even prior to pipeline impact, to finance any new water development source expenditures by receiving assistance in the form of 25% from the State from authorized bonds for this purpose, and 50% from D.H.U.D.

The sudden demise of that grant program has in itself left us in a precarious financial position. In most cities of the Lower 48 which incorporated a sanitary sewer program within their scope of services the sudden termination of the Basic Water and Sewer Grant program was not as significant because at about the same time the Environmental Protection Agency increased its participation in the cost of providing sanitary sewer facilities from approximately 30% to approximately 75% within a relatively short period of time. Since most of these cities operated water and sewer programs from the same department the loss of the water grant program was absorbed through the increase in the sanitary sewer grant program. Unfortunately here in the City of Anchorage the sanitary sewer system is not operated by the City but rather is a function of the Borough and the loss of the Water Grant program has had significant impact on our water utility operations.

Because of these facts we feel that there is merit in the Federal Government considering a restoration of either the Basic Water and Sewer

Grant program or some other special program of Federal grant for Alaska in meeting the impact of the proposed construction of the Alaska oil pipeline. This is considered the most critical funding problem confronting the City because there is no question an adequate supply of water for domestic and fire requirements is mandatory.

MUNICIPAL LIGHT AND POWER

The Municipal Light and Power Department operates four gas-fired turbines, with 80 MW firm capacity and 92 MW peak capacity. A fifth unit is under construction and a waste heat boiler and turbine on order which will add approximately 75 MW in additional firm capacity by 1975. However, demand projections indicate another unit will have to be placed under contract in 1976. The lead time for manufacture and construction is some 18 months before added revenue results from the capital outlay. This utility may require financial assistance for this accelerated construction program, particularly in the light of increased labor and material costs.

C. I. P. SUMMARY

In summary, the selected capital governmental needs for 1974-76 total $21.8 million; and the utility needs total $16.3 million. Combined, over $38 million will be needed, and this figure could increase considerably from inflation.

INFLATION COSTS

There is no doubt that the rapid growth expected will cause additional inflation in Anchorage and elsewhere in the State. This, coupled with the spiral already experienced this year, poses a serious threat to the economy of the Anchorage area. We have seen no forecasts of what the inflationary impact will be. To demonstrate the effect of assumed ten per cent impact, Attachment "I" has been prepared. This shows over $4.2 million in 1974 in regular capital and operating budgets, and rising to $8.6 million in 1975; $10.2 in 1976; and $13.2 million in 1977. We hope the impact is not this high but this is obviously a cost factor that must be considered in federal and state financial assistance programs.

REVENUES

For statistical purposes Attachment "J" has been prepared to show the 1973 General Fund Revenue sources. This indicates total revenues of just over $18.5 million, or approximately $296 per capita.

We have closely analyzed new revenues likely to be generated by the added impact population. (See Attachment "K) It will be noted that 1974 will produce very little in new revenues because of the lag in new construction becoming taxable. In 1975 just under $1 million will be generated; in 1976, $1.5 million, and in 1977 about $1.8 million. These new revenues will help but they will not begin to finance the impact costs.

CONCLUSION

We believe this statement demonstrates the very substantial challenges and problems confronting the City of Anchorage on what we believe is the eve of construction of the trans-Alaska pipeline. We believe the development of the petroleum reserves in Alaska is in the national interest as stated many times by the President of the United States, Congressional leaders, and the Governor of Alaska. This development has become even more critical as the energy crisis unfolds day by day.

This is the largest private construction job ever undertaken. Any multi-billion dollar job to be accomplished in four short years in a relatively isolated, small population area will have an abnormal impact on local government, particularly since it supplies so many services directly to people. Local government in Alaska must have financial and other assistance if this project is built on a timely basis and if Alaska cities are not to be left in financial chaos.

This statement does not cover many services and facilities (for example, health and social services) provided by other units of local or State government. It does not cover all City services affected but only those which we believe require immediate attention. New problems come to light daily as new information or more studies are completed. Our staff is already burdened with a heavy workload which made this analysis difficult and it will no doubt be modified many times in the next few years.

Office Budget (Fedo)
say there is precedent for fed loans +
grants. - check into

Work
$ 75 mil is what
impact aid cost

CITY OF ANCHORAGE

EMPLOYMENT AND POPULATION PROJECTIONS

The following assumptions were made based on oil pipeline impact studies by the State of Alaska and the Department of Interior:

Employment in the Anchorage Area

	Build Up Year	First Year Constr.	Second Year Constr.	Third Year Constr.	Final Year Constr.	First Year Operation	Then
Direct	2,200	3,300	3,300	3,300	2,200	1,200	700
Associated	200	400	400	400	200	100	100
Indirect	2,000	3,000	3,500	3,000	2,100	2,100	2,000
TOTALS	4,400	6,700	7,200	6,700	4,500	3,400	2,800

Direct - Attributed to Arctic Slope oil in mining, construction, transportation, communications, public utilities, finance, insurance, real estate, services, trade, self-employed; and Federal, State, and local government employees.

Indirect - Additional employment can be expected due to new areas being opened up for mining and mineral exploration, etc. This also includes the effect of the Native income from North Slope oil.

Effects on Population in the Anchorage Area

	Build Up Year	First Year Constr.	Second Year Constr.	Third Year Constr.	Final Year Constr.	First Year Operation	Then
Direct Employees	2,200	3,300	3,300	3,300	2,200	1,200	700
Dependents	3,100	4,600	4,600	4,600	3,100	2,200	1,600
North Slope Dependents	1,200	3,800	3,800	3,800	2,500	1,200	400
Workers on Leave from North Slope	300	500	500	400	400	300	200
Unemployed	200	400	400	400	400	100	100
Families Unemployed	300	700	700	700	700	200	200
Associated Employees	200	400	400	400	200	100	100
Families of Associated	400	700	700	700	400	200	200
Indirect Employees	2,000	3,000	3,500	3,000	2,100	2,100	2,000
Families of Indirect	3,500	5,300	6,100	5,300	3,700	3,700	3,500
TOTALS	13,400	22,700	24,000	22,600	15,700	11,300	9,000
Alaska Gas Pipeline Adjustment*				1,400	8,300	11,300	6,700
				24,000	24,000	22,600	15,700

* The assumption is that the gas pipeline will utilize the proposed oil pipeline right-of-way. If the gas pipeline is routed through Anchorage, the impact would be greater.

Revised December 18, 1973.

ATTACHMENT "A"

CITY OF ANCHORAGE

HOUSING UNIT STARTS NEEDED*

Year	City	Outside City	Total GAA Borough
1974	1,725	4,025	5,750
1975	1,325	1,325	2,650
1976	1,230	820	2,050
1977	440	110	550
1978	875	375	1,250
1979	1,175	1,175	2,350

* Assumes 4,000 to 6,000 units were vacant in mid-1973.

Revised December 18, 1973.

ATTACHMENT "B"

CITY OF ANCHORAGE

FIVE YEAR STUDY
ANCHORAGE POLICE DEPARTMENT REPORTED PART ONE CRIMES

	1969		1970		1971		1972		1973 (Projected)		
	Number Offenses Reported	Per Cent Variation From Previous Year	Number Offenses Reported	Per Cent Variation From Previous Year	Number Offenses Reported	Per Cent Variation From Previous Year	Number Offenses Reported	Per Cent Variation From Previous Year	Number Offenses Reported	Per Cent Variation From Previous Year	1973 Compared To 1969 Per Cent Variation
Murder	7	0.0%	7	0.0%	5	(-28.6%)	9	80.0%	7	(-22.2%)	0.0%
Manslaughter	3	50.0%	4	33.3%	1	(-75.0%)	7	600.0%	0	(-100.0%)	(-100.0%)
Forcible Rape	35	59.1%	26	(-25.7%)	53	103.8%	40	(-24.5%)	69	72.5%	97.1%
Robbery	100	11.1%	150	50.0%	105	(-30.0%)	98	(-6.7%)	109	11.2%	9.0%
Aggravated Assault	116	52.7%	146	25.9%	191	30.8%	158	(-17.3%)	191	20.9%	64.7%
Burglary	707	1.0%	688	(-2.7%)	643	(-6.5%)	698	8.6%	1,072	53.6%	51.6%
Larceny	2,337	9.8%	2,648	13.3%	2,640	(-0.3%)	2,827	7.1%	3,077	8.8%	31.7%
Auto Theft	511	23.0%	513	0.4%	565	10.1%	539	(-4.6%)	554	2.9%	8.4%
Total Part One	3,816	9.7%	4,182	9.6%	4,203	0.5%	4,376	4.1%	5,079	16.1%	33.1%
Traffic Accidents Investigated	2,991	13.9%	3,429	14.6%	4,023	17.3%	4,340	7.9%	4,471	3.0%	49.5%
Total Calls & Requests for Service	20,183	10.7%	23,257	15.2%	32,461	39.6%	34,231	5.5%	36,701	7.2%	81.8%

ATTACHMENT "C"

CITY OF ANCHORAGE -- OPERATION AND MAINTENANCE PIPELINE IMPACT REQUIREMENTS - 1974

	1973 Revised Budget			1974 Pipeline Impact		1974 Required Budget		
	Personnel	Budget	Per Cent of Total	Personnel	Budget	Personnel	Budget	Per Cent of Total
Public Safety								
Police-City	160	2,768,932	14.9	41	793,160	201	3,562,092	17.2
Police-Spenard (1)	41	920,240	4.9	16	312,900	57	1,233,140	5.9
Fire-City	78	2,114,490	11.4	25	511,200	103	2,625,690	12.6
Civil Defense	3	56,560	.3	0	-0-	3	56,560	.3
Traffic Engineering	19	792,910	4.3	1	23,723	20	816,633	3.9
Building Safety (2)	22	440,920	2.4	2	39,087	24	480,007	2.3
	323	7,094,052	38.2	85	1,680,070	408	8,774,122	42.2
Parks & Recreation	120	1,574,985	8.5	16	217,080	136	1,792,065	8.6
Library								
City	29	464,380	2.5	1	56,050	30	520,430	2.5
GAAB (3)	23	277,768	1.5	2	65,800	25	343,568	1.7
	52	742,148	4.0	3	121,850	55	863,998	4.2
Public Works-Street Mtce.	53	2,186,810	11.8	1	44,620	54	2,231,430	10.7
Other City	379	6,996,618	37.5	6	121,090	385	7,117,708	34.3
TOTALS	927	18,594,613	100.0	111	2,184,710	1,038	20,779,323	100.0
Per Capita Cost (4)		296.26			29.29		311.46	

	Population: July 1, 1973	Population: Jan. 1, 1974		Population: Jan. 1, 1975	
	City	Borough	City	Borough	City
Normal Civilian Population	48,350	122,500	48,350	128,100	50,700
Military	24,500	24,500	24,500	24,500	24,500
Pipeline Impact	3,760	13,400	6,700	22,700	11,350
TOTALS	76,610	160,400	79,550	175,300	86,550

(1) Funded by Spenard Service District.
(2) The 1973 budget for Building Safety is funded with $85,843 Pipeline Impact.
(3) Funded by Greater Anchorage Area Borough - Non-Areawide Service Library.
(4) Per Capita costs exclude the 17,892 military annexed in 1973 and Spenard Police and GAAB Library.

ATTACHMENT "D"

Revised December 18, 1973.

CITY OF ANCHORAGE

REVISED APPROPRIATIONS 1973 AS OF SEPTEMBER 30, 1973

	Employees	Amount	Per Cent Total Budget	Per Capita Costs (1)
Mayor and Council	1	$ 78,660	.4	$ 1.34
City Manager				
Administration	12	145,125	.8	
Personnel	7	98,900	.5	
Internal Audit	4	40,405	.2	
Community Promotion		99,579	.5	
Human Relations	4	62,590	.4	
Data Processing	39	-0-		
	66	446,599	2.4	7.61
City Clerk	10	127,552	.7	2.17
Law				
City Attorney	15	249,870	1.3	
Property Management	7	31,060	.2	
	22	280,930	1.5	4.78
District Court	12	160,334	.9	2.73
Finance	114	451,030	2.4	7.68
Public Safety				
Police-City	160	2,768,932	14.9	
Police-Spenard	41	920,240	4.9	
Fire	78	2,114,490	11.4	
Civil Defense	3	56,560	.3	
Traffic Engineering	19	792,910	4.2	
Building Safety	22	440,920	2.4	
	323	7,094,052	38.1	105.14
Public Works				
Administration	5	32,850	.2	
Engineering	15	148,290	.8	
Engineering Projects	70	1,305,690		
Engineering Projects		(1,305,690)		
Building Maintenance	52	211,940	1.1	
Street Maintenance	53	2,186,810	11.8	
Merrill Field	6	99,060	.5	
	201	2,678,950	14.4	45.62
Library				
City	29	464,380	2.5	7.91
GAAB	23	277,768	1.5	
	52	742,148	4.0	
Parks & Recreation	120	1,574,985	8.5	26.82
Museum	6	177,728	1.0	3.03
Miscellaneous	0	511,348	2.7	8.71
Debt Service	0	4,144,574	22.3	70.58
Cash Match Federal & State Grants		125,723	.7	2.14
TOTALS	927	$18,594,613	100.0	$296.26
Federal & State Grants		1,580,996		
		$20,175,609		

(1) Per Capita Costs are based on a population of 58,718 and do not include military annexation of 17,892. The costs for Spenard Police and Greater Anchorage Area Borough Library Services are not included.

Revised December 18, 1973.

ATTACHMENT "E"

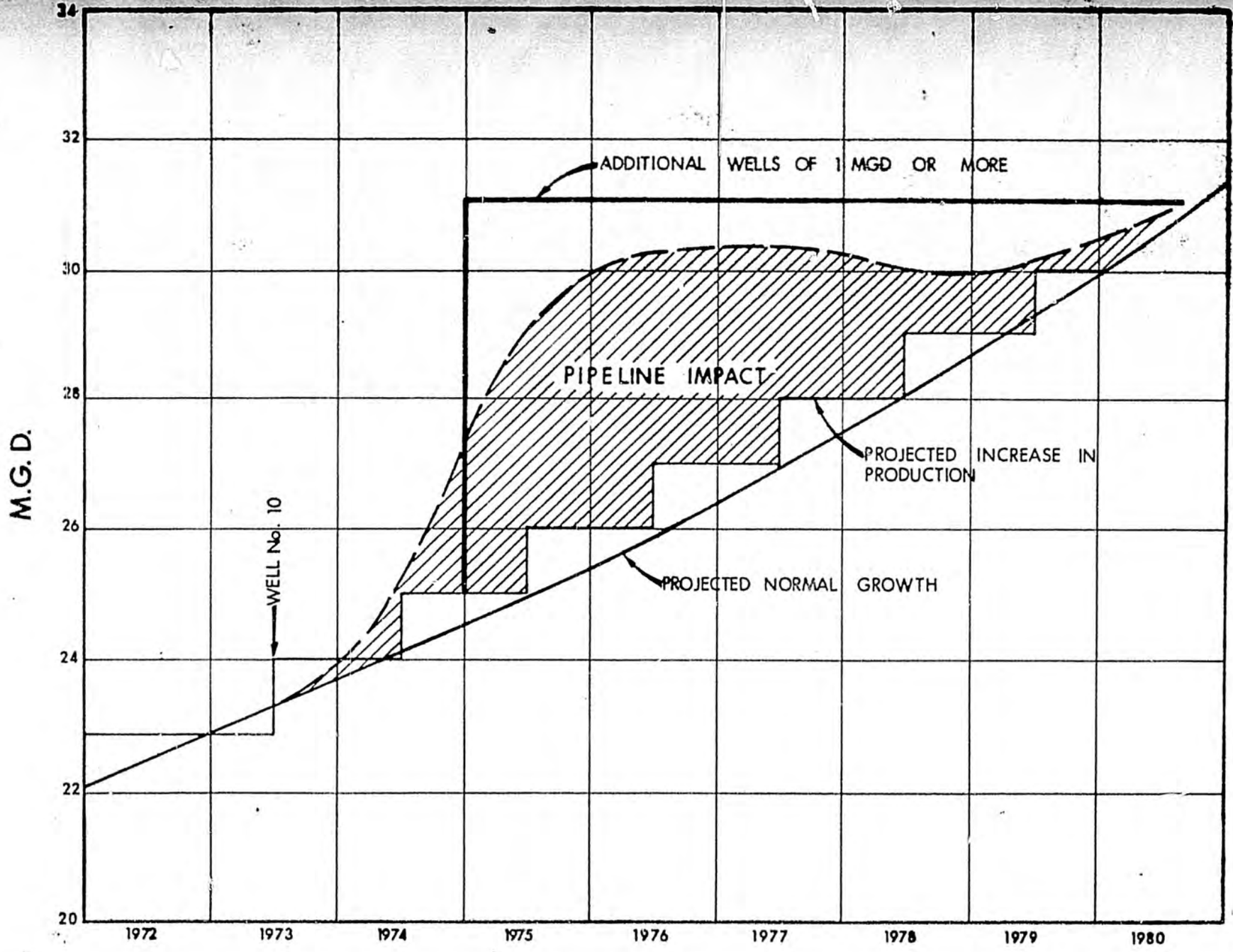
CITY OF ANCHORAGE

IMPACT OF OIL PIPELINE ON SELECTED CAPITAL IMPROVEMENT PROGRAMS

	1974	1975	1976	Total
High Accident Street Intersections	$ 740,000	$ 250,000	$ 200,000	$ 1,190,000
Subdivision Paving	2,092,500	187,500	-0-	2,280,000
Storm Sewer System	727,500	62,500	-0-	790,000
Port	5,788,000	6,245,000	553,000	12,586,000
Headquarters Library		4,500,000		4,500,000
Administrative Office Space	300,000			300,000
Fire Apparatus	150,000			150,000
TOTAL GENERAL FUND	$9,798,000	$11,245,000	$ 753,000	$21,796,000
Water Utility	4,625,000	1,000,000	5,500,000	11,125,000
Municipal Light & Power			5,200,000	5,200,000
	$ 4,625,000	$ 1,000,000	$10,700,000	$16,325,000
GRAND TOTAL IMPACT	$14,423,000	$12,245,000	$11,453,000	$38,121,000

ATTACHMENT "F"

Revised December 18, 1973.

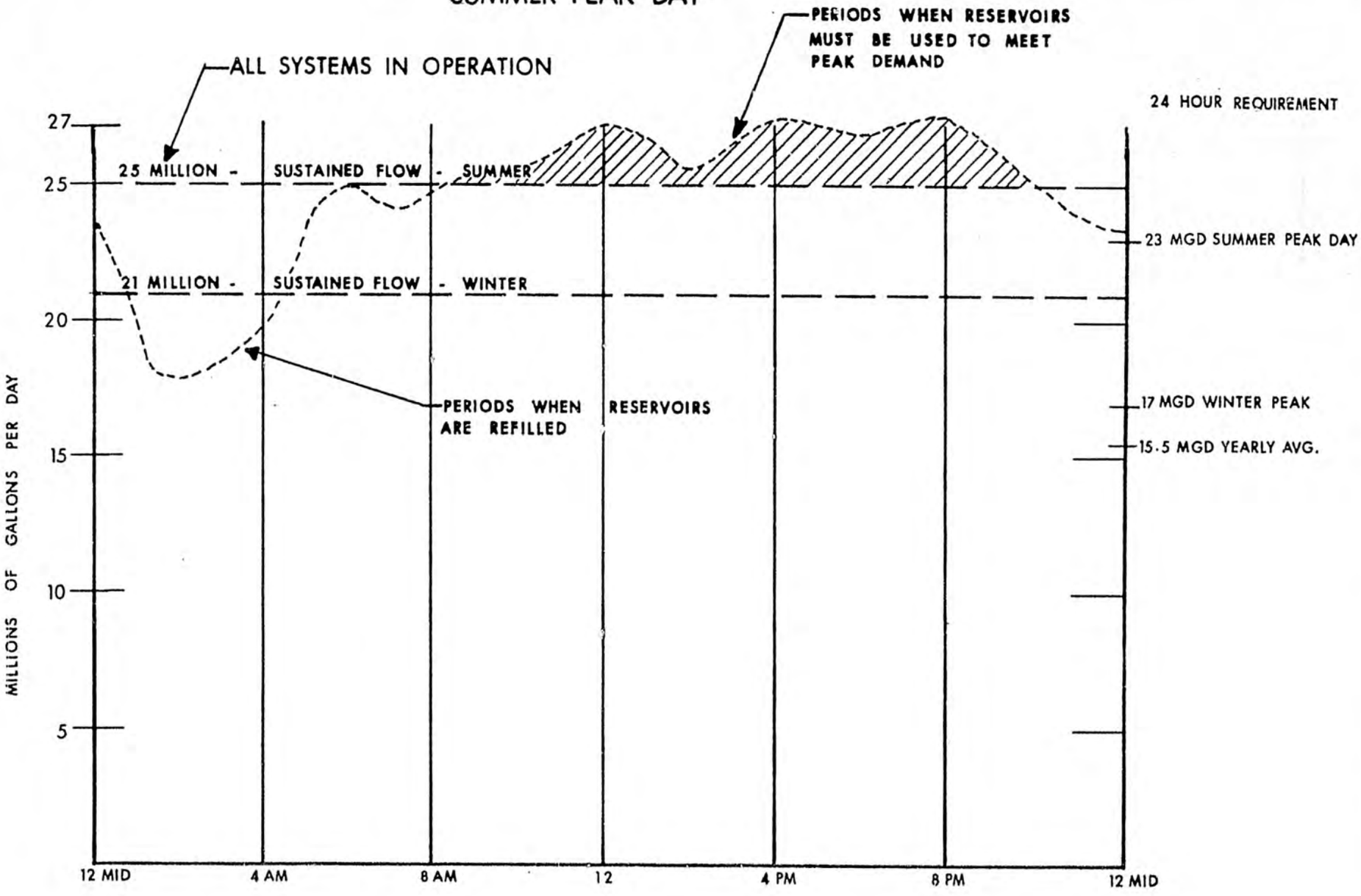


ATTACHMENT "G-1"

12-7-73

24 HOUR DEMAND CURVE

SUMMER PEAK DAY



ATTACHMENT "G-2"

FIRST PHASE - 1974

Drill 6 or 7 Exploratory Wells		$ 90,000
Drill and Develop Production Wells and Connect to System		
2 on North Fork of Campbell	220,000	
2 on South Fork of Campbell	525,000	
1 on Old Seward Highway	190,000	
1 Near Recharge Pit	350,000	
1 East of Muldoon	250,000	
		1,535,000
Modification to Water Treatment Plant New Influent Setup Including Controls, Trashrock Chemical Feeds and Rapid Mix - Increase Capacity to 20M6D		1,000,000
New Line to Diversion Dam 36"		1,250,000
Additional 5 MG Treated Water Storage		750,000
		$ 4,625,000

SECOND PHASE - 1975

Modify Diversion Dam for Additional Outlets	500,000
Construct Offstream Storage Pit with Pump and Piping	500,000
	$ 1,000,000

THIRD PHASE - 1976

Additional Supply Line to T.P.	1,000,000
Construct Offstream Storage Pit with Pump and Piping	1,000,000
Construct Additional Storage (Treated)	1,000,000
Modify Water Treatment Plant to 30M6D Add Additional Filters	250,000
	$ 5,500,000

FUTURE

Add Additional Offstream Storage as Required
Double Existing T.P. to 60M6D - 8 million

ATTACHMENT "H"

General Government Capital and Operating Budgets
Inflation Increase 10% Per Year

	1974	1975	1976	1977	Total
Population*	61,650	68,150	70,570	72,110	272,480
CIP	21,529,600	19,470,400	8,519,780	5,192,560	54,712,340
Inflation	2,152,960	4,088,784	2,820,046	2,409,867	11,471,657
Per Capita Increase	35	60	40	33	42
Operations	20,779,323	21,558,495	22,420,834	23,317,667	88,076,319
Inflation	2,077,932	4,527,283	7,421,294	10,821,727	24,848,236
Per Capita Increase	34	66	105	150	91
Total Inflation	4,230,892	8,616,067	10,241,340	13,231,594	36,319,893
Per Capita Increase	69	126	145	183	133

*Population excludes 17,892 military annexed in 1973.

ATTACHMENT "I"

CITY OF ANCHORAGE
Revised Revenues 1973 As Of 9/30/73

	Amount	Per Cent	Per Capita Value (1)
Taxes - Real & Personal			
Real	$ 5,398,360	29.0	
Personal	1,467,580	7.9	
Penalty & Int. Delinquent Taxes	50,000	.3	
	6,915,940	37.2	$117.78
Taxes - Other			
Payment in Lieu City Utilities	1,398,826	7.6	
Franchise Tax - Gas	135,743	.7	
Franchise Tax - Electric	40,757	.2	
	1,575,326	8.5	26.83
Licenses and Permits	350,860	1.9	5.98
Fines and Forfeitures	861,100	4.6	14.67
Intergovernmental Revenues			
State of Alaska Business License	1,191,213	6.4	
State of Alaska Liquor License	105,000	.6	
State of Alaska Aviation Fuel	19,680	.1	
State of Alaska Cannery Tax	4,351		
State of Alaska Shared Revenues	1,478,323	8.0	
Federal Civil Defense	28,280	.1	
Federal Revenue Sharing	1,337,529	7.2	
	4,164,376	22.4	70.92
Contributions from City Utilities	1,240,173	6.7	21.12
Charges for Services			
State Highway Maintenance	250,000	1.3	
GAAB Libraries	312,240	1.7	
Spenard Police	1,034,890	5.6	
School Crossing Guards	53,820	.3	
Emergency Communication 911 State	9,030	.1	
Emergency Communication 911 GAAB	53,060	.3	
Recreational Activities	222,720	1.2	
Traffic Electronics	52,210	.3	
Public Works-Misc. Work Orders	59,690	.3	
Other Misc. Receipts	101,050	.5	
	2,148,710	11.6	16.18
Cost Recoveries			
Bond Principal	409,775	2.2	
Bond Interest	254,567	1.3	
Port Crane Insurance	14,100	.1	
	678,442	3.6	11.55
Miscellaneous Revenues			
Interest	38,000	.2	
Rental Revenues	263,200	1.4	
Loussac Foundation	25,000	.1	
Other Misc. Revenues	305,882	1.7	
	632,082	3.4	10.76
Appropriation Year End Surplus	27,604	.1	.47
	18,594,613	100.0	$296.26
Federal & State Grants	1,580,996		
	$20,175,609		

(1) Per Capita value is based on a population of 58,718 and does not include military annexation of 17,892. The costs for Spenard Police and GAA Borough Library Services are not included.

ATTACHMENT "J"

CITY OF ANCHORAGE
New Revenues Generated by Pipeline

	1974	1975	1976	1977	Total
Property Taxes (7.9 mills)					
Real		408,825	762,350	1,093,360	2,264,535
Personal (25%)		102,206	190,588	273,340	566,134
Taxes - Other					
Gas & Elec. (% incr. Prop. Tax)		13,500	25,000	36,500	75,000
Licenses & Permits (% incr. Population)	13,500	45,500	40,000	15,000	114,000
Fines & Forfeitures (% Population)	33,000	111,500	98,000	36,500	279,000
Business Licenses (% Population)		46,000	154,500	136,000	336,500
Aviation Fuel Tax		2,000	2,500	2,500	7,000
State Shared Revenue	73,500	189,750	206,000	188,500	657,750
Federal Shared Revenue					
Recreational	8,500	29,000	25,000	9,500	72,000
Totals	128,500	948,281	1,503,938	1,791,200	4,371,919
Population	2,940	7,590	8,240	7,540	26,310
Per Capita	44	125	182	238	166

ATTACHMENT "K"

INTERIM REPORT
OF THE
JOINT GAS PIPELINE IMPACT COMMITTEE

This Committee, through public hearings and staff investigation, has become convinced that immediate action by the State of Alaska is essential if the citizens of this State are to receive maximum benefit from the State's natural gas resource.

The Committee will issue a full and complete report on its findings and recommendations at a later date, but is impelled to submit this interim report to the Legislature and the people of the State of Alaska because of the urgency of the present situation.

The Committee finds and concludes the following:

1. A federal decision authorizing the transportation of North Slope natural gas across Canada would be inimical to the interests of the State of Alaska. The State's resource would be drained, its people denied access to a premium fuel and raw material, its work force deprived of employment opportunities, and productive economic growth would be thwarted.
2. A federal decision authorizing the transportation of North Slope natural gas across the State of Alaska to an open port will serve the best interests of the State.
3. The level of benefits, and burdens reasonably to be expected by the State as a consequence of any decision on a North Slope gas transportation system are of such magnitude that the routing decision must be regarded as critical to the future of the State. Action to secure a Trans-Alaska routing must be pursued as expeditiously as possible; no reasonable step should be left untaken.
4. The position of the state as owner of a one-eighth royalty in natural

gas and natural gas liquids produced from State-owned lands on the North Slope creates an immediate opportunity for effective State action which can assist in securing a Trans-Alaska transportation system.

5. Affirmative, agressive action by the Governor, the Commissioner of Natural Resources, the State Royalty Board, and the Legislature with respect to the State's royalty gas is imperative.
6. Effective use of the State's royalty gas, to serve the best interests of the State, requires:
   a. The State must elect to take its royalty share of natural gas natural gas liquids in kind.
   b. The State must commit a portion of its royalty gas to purchasers who will assist in securing approval of a Trans-Alaska transportation system, and who will thereafter utilize such a Trans-Alaska system.
7. Present levels of natural gas demand in Alaska permit a commitment of a portion of the State's royalty gas to purchasers outside the State; while every effort must be made to retain a substantial part of Alaska's gas for present and future in-state needs, it is in the overall best interests of the State to offer for sale outside the State, a substantial portion of the State's royalty gas to purchasers who can, and will, assist in securing authorization of a Trans-Alaska transportation system.
8. Those persons and firms interested in the construction and operation of a Trans-Alaska transportation system can materially alleviate State unemployment problems, and the State should, in striking a bargain for the commitment of State resources to a Trans-Alaska

system, secure appropriate commitments for the hire and training of Alaska residents in the construction and operation of such a system.

9. Finally, the risk that non-action by the State, or delayed action by the State, will cause the selection of a Trans-Canadian routing, and the risk that the State will lose substantial benefit of its natural gas resource are so great, ~~it is the sense of this Committee~~ that State action must not be delayed.

BY REASON OF THE FOREGOING, IT IS THE RECOMMENDATION OF THIS COMMITTEE THAT:

1. The Commissioner of Natural Resources and the State Royalty Board should undertake immediate negotiations with interested out-of-state purchasers to reach definitive sales and/or exchange agreements covering disposition of substantial portions of the State's royalty gas on the best obtainable terms.

2. The Commissioner of Natural Resources and the State Royalty Board should undertake immediate negotiations with natural gas transporters involved in the proposal for a Trans-Alaska system to reach definitive transportation agreements covering the State's royalty gas sold for out-of-state use, and the State's withdrawal of the unsold portion of its royalty gas from the system for in-state use; appropriate commitments should be obtained with respect to hire and training of Alaska residents.

3. The arrangements and agreements so negotiated should be presented to the Legislature for ratification ~~as soon as possible and in all events~~ prior to the end of the Second Session of the Ninth Legislature,

4. The Legislature should hold itself ready for immediate consideration of and prompt action on, the recommendations of the Commissioner and

Board.

5. Such arrangements, contracts, and agreements as are negotiated by the Commissioner and Board and approved by the Legislature should be incorporated into the pending applications for a Trans-Alaska transportation system, presented to the Federal Power Commission by the appropriate transporter-applicant, and approval thereof obtained in the pending Federal Power Commission proceedings.
6. The Legislature should adopt SCR 66 and further seek the active cooperation of all owners of North Slope gas in support of the Trans-Alaska pipeline route.

SDK to Hank for negotiation—

Banking bill

"Report by
Special Petroleum Impact
Committee

The statements and testimony from communities and knowledgeable individuals have led to the following conclusions relative to the impact of pipeline construction. They are drawn with the aim of placing in perspective the possible courses of action which may be open to the Legislature and which are discussed later in this Summary.

1. The communities found it difficult, in most cases, to determine what effects pipeline construction would have on their areas. Most did not have the staff to do research or make employment and population projections. The communities had very little information on the specific plans for the pipeline at a date early enough to be helpful.

2. The early impact will be in the areas of law enforcement, recreation, unemployment, drugs, alcohol and welfare. These matters will increase the operational costs of local governments, but will not increase the potential for additional revenue. These problems will be associated with a transient population and with pipeline workers looking for recreation.

3. The more permanent population will place demands on schools, public facilities, housing, utilities and government services which, in some communities, will be difficult to meet. Although revenue to the local governments will rise, there will be an over-all lag in revenue, especially in property taxation. Some categories of State shared revenues will rise in proportion to population increases. Where a sales tax is in effect, an increase should be felt almost at once.

4. Increased population will accelerate the need for many public improvements, often necessitating substantial financing at a date earlier than normal. In some cases, this presents the community with the problem of meeting higher maintenance costs and debt service payments while raising a question in the minds of community leaders as to whether required substantial tax increases can be sufficient. Without assistance, this may be the case in many communities.

5. Population increases will occur in most Alaskan cities, and in general, the impact will be in proportion to the increase. However, the relative severity of the impact on any community will be more related to the percentage of population increase rather than the number of persons arriving in any given community.

6. Some government leaders are concerned that public improvements made to meet demands during construction may lead to over-building with a resultant debt-burden existing in a community long after construction is completed. In nearly every case, the Committee's conclusion is that the cities will not decrease substantially in population after construction is completed.

7. Even with a lag in revenue receipts, findings show that by 1977, most community revenues will have reflected the population increase and further impact aid, per se, should not be required.

8. The agencies of the State Government will have an important role in meeting many of the problems associated with the pipeline construction, both in the organized communities, the unincorporated communities and in the unorganized borough. The effectiveness of these agencies will depend upon the money available to them and the direction given by the Administration. The Committee or the Legislature should review whatever plans are drawn to determine their adequacy.

9. Some communities are deficient in certain facilities or utilities and include funding of these deficiencies as related to pipeline impact. Even though there may be a real deficiency, the total demand for financing must be considered along with the amount needed only to meet the impact.

10. Some communities desire to provide improvements which are in excess of the need due to impact alone. In these cases, the impact portion should be isolated and the additional funds needed should be considered separately (see Apendices C & D).

11. There are capital-improvement projects being accelerated because of pipeline construction, but which will be needed regardless of the pipeline within a reasonable period of time under normal growth conditions. Aid made available should be designed to help the community during the interim period only.

Communities which are required to make capital improvements many years in advance of normal requirements may need a higher degree of immediate help, but not beyond the point where local revenues are created to support debt service.

12. Inflationary pressures will be a factor in operational costs of local government. It is believed that this factor need not be considered except for the first year of the impact. (See Appendices C & D.)

The following observations and suggestions for consideration are offered to reflect, as nearly as possible, the composite concern expressed in committee meetings, as well as in hearings and interviews with community leaders and citizens of the various impact areas:

1. Numerous city officials have suggested that increases in State Revenue Sharing would provide the aid so badly needed by the local governments. Administratively, this would be a simple solution, assuming that a general increase in the various categorical formulae used in revenue sharing would provide the amounts of aid necessary in individual cases.

This method was tested against the net needs of the five communities requesting the largest amounts of aid and found successful, if any general formula is to apply. The per-capita needs for operational aid range from about $15 per-capita in the larger communities to over $250 per-capita in the smaller ones.

Categorical grants might be made to the communities in response to formal applications, but this would not provide a total solution covering all communities.

Therefore, the first suggestion is an attempt to formalize grants for operational impact aid on a population percentage increase basis.

As stated earlier, the percentage increase in population is more significant to the community than an increase in actual numbers. Therefore, a formula based upon the percentage increase can be devised to provide for operational impact grants which apply to all communities affected by population increases.

Assume, for example, that a 12% increase in population would warrant a $20 per-capita grant. Then, a 150% population increase would require a $250 per-capita grant. In order to coordinate the situation of the boroughs with service districts, the Committee feels that grants should be broken down by percentage as follows: 50% for general government, 17% police, 17% fire, and 16% roads.

2. The revenue sharing grants for operational impact costs should be formally requested by the cities, with supporting evidence of need.

3. The Committee has found that per-capita impact costs will drop in 1975 and again in 1976. Any assistance programs should be reviewed for 1975 applications to determine the need, and if it exists, to establish a new per-capita grant formula.

4. Caution should be exercised in making substantial allowance for inflation.

5. Aid for capital improvement programs undertaken on an accelerated basis by the community, and which, under normal growth conditions, would be needed by 1976, 1977 or 1978, could be in the form of a State loan or bond-guarantee program. Such a program should be available to all cities and would enable the smaller communities, which may not be able to sell bonds, to obtain debt financing. A bond-guarantee should assure the smaller communities lower interest rates.

6. In cases where capital improvements are required to meet impact needs, but under normal conditions would not be needed for, perhaps, five years or more, the State could

undertake a program to finance a portion of the debt service, or interest, for a period of time.

7. In those cases where debt limitation on general obligation bonds makes it impossible to sell bonds for a capital improvement necessary to meet the impact needs, the State should consider a grant program, if an urgent need can be shown.

8. In those cases where funds are urgently needed by a municipal water utility and the earnings potential is such that the required debt coverage cannot be maintained, the State could establish a loan program, at a reasonable interest rate, to cover the interim period until bonds can either be sold or utility rates increased to improve the earnings.

9. Legislation similar to Senate Bill 235 (an Act creating the Alaska State Electric and Telephone Authority) should make available a loan program for municipal and cooperative electric and telephone systems when other financial sources are unavailable.

10. The State should establish a stronger program to make housing loans or purchase available mortgages if normal financing sources are not available.

11. No doubt, much of the impact of pipeline construction will fall in the areas of responsibility of the various State Departments. Funds should be provided for health services and health nurses; State-Operated Schools; police; the Department of Highways for maintenance in the impacted areas; airports and airstrip construction and maintenance; various training programs; environmental health law enforcement; protection of fish and game along pipeline route; expansion of the Motor Vehicle Division; review of voter registration capability; review of the Court System in impacted communities, and the prosecution of crimes.

The Committee suggests isolation of impact requirements of State Departments in order to prevent permanent build-up of departmental structures.

12. Impact on district and borough schools varies greatly. The per-student requirements range from over $450 to over $900.

Since the Foundation Program and the other State contribution programs are quite intricate, a formula based on a per-student ratio and on the percentage increase of students should be devised for each of the communities needing school operational funds.

13. Some school districts will be requesting funds for new construction or for temporary classrooms. Consideration should be given to double-shifting until the population trend is fully established. If there is a clear need for more classrooms, temporary quarters should be provided until the growth pattern is clear.

14. Special action should be taken, either legislatively or administratively, to protect fish and game along the pipeline route.

15. Non-critical construction projects should be delayed until pipeline construction reaches its peak and begins to taper off.

16. The Alaska State Legislature should authorize, if appropriate and necessary, the University of Alaska to lease University land for temporary housing in areas where private land is not available.

17. The Alaska State Legislature should consider the formation of a special agency or task force to investigate and make recommendations to the Administration and the Legislature concerning the availability of Federal funds relating to pipeline construction. In light of the urgent needs in various areas of the State, the Committee recognizes that any such agency will need emergency authority. The Committee also feels that such an agency should be composed of members of the Administration and the Legislature or their appointees.

Finally, the Committee concludes that, in general, a case-by-case approach to the solution of impact problems would best serve to cope with the broad variety of local stresses bound to occur in varying degrees during the pipeline construction period. Suggested legislation to accomplish this approach is offered in "An Act Creating the Pipeline Impact Agency" and its companion measure establishing a "Pipeline Impact Fund".

DECLARATION OF PURPOSE

The legislature finds that construction of the trans-Alaska pipeline, from its commencement to completion over a period of approximately three years, will impose severe to mild strains on local and state governmental services and facilities. While the pipeline construction indubitably will, in the long run, mean immense growth and development to the communities and areas along the pipeline route, and to those areas coming under direct pipeline construction influence, the legislature further finds that localities most affected will be unable to cope with the probable impact on facilities and services brought about by the anticipated overwhelming and sudden increases in numbers of citizens to be served. The legislature finds, also, that communities while likely to be impacted are willing and ready via local taxation to do all possible themselves to meet impact requirements, even to the full limits of local taxation tolerance, nevertheless, recognizing the state will be the prime beneficiary of pipeline construction via realization of enormous oil development revenues for the total state, the legislature finds that local impact financial burdens logically should be borne by the state as its investment in those future revenues. It is, therefore, the intent of the legislature, in this measure, to provide a means of quickly and decisively determining specific impact problems and, additionally, for moving quickly and decisively to provide funds, facilities, personnel or other means for quick solutions. Finally, the legislature intends via this legislation to meet local and state pipeline construction impact problems as quickly and efficiently as possible in manners similar to the handling of disaster impact problems. The legislature finds, too, that revenue-sharing formulas on per capita or percentage per capita increase basis are less desirable, less effective, and more costly than the case-by-case approach intended in the legislation. Under the formula approach, provision would have to be made for all probable as well as all possible impact contingencies, some of which may never develop."