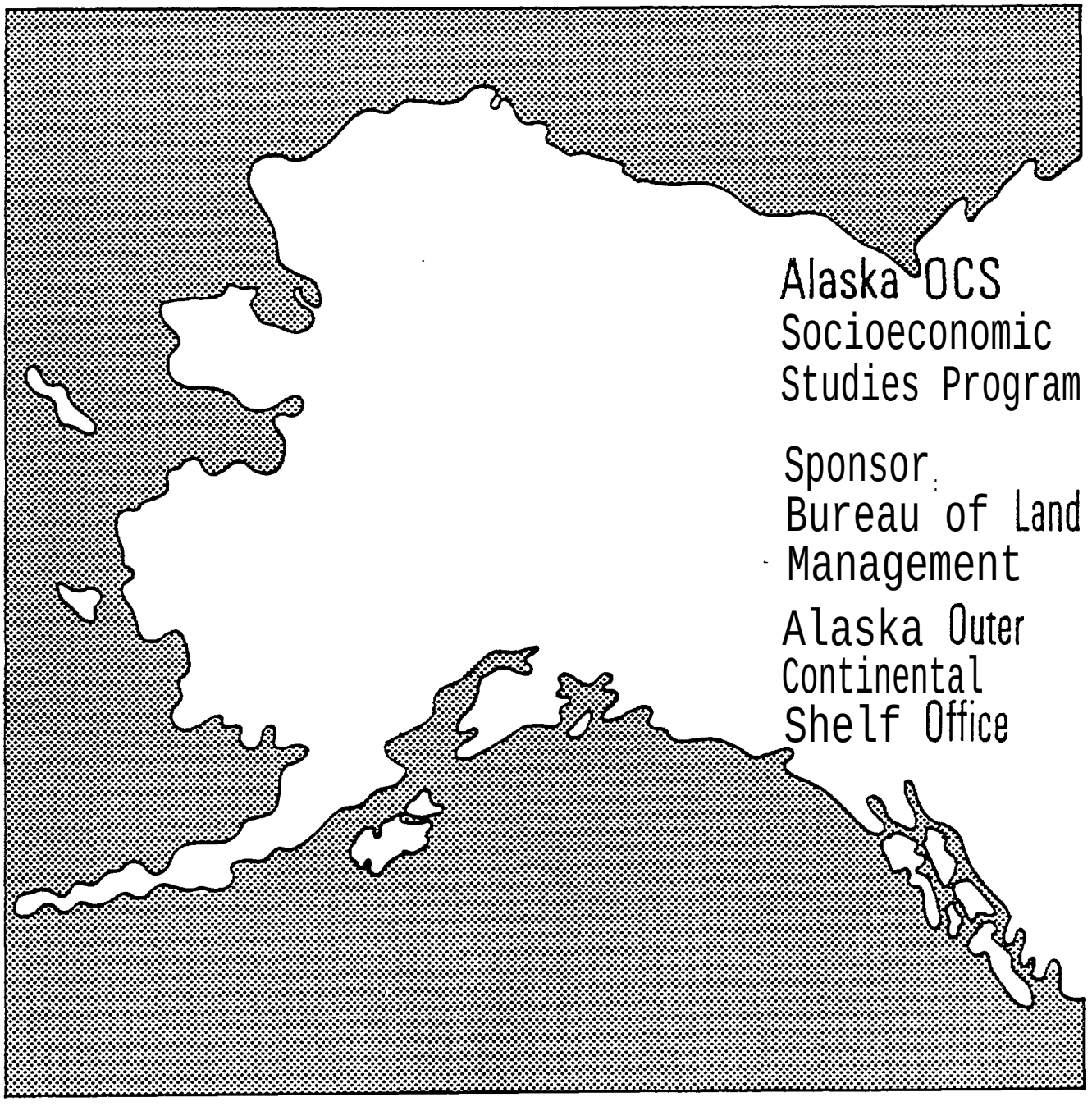
TECHNICAL REPORT NUMBER 61



Alaska OCS
Socioeconomic
Studies Program

Sponsor:
Bureau of Land
Management

Alaska Outer
Continental
Shelf Office

ST. GEORGE BASIN PETROLEUM DEVELOPMENT SCENARIOS ANCHORAGE IMPACT ANALYSIS

The United States Department of the Interior was designated by the Outer Continental Shelf (OCS) Lands Act of 1953 to carry out the majority of the Act's provisions for administering the mineral leasing and development of offshore areas of the United States under federal jurisdiction. Within the Department, the Bureau of Land Management (BLM) has the responsibility to meet requirements of the National Environmental Policy Act of 1969 (NEPA) as well as other legislation and regulations dealing with the effects of offshore development. In Alaska, unique cultural differences and climatic conditions create a need for developing additional socioeconomic and environmental information to improve OCS decision making at all governmental levels. In fulfillment of its federal responsibilities and with an awareness of these additional information needs, the BLM has initiated several investigative programs, one of which is the Alaska OCS Socioeconomic Studies Program (SESP).

The Alaska OCS Socioeconomic Studies Program is a multi-year research effort which attempts to predict and evaluate the effects of Alaska OCS Petroleum Development upon the physical, social, and economic environments within the state. The overall ❑ ethodology is divided into three broad research components. The first component identifies an alternative set of assumptions regarding the location, the nature, and the timing of future petroleum events and related activities. In this component, the program takes into account the particular needs of the petroleum industry and projects the human, technological, economic, and environments l offshore and onshore development requirements of the regional petroleum industry.

The second component focuses on data gathering that identifies those quantifiable and qualifiable facts by which OCS-induced changes can be assessed. . The critical community and regional components are identified and evaluated. Current endogenous and exogenous sources of change and functional organization among different sectors of community and regional life are analyzed. Susceptible community relationships, values, activities, and processes also are included.

The third research component focuses on an evaluation of the changes that could occur due to the potential oil and gas development. Impact evaluation concentrates on an analysis of the impacts at the statewide, regional, and local level.

In general, program products are sequentially arranged in accordance with BLM's proposed OCS lease sale schedule, so that information is timely to decisionmaking. Reports are available. through the National Technical Information Service, and the BLM has" a limited number of copies available through the Alaska OCS Office. Inquiries for information should be directed to: Program Coordinator (COAR), Socioeconomic Studies Program, Alaska OCS Office, P. O. Box 1159, Anchorage, Alaska 99510.

TECHNICAL REPORT NO. 61 CONTRACT NO.: AA851-CT0-38

ALASKA OCS SOCIOECONOMIC STUDIES PROGRAM

ST. GEORGE BASIN
PETROLEUM DEVELOPMENT SCENARIOS
ANCHORAGE IMPACT ANALYSIS

Prepared by
Dr. Richard L. Ender
Susan Gorski

POLICY ANALYSTS, LIMITED

Prepared for
BUREAU OF LAND MANAGEMENT
ALASKA OUTER CONTINENTAL SHELF OFFICE

September 1981

NOTICE

Alaska OCS Socioeconomic Studies Program

Prepared by
Dr. Richard L. Ender

Susan Gorski

Policy Analysts, Limited

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ABSTRACT

The purpose of this study is to provide a supplemental and updated socio-economic and physical baseline description of Anchorage, and standards by which to forecast infrastructure change due to development of outer-continental oil and gas leases. The final section is an application of those standards forecasting the baseline conditions with and without the planned lease sale of the St. George Basin.

The updated chapters were not prepared to stand alone, but as a supplement to a previously published document, Technical Report Number 48, Volumes 1 and 2, "Gulf of Alaska and Lower Cook Inlet Petroleum Development Scenarios Anchorage Socioeconomic and physical Baseline and Anchorage Impact Analysis. " Because of this, table numbers and references may be confusing and the text is incomplete without proper referencing of Technical Report 48.

The socioeconomic and physical baseline provides updated population and demographic data based on preliminary tenses data, employment and labor data, and new income and salary data. A more thorough analysis of CPI and family budget information is provided as is an expanded review of local government revenues and expenditures including public utility costs, mill levies, assessed value, revenue sharing, debt service, and capital improvements.

In the community service support sectors, health, social services, education, law enforcement, fire protection and emergency medical services, and leisure and recreation are reviewed. Physical characteristics are updated in the areas of land use, and housing with new information on housing in Eagle River/Chugiak, and military housing. Commercial land use is updated with information of office space rental prices. Utilities, including solid waste, water, sewer, electricity and telephone, and transportation, including road, port and airport, are also addressed under physical characteristics.

The overview of infrastructure standards provides standards for Anchorage services and local government capacity based on both nationally established norms and local historically derived standards. Revisions are provided in the areas of education, public safety, leisure, utilities, housing and health and social services. Entirely new standards are provided for electricity and government expenditures and financial capacity.

Chapter III constitutes an analysis on the impact of the proposed St. George Basin OCS oil and gas lease sale. A forecast of population and employment with and without the planned lease sale is based on the Regional Map Model developed by the Institute for Social and Economic Research. Assumptions related to the forecasts are provided and the analysis project service infrastructure demand through the year 2000. These include education, public safety, leisure activities, utilities, housing, health and social services, transportation, and financial capacity. The base case growth scenario has population reaching 306,259 by the year 2000. The incremental population effects of the St. George Base is a peak of 9,184 in 1990 with 8,034 additional people in the year 2000 under a mean case scenario. A low case (no production) scenario produces only 365 additional people by 1986 and 34 in 2000, Since the low scenario produces no significant effects, only the mean scenario is addressed quantitatively. A thorough review suggests that no real significant effects on the service infrastructure can be identified with the addition of the mean scenario over the non-OCS base case.

PREFACE

The following report consists of an update to the Anchorage socioeconomic and physical baseline and infrastructure standards used to forecast impacts with and without OCS oil and gas development in Alaska. This material is found in Technical Report 43, Volumes 1 and 2 entitled,''Gulf of Alaska and Lower Cook Inlet Petroleum Development Scenarios, Anchorage Socioeconomic and Physical Baseline and Anchorage Impact Analysis." These updates should be read in conjunction with the above report.

In addition, the Anchorage base case and petroleum development scenarios for the St. George Basin are given. These sections are written to stand alone without reference.

I. ANCHORAGE BASELINE DATA

Historical Background

Page 6, Paragraph 2, delete last sentence, add the following:

Rapid growth of the population in the 1970's for the Anchorage area is illustrated by an estimated increase of 60,198 people from 1970 to 1977.

Page 7, Delete first sentence, add the following:

The slowdown in the economy, however, could be felt by mid-1978, and by 1979 out-migration exceeded in-migration and the economy was performing well below the pipeline construction period. Between 1977 and 1980, it is estimated that Anchorage lost 11,531 people.

Current Demographic and Economic Profile

Page 12, Paragraph 2, delete paragraph, add the following:

As of July 1, 1980, the estimated population of Anchorage was 175,000. This represents a 3.2 percent decline over July 1, 1979 (180,876). Table 2 represents mid-year populations by benchmarks years, and figure 1 graphs the population curve over a historical event continuum. Population estimates after 1970 have tended to produce inaccurate projections. Dependent on housing data, vacancy rates, and household size estimates, much of the work failed to be sensitive to sharp changes in the demography of the community.

Page 13, Delete entire page, substitute with the following:

A flawed housing census count in 1975, and the use of permit data to represent new units coming on the market exaggerated the actual number of units built and occupied. Of greater influence is the dramatic change in household size. While charting a decline in household size, sample surveys failed to capture the rapidity of change, especially significant declinesin the post-pipeline period. Household size has declined in all types of housing but especially in multifamily units and mobile homes. This phenomenon is reflected in the declining number of school children especially in the higher density urban areas of Anchorage. The decline appears to have accelerated in the post-pipeline period (1978-1980) making it difficult for planners to fully anticipate or measure the change. Also having an effect are vacancy rates which fell substantially during the pipeline period, and subsequently rose dramatically to decade highs in 1979-80. Again multi-family units were most seriously affected.

TABLE 2

ANCHORAGE POPULATION GROWTH 1929-1980

Year	Anchorage Population
1929	2,736
1939	4,229
1950	30,060
1960	82,736
1970	126,333
1975	172,334
1976	177,616
1977	186,531
1978	184,479
1979	180,876
1980	175,000

Estimates from 1929 to 1970, Greater Anchorage Area Borough, 1974e; 1975 to 1980, Anchorage Urban Observatory. All are mid-year estimates after 1970.

Page 14, Figure 1, substitute with the following

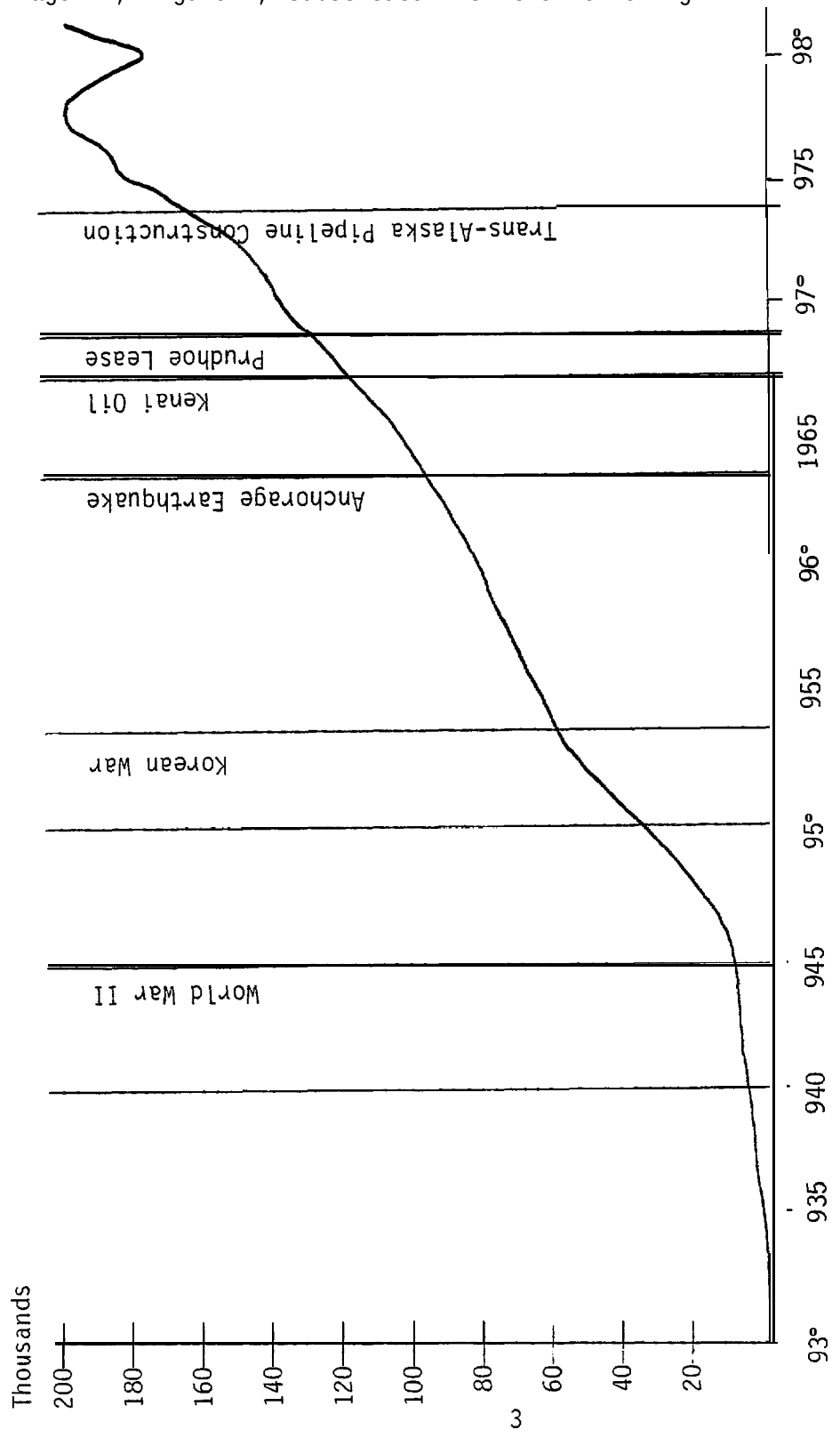


FIGURE 1

ANCHORAGE POPULATION GROWTH[a]

[a]Anchorage Urban Observatory

Page 15, Paragraph 1, delete paragraph, substitute with the following:

While fairly stable in the past decade, military populations have fluctuated by as much as 2,200 in one year's time. Military on-base population peaked in 1979 with 19,525 after reaching a low of 17,326 in 1978. In 1980, 18,026 were estimated to be residing on military reservations, down from 23,339 in 1970.

The population growth shown in figure 1 is consistent with the 1970 and 1980 census baselines. Though below the Municipal estimates, it is considered more accurate for purposes of planning and analysis. Generally, the population grew rapidly in the late 1960's and early 1970's in anticipation of oil and gas development. This slowed from 1972 to 1974 as economic activity in this sector was improving, in anticipation of further economic activity which did not materialize. This delay in any additional large statewide projects and general slowing of the economy brought the 1979 growth rate to 3.9 percent. The growth for 1980 was essentially static, falling between a one percent loss and a two percent gain. There were a number of indications that population growth was slowing and a decline had set in. Moving companies report more moves out of Anchorage than in; work-force growth has slowed; school enrollments continue to decline; and utility hookups have slowed, with disconnects exceeding connects during selected sampled months.

Page 16, Add the following section:

INDIVIDUAL CENSUS DATA

Birth Rate

The birth rate in Anchorage has been historically high due to the relatively young age of its population thus having a proportionately large female cohert of child bearing age. Table 2a notes the number of births in Anchorage and the rate per 1,000 population. The birth rate fell off in the early 1970's from a high of 26 for 1,000 in 1970 to 19 per 1,000 in 1975. Since that time the rate appears to be steadily climbing up reaching 21 per 1,000 in 1979. Anchorage has had in recent years between 42 and 47 percent of the births in Alaska.

TABLE 2a

ANCHORAGE BIRTHS

Year	Number[a]	Births per 1,000 Population[b]
1970	3,285	26
1975	3,260	19
1976	3,465	19.5
1977	3,720	20
1978	3,825	21
1979	3,808	21

[a]State Department of Social Services

[b]Anchorage Urban Observatory

Page 18, Delete entire page, substitute with the following:

Race

The racial composition of the community has been relatively stable in recent years. Since 1960, the proportion of whites has decreased almost six percent to 86.4 percent. All minority racial groups have increased their proportion of the population, though Alaska natives and "other" minorities have made greater gains than blacks. Inclusion of the military reservations increases the proportion of blacks to about five percent and reduces the proportion of Alaska natives to about five percent. Three groups - Orientals, (1.2 percent); other Asians, (1.2 percent); and Spanish-Americans, (1.4 percent) - compose the remainder of the minority population (see table three). The recent health needs assessment survey conducted in November 1978 suggested the growing, but still small proportion of the hispanic population in Anchorage.

While racial minorities comprise totally about 14 percent of the population, geographically located, they are more often found in the northern and older parts of the city - Fairview, downtown, Government Hill, and Mountain View. Outside the original city, only Abbott Loop has a significant minority population.

TABLE 3

RACIAL DISTRIBUTION IN ANCHORAGE

Race	1979[c]	Non-military 1977[a]	Total 1977[a]	Non-military 1970[b]	Military 1970[b]	Total 1970[b]
White	86. 4%	89. 5%	90.6%	91.3%	87. 7%	92.4%
Black	4.0	3.0	4.3	2.9	10.2	4.4
Native	5.8	4.2	3.8	5.8	2.1	3.2
Other	3.8	3.3	1.3			

[a]Ender, Municipality of Anchorage 1978 Population Profile
[b]Greater Anchorage Area Borough (GAAB), People in Anchorage, December 1974
[c]Anchorage Urban Observatory, 1979

Page 20, Delete paragraph 1 and sentence 1 and 2 of paragraph 2 and substitute with the following:

Anchorage has experienced a significant decline in household size during the 1970's. In the 1970 census, nonmilitary reservation housing had an average person per household size of 3.28. The 1980 census shows a household size of 2.71. It is estimated that household size dropped to about 3.20 in 1975 reflecting the effects of in-migration on bolstering this measure. As pipeline construction wound down, household size began dropping from 3.05 in 1977 to 2.71 in 1980. While declines of one-tenth of a person may not appear large, it effectively reduces total population estimates by 6,000 people per .1 person drop.

The primary reason for this demographic transformation is the decline in the number of children per household. While the public school population grew 15.5 percent from 1970 to 1980, the whole population increased by 38.5 percent. School enrollments today are approximately what they were in 1974 and have been declining since 1977.

Page 23, Paragraph 2, delete last sentence and substitute with the following:

Beginning in 1978 out-migration exceeded in-migration, and the natural increase in the population was not able to make up for this change.

Page 25, Delete last page and substitute with the following:

The largest increases took place in 1974 and 1975 during the height of pipeline construction, with an average annual increase of 16.0 and 18.6 percent respectively. In terms of employer-reported total nonagricultural

wage and salary employees, the average annual number of employed increased from 41,995 in 1970 to 77,629 in 1980, which is an increase of 84.9 percent. In 1978 to 1980, employment basically stabilized. An actual decline in employment occurred in 1978 (-0.1 percent) and 1980 annual estimate is only 634 employees above 1977 or a .8 percent rise. The last two quarters of 1978 were down sharply with August 1978, 3,459 below August 1977. In 1979, employment was generally up slightly over 1978, but 1980 has been more mixed with a positive surge reflected in the third quarter, but with more months below 1979 than above. Despite the reduced growth in the post-pipeline period, Anchorage constitutes the dominant labor market in the state. Anchorage composed 45 percent of the nonagricultural statewide employment in 1970, 43 percent in 1975 and 47 percent in 1979. The drop in 1975 was due to construction activity on the pipeline.

Federal guidelines require labor force data to be adjusted for consistency with Current Population Survey (CPS) in formulas used to allocate federal funds. Comparisons between time periods are not as meaningful as examination of the non-agricultural wage and salary employment series. Changes in the formula and sensitivity to CPS sampling reduce the continuity of the data base. Table four displays the growth of the work force since 1973. The civilian labor force participation rate increased from an estimated 35.6 percent of the population in 1970 to 48.3 percent in 1980. The rapid acceleration of the economy during the pipeline construction drew more people than ever into the work force. The proportioned increase of adults to children accelerated the rise in participation rates in the last half of the decade. In June 1977 sample census, 71.5 percent of the adult population was employed. For heads of household, this increases to 87.3 perce

Page 26, Table 4, delete table, substitute with revised data:

TABLE 4

ANCHORAGE NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
AND CIVILIAN LABOR FORCE Statistics

Year	Non-Agric. Wage & Salary Employ[b]	% Change[c]	Civilian Labor Force[d]	Employment	Total Unemployed	Unempl. Rate[e]
1970	41,995	+11.1				6.7[f]
1971	45,452	+ 8.2				8.2[f]
1972	48,252	+15.1				8.9[f]
1973	50,627	+ 4.9	60,100	**54,300**	5,800	9.7
1974	58,713	+16.0	58,650	**54,700**	3,950	6.8
1975	69,608	+18.6	65,938	**62,041**	3,897	5.9
1976	73,021	+ 4.9	69,321	**64,451**	4,870	**7.0**
1977	76,995	+ 5.4	78,422	**72,933**	5,489	**7.0**
1978	76,942	- 0.1	81,551	74,819	6,732	8.3
Jan	74,038	(+ 3.6)	77,647	70,911	6,736	8.7
Feb	**74,254**	(+ 3.3)	78,177	**71,.207**	6,370	8.1
Mar	**74,724**	(+ 2.5)	80,194	**72,643**	7,546	**9.4**
Apr	**75,387**	(+ 1.1)	81, 096	73,881	7,215	8.9
May	**77,643**	(+ 0.5)	83,901	76,.3;6	7,485	8.9
Jun	**78,572**	(- 1.2)	83,899	76,760	7,129	8.5
Jul	**76,818**	(- 2.8)	82,718	76,040	6,678	**8.1**
Aug	78,163	(- 3.3)	82,330	75,880	6,450	**7.8**
Sep	**80,897**	(- 1.3)	82,944	76,771	6,173	**7.4**
Ott	**79,022**	(- 1.0)	83,257	77, 137	6,120	**7.4**
Nov	**77,306**	(- 0.8)	81,236	74,875	6,361	**7.9**
Dec	**76,381**	(- 0.3)	81,320	74,804	6,516	**8.0**
1979	77,502	+ 0.7	81,120	75,424	5,696	7.0
Jan	**74,102**	(+ 0.1)	77,659	71,117	6,482	8.3
Feb	**74,811**	(+ 0.7)	78,753	**72,197**	6,556	8.3
Mar	74,644	(- 0.1)	76,495	**?0,337**	6,158	8.1
Apr	**76,188**	(+ 1.1)	79, 899	73,712	6,187	7.7
May	77,334	(- 0.4)	81,726	**75,932**	5,794	7.1
Jun	**?9 ,540**	(+ 1.1)	85,;6?	78,838	6,224	**7.3**
Jul	73,076	(+ 1.6)	82,390	**76,960**	5,430	5.6
Aug	78,241	(+ 0.1)	83,865	**78,663**	5,202	**6.2**
Sep	81,262	(+ 0.5)	84 ,687	80,019	4,668	5.5
Ott	**80,160**	(+ 1.4)	82 ,389	**77,457**	4,932	**6.0**
Nov	78,498	(+ 1.5)	80,300	**74,954**	5,346	**5.7**
Dec	77,168	(+ 1.0)	80,208	74,840	5,368	6.7
1980[g]	77,62'3	+ 0.2	81,.005	75,087	5,920	7.3
Jan	m	(- 0.5)	74,841	68,936	5 ,885	7.8
Feb	73,807	(- 1.3)	77,667	**70,784**	6,883	**8.9**
Mar	74, 915	(+ 0.4)	79,983	72,.512	6,471	**8.2**
Apr	75, 85nh	(- 0.4)	80,730	74,248	6,482	8.0
May	77,900	(+ 0.7)	81,890	**75,877**	6,013	**7.3**
Jun	**7'3,100**	(- 0.6)	83,946	77,413	6,533	7.8
Jul	**79,800**	(+ 2.2)	84,604	**78, ?98**	5,6'36	6.9
Aug	**80,750**	(+ 3.2)	83,970	**78,561**	5,409	**6.4**
Sep	**80,250**	(- 1.2)	82,273	77,014	5,259	**6.4**
Oct	**79,800(P)**	(- 0.4)	82,545(P)	**76,956(P)**	5,589(p)	6.8(p)

[a] Alaska Department of Labor

[b] Non-agricultural Wage and Salary Employment is based on quarterly reports of employers subject to the State unemployment insurance law and quarterly reports of Federal agencies made in connection with the State administered program for unemployed Federal workers. Not included are self-employed persons, domestics, and most persons engaged in agriculture.

[c] This is percentage change compared to the previous year $[(y_x-y_1)/y_1]$. Change in parenthesis is monthly change compared to the month in the previous year.

[d] Civilian Labor Force and accompanying employment, unemployment data is consistent with the Current Population Survey (CPS), a small sample approach which leads to short-term inaccuracies and problems in month to month comparisons. Formulas benchmark the series to March 1979.

[e] Unemployment rates are not seasonally adjusted. Definitions of unemployment exclude anyone who has made no attempt to find work in the four week period up to including the week that includes the twelfth of each month.

[f] These rates are not benchmarked.

[g] Estimate, 11/79 to 10/80.

[h] April to October 1980 is based on a sample of employer reports benchmarked to March 1979 and should be considered preliminary.

(p) Preliminary.

Page 27, Delete page and substitute with the following:

Historically, unemployment in Anchorage has been higher than the national average. This has been the result of high seasonal variation in certain employment categories, employment expansion failing to keep up with the increase in the work force, and the inability of the "system" to match skill needs in employment openings with the available labor pool. From 1970 to 1973, prior to the pipeline, the unemployment rate averaged 8.4 percent. This reached an all time high of 9.7 percent in 1973 in anticipation of pipeline construction. During construction years, the rate declined to a low of 5.0 percent in August 1975 and averaged 6.7 percent between 1974 and 1977. With the completion of the pipeline, the economy slowed and mildly contracted beginning in the second quarter of 1978. Though unemployment rose above eight percent in the winters of 1976 and 1977, the serious affects of economic slowdown were not felt in the area of unemployment until 1978. The rate peaked in March 1978 at 9.4 percent and rose again in January and February 1979 to 8.3 percent and February 1980 to 8.9 percent. (U.S. Dept. of Labor, Bureau of Labor Statistics, 1979c). In the last half of 1979, unemployment dropped dramatically without a corresponding increase in employment. By September 1979, the rate stood at only 5.5 percent. The reasons for this appear to be an increased number of unemployed workers leaving the area to seek opportunities elsewhere (many to the Seattle area), and the fact that more unemployed workers have reached their benefit limits and are falling out of the work-force statistics. Despite the higher post-pipeline unemployment, Anchorage's economy is in better condition than the rest of the state. The 1978 state unemployment rate was 11.1 percent and in June 1980 state unemployment still

registered at 10.2 percent. In addition, the seasonality of work is not nearly as pronounced in Anchorage as it is throughout the state.

Page 34 - 45, Delete beginning with Employment Trends by Industry (p. 34) through table 10, page 45, substitute with the following:

Employment trends in the 1970's reveal some important shifts in the composition of the categories of employed persons. Table seven outlines industrial sector distribution of employment, while table eight graphically depicts trends of selected industries over an eleven year period.

Government Employment. Government employment produces the most pronounced change over time with a drop from 37 percent of all employees in 1970 to 28.3 percent in 1979. This can be attributed to stabilizing federal employment levels within a rapidly growing civilian work force. With a strong seasonality factor, federal employment levels remained steady for two and one-half years and then grew strongly in 1974, peaking in mid-1975, then levels dropped below 10,OCO employees. This figure, however, does not include uniformed military personnel. Federal employment in 1979 is about the same as 1970. The result is that except for the short-term summer employment, the federal government is a major but not a growth factor in the economy. State and local government have, however, grown steadily, relatively unaffected by swings of seasonality. The unification of Anchorage's city and borough governments decreased municipal employment levels in 1976. However, in the succeeding three years, local government employment rose at a rate faster than the total work

Page 37, Table 7, delete tab e, substitute with the revised tab e:

TABLE 7

EMPLOYEE INFORMATION TRENDS

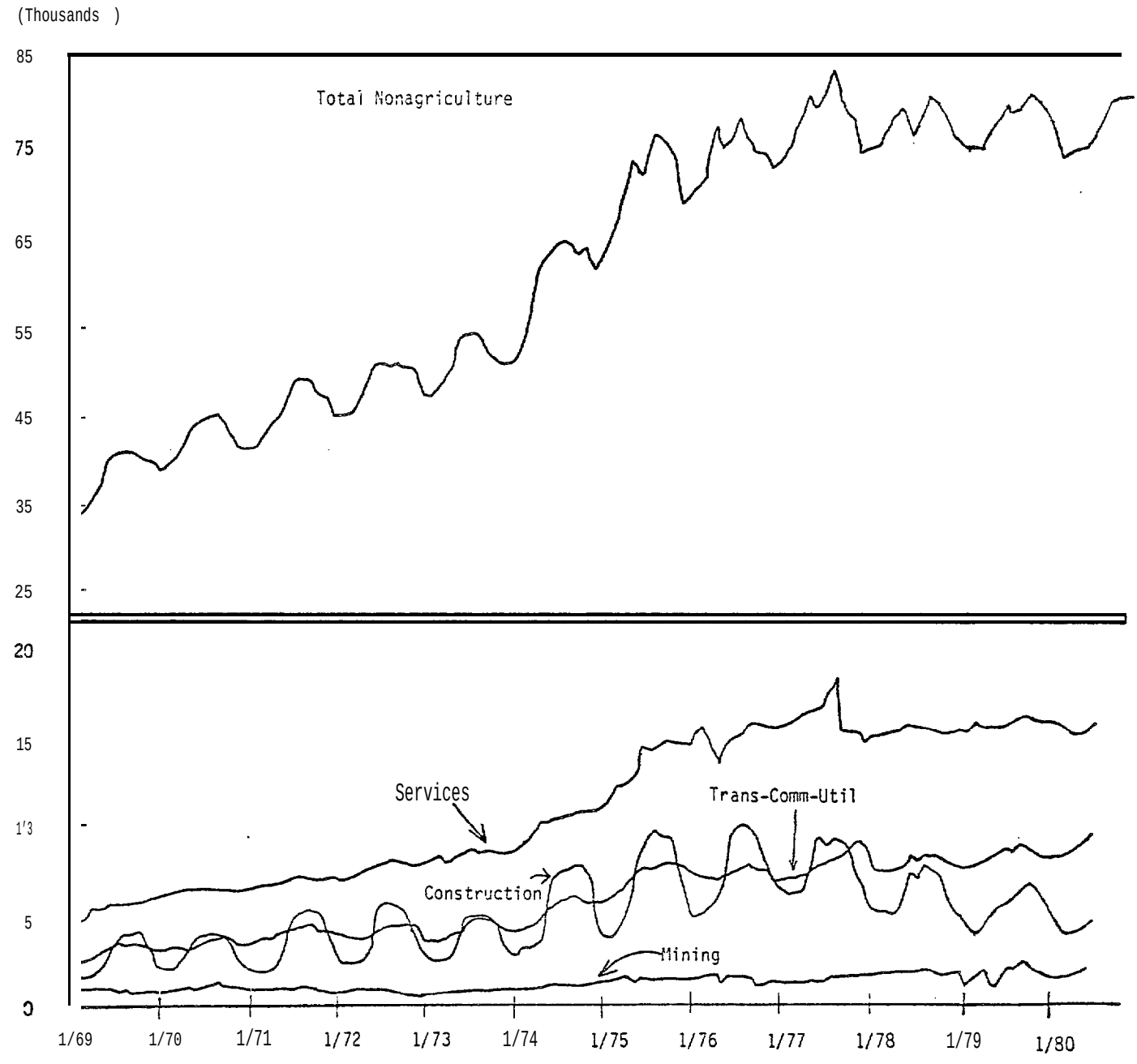
Industry	1970[a]	1975[a]	1976[b]	1977[b]	1978[b]	1979	1970-1979 Effective Annual Growth Rate
Mining	2.3%	1.9%	1.9%	1.8%	2.4%	2.4%	7.5%
Contract Construction	8.4	10.2	10.4	10.1	8.4-	7.4	5.1
Manufacturing	2.4	2.3	2.2	2.2	2..2	2.1	7.0
Transpiration, Communication and Utilities	9.3	10.5	10.2	10.2	10.3	10.2	8.3
Trade	20.5	21.4	21.9	21.5	21.9	21.8	8.1
Wholesale	(5.2)	(5.9)	(5.9)	(5.4)	(5.4)	(5.2)	(7.0)
Retai 1	(15.3)	(15.6)	(16.0)	(16.1)	(16.5)	(16.6)	(8.3)
Finance, Insurance, and Real Estate	4.7	5.2	5.8	6.2	6.5	6.7	11.1
Services	15.2	18.9	20.2	19.9	20.2	20.3	10.9
Government	37.0	29.6	27.3	27.5	27.5	28.3	3.9
Federal	(22.6)	(14.7)	(13.4)	(13.1)	(12.9)	(12.3)	(0.5)
State	(5.3)	(5.8)	(5.5)	(5.6)	(5.9)	(6.1)	(8.0)
Local	(9.1)	(9.2)	(8.3)	(8.8)	(8.7)	(9.9)	(7.9)
Other	0.1	0.1	0.1	0.6	0.6	0.8	
Total Number of Employees	(41,995)	(69,608)	(73,021)	(77,003)	(76,968)	(77,502)	7.4

[a]Alaska Department of Labor, Statistical Quarterly.

[b]Alaska Division of Economic Enterprise, The Alaska Economic Information and Report System, Anchorage Outlook, September 1979.

TABLE 8

ANCHORAGE AVERAGE MONTHLY NUMBER OF EMPLOYEES BY INDUSTRY



force. State employment grew with the pipeline and slowed in its aftermath. Growth in state revenues pushed growth rates in 1978 and 1979. Oil revenues accruing to the state, continued public service employment monies, general growth in municipal services, all point to increasing employment opportunities in these sectors.

For the short term, federal employment can be expected to remain fairly stable with gains in the state and local sectors keeping the proportion of overall government employment from falling quickly. In periods of rapid growth, however, one would expect overall government employment to grow more slowly in relation to gains in the total work force. Its role in the economy would appear to be a stabilizing one.

Services. The largest numerical gain in the work force has occurred in services, which rose to 20.3 percent of civilian employment by 1979. After several years of strong performance related to pipeline activity, this industry slowed after 1976 to a growth rate equal to the work force average. Even so, this produced an annual growth rate of 10.9 percent. The growth of business services, major hotel expansion, and expansion of both general public hospitals are some of the major contributors to growth.

Anchorage's role as a service provider to the rest of the state, supports a concentration of those services in Anchorage. Future growth and development throughout Alaska will yield benefits to this industry. An important factor is that services are not affected as

strongly by seasonality as other major industries. While the tourist-related component is subject to seasonal savings, the overall trend in services is more stable growth, As this sector continues to grow, the strength of the year-round employment base will improve. The long-term prospects of the industry are tied very closely to external factors - development throughout Alaska, the health of the national economy, etcetera. Because Anchorage is expected to retain its role as a service metropolis, the future of this industry is bright and should continue to grow at or above the rest of the economy. Expansion in hotel and restaurant inventory should keep the short-term prospects of the industry bright. A major tourist attraction effort by the state, and Visitors and Conventions Bureau appears to be working, and Anchorage should benefit from that. A newly passed proposal raised the hotel-motel tax for additional efforts to attract visitors and earn increased revenues from the tourist industry,

Contract Construction. Contract construction grew rapidly in 1975 and 1976, with work related to the pipeline and a secondary sector construction boom. With the completion of the pipeline, 1977 construction activity remained strong with a large number of major local projects underway. Residential housing construction remained at an all time high in 1977. This was still insufficient to offset the heavy impact of the completion of the pipeline. Construction employment was reduced to lower levels than existed in 1974. As the federal building, National Bank of Alaska building, Cook Inlet Building, hotel towers, and other projects were completed, construction activity dipped sharply. The softness in the industry was strongly felt in 1978, and the traditional industry August peak fell 2,300 workers below the 1976 high. The industry slipped to only 7.4 percent of the work force in 1979. With a larger surplus of stock, residential housing starts tumbled in 1978 and 1979, and by 1979, only heavy construction in the transportation area (roads, highways, and the north-south runway) was keeping up with previous year totals. The industry is strongly tied to major statewide projects. Between projects, local project opportunities are not sufficient to cope with the number of people seeking employment in this sector. The completion of a large project, like the pipeline, effects the health of the rest of the economy; and after a lag, it slows investment in smaller, more local projects which only exacerbates the problem for the construction industry. The short-term prospects are poor for this sector but should show moderate recovery if even some of the major project proposals for the 1980's are implemented. However, project-to-project uncertainty

and high seasonality are not likely to disappear. The question is whether the overall strength of industry will return to the levels found during the pipeline, thus reducing the structural unemployment which has appeared among workers in this industry since 1976. Though speculative, it is assumed that future construction activity though expected to be periodically substantial, will not achieve the same rates of growth found during the pipeline period.

Mining Industry. The mining industry in Anchorage is mainly comprised of firms connected with oil. Their employees are largely professional, technical and clerical staff supporting field operations located throughout the state. Outer continental shelf leasing, exploration, and discovery assure growth in this industry. This is spurred on by rapid increases in the price of oil making Alaskan investment more attractive. However, even large changes in this sector will have a relatively small impact on the general economy, since mining comprises only 2.4 percent of the employed work force. Future demand will increase for clerical and general office personnel, while professional/ technical needs will continue to be met from outside the local labor market area. The extraction of raw materials, whether oil and gas or hard rock minerals, is expected to remain a major factor in future state development. This activity will likely be headquartered in Anchorage, though the work itself will be performed throughout the state. This should maintain or improve mining's position in the general employment mix over the long term.

Transportation, Communications, and Public Utilities. These industrial sectors have shown a mixed but overall growth rate above the total average. The amount of general cargo at the Port of Anchorage and air passengers going through Anchorage continue to increase. The decline in air transport activity associated with the completion of the pipeline has been mitigated by increased outer continental shelf (OCS) activity. Trucking and warehousing employment are down 36.2 percent between the 1975 peak of 2,003 workers and the June 1979 high of 1,277. Other sectors have been fairly stable since 1975-76. Communication employment has improved due to continued expansion of this industry. RCA's holdings were sold to Pacific Power and Light, and the settlement of a rate dispute with the Alaska Public Utilities Commission permitted better planning. Employment during 1977-78 was adversely affected by strikes in the marine highway system and Wien Air Alaska. The ongoing battle over the closure of the aul road could negatively effect employment by diverting transportation options to the North Slope outside of Alaska. While this is unlikely to occur, the industry is closely tied to state action and federal subsidy of transportation systems. Utility employment contributes a stable factor to this sector's employment base. Overall, despite strong seasonal swings for some subsectors, the stability and future growth of this industry group is positive.

Trade. Trade is a more stable industry reflecting modest seasonality for the summer tourist season and again for the Christmas season. Trade employment generally flattened out in 1976-77 as retail estab-

lishments became conservative in the post-pipeline period. The large number of new firms established increased the number of employment openings at a fairly steady rate up to 1978. The future is bright in that Anchorage is reaching the critical market size necessary to support a diversity of businesses, including franchised firms. The short-term problems of economic slowdown and population decline has had a severe impact on trade levels. Smaller businesses have been especially hard hit. Despite these problems, there are one million square feet of retail space proposed to come on line in the early 1980's including the newly completed Northway Mall. Some development and expansion options have been delayed or shelved as the economy continues to remain weak. Continued additions to retail outlets in a slow economy should lead to a shakeout of less productive locations and smaller centers should occur. The result would be continuing difficulty for the trade sector in the short-term. The long-term promise of a medium urban market and a regional shopping market should support a large number and diversity of retail and wholesale outlets.

Manufacturing. Manufacturing is limited in Anchorage, constituting over two percent of the work force throughout the 1970's. The three major contributors to employment have been in food processing, building products fabrication (wood, metal, stone), and printing and publishing. All of these areas have performed well in the post-pipeline period and continue to be proportionately active employers. The small size of Alaska's homegrown market and the poor competitive aspects of most external markets should continue to limit expansion of this industry

to general employment growth. Opportunity exists for the addition of a fourth contributor, i.e. the processing and refinement of raw materials. Anchorage's physical location would restrict much of this activity in the bowl. However, Anchorage would likely be the administrative center for processing in the region. Fish processing is one area of significant promise and the Municipality has studied support for this activity.

Finance, Insurance, and Real Estate. These sectors have seen a decade of strong growth, outperforming all other sectors. Anchorage has emerged as the financial center of Alaska. New facilities in each of the subsectors, such as the new National Bank of Alaska headquarters, assure continued growth. A short-term weakness is in the area of real estate. Real estate employment dropped significantly between 197'7 and 1978. The general softness of the market and fewer housing starts contributed to this decline.

Military. Employment in the military sector has also been a major factor in Anchorage. Two large military installations, Elmendorf Air Force Base and Fort Richardson Army Post, contribute importantly to the economic stability of the southcentral region. The impact of the military population on Anchorage employment has declined slightly, with increasing reductions in force. In 1960 uniformed military in Anchorage numbered 14,183 or 17.1 percent of the total work force. In 1976 it stood at 12,179 and composed 6.6 percent of the total. In 1979 there were 11,539 uniformed personnel. Total government

employment has decreased from 49.8 percent of the total civilian and noncivilian employment in 1970 to 42.7 percent in 1978. Despite this, the military payroll is a major economic force in the community. Fort Richardson in fiscal year 1978 had a uniformed personnel payroll , of $64.48 million and civilian employee payroll of $30.8 million (Gadberry, 1979). Elmendorf had a uniformed personnel payroll of $93.8 million and a civilian payroll of $36.8 million (Gorski, Community Contact, 1979i).

Occupational Patterns

Occupation distributions are shown in table nine. The first three columns display a consistent data series and represent fairly stable patterns. Note the increase in the proportion of service workers between 1970 and 1977. This corresponds to growth in this sector. While numbers of clerical and sales personnel declined compared to other occupations, they still constitute the largest occupational category. The fourth column constitutes a major redefinition of the occupational forecast model developed in 1978. This makes comparison over time difficult. Projected demand for specific occupational categories is shown in table ten. The number of projected annual job openings result both from the growth of the economy and from turnover in present positions. Projections are based on postpipeline rates of growth and reflects a major downward reestimated of occupational demand. Any major economic stimulus on the Anchorage economy could significantly alter the projections. It should be noted that the projection for 1985 is 10,935 workers below a 1982 estimate made just

three years ago. Economic trend predictions have become more conservative in the realities of the post-pipeline slowdown.

TABLE 9

OCCUPATION OF EMPLOYED CIVILIANS

Occupation	1970[a]	1977[b]	1978[c]	1979[d]	1980[e]
Professional, Technical	19. 6%	19. 1%	19. 0%	17.3%	17,4%
Managers, Officials	12.0	13.8	13.7	10.1	10.1
Clerical, Sales	28.4	24.6	24.3	32.6	32.7
Craftsmen, Foremen	15.1	13.0	13.9	26.2	25.8
Operatives	7.6	7.2	6.9		
Laborers	4.1	5.8	5.6		
Service Workers	12.3	16.5	16.6	13.8	14.0

[a]U. S. Bureau of the Census, April 11, 1973

[b]Alaska Department of Labor, Anchorage Annual Planning Report for 1977, 1978

[c]Ibid., 1979

'Ibid., 1980

'Ibid., 1981

TABLE 10

EMPLOYMENT FORECAST BY OCCUPATION, Anchorage

Occupation	1980 Estimated Employment	1981 Estimated Employment	1985 Estimated Employment	Avg. Annual Job Openings 1980-85
Total - All Occupations	77,241	80,403	102,765	7,216
Professional	9,872	10,101	12,865	859
Technical	3,553	3,640	4,529	250
Managers, Officials, Proprietors	7,780	8,108	10,459	761
Sales Workers	5,484	5,786	7,509	587
Clerical Workers	19,789	20,455	26,094	1,896
Service Workers	10,842	11,271	14,684	1,132
Crafts, Operatives, Laborers	19,921	21,042	26,625	1,731

anchorage Annual Planning Information, FY 1981

Page 45 - 59, Delete section and substitute with the following:

Income Structure and Cost of Living

There has been a dramatic alteration of the income patterns in Anchorage within the last decade. In 1969, the median household income was $10,746 (see table ha). By 1976, total "household" median income was estimated to be $30,115. Per capita income in 1969 was $4,196, and in 1977 was estimated to be $11,430. (Alaska was $10,497.) Household incomes in Anchorage appear to have peaked in 1977 and may have fallen slightly in 1978. An October 1978 sample found an Anchorage median income of $28,723. This could be due to an increase in the proportion of unemployed persons and an increase of adults leaving the work force. The depressed economic conditions, especially in the higher paying industries such as construction, may have forced down the earning potential of each household. In contrast, household profile data by R.L. Polk Company notes household incomes have continued to rise. A review of both data collection methods suggest that the Polk approach overestimates while survey data underestimates. In addition to household income, there is also individual wage and salary. Table 11b compares Alaska to four other bases. Alaska and Anchorage are 59.6 percent above the national average, but 23 percent above Washington D.C.

Table 11c compares the consumer price index with per capita income. Between 1974 and 1976 Anchorage incomes were rising at twice the rate of the cost of living. This occurred for a number of reasons. First, the average monthly wage escalated rapidly. As table 12 illustrates, wages rose about 213 percent between 1969 and 1977. General inflationary pressures and the

TABLE 11A

ANCHORAGE HOUSEHOLD DATA

	Median	Mean
1969 All families and Unrelated Individuals[a]	$10,746	$12,287
1975 Household Income[b]	$26,067	$29,577
1976 Household Income[b]	$30,115	$32,998
1978 Household Income[b]	$28,723	$32,373
1978 Household Income[c]	$36,001	$37,082
1979 Household Income[c]	$39,562	$40,749

[a]U.S. Bureau of Census, General Social and Economic Characteristics, Alaska PC(1)-C3

[b]Sample surveys of Municipality, Anchorage Urban Observatory

[c]R.L. Polk Company, Profits, Municipality excluding Hillside, Eagle River/Chugiak

TABLE 11B

1979 AVERAGE WAGES AND SALARYa

	Average Wage	% of Natl. Avg.
Alaska	$20,973	159.6
Anchorage	$20,963	159.6
Washington D.C. (Metro)	$17,055	129.8
Chicago (Metro)	$16,496	125.6
National Average	$13,137	100.0

anchorage Times, December 5, 1980

high wages due to pipeline construction activity spilled over into other industrial sectors, forcing a general increase in all wages. The second reason is that Anchorage has always had both a high percentage of women participating in the civilian labor force (1970, 41.7 percent; 1977, 43.0 percent- this is about three to four percentage points higher than the national average) and a relatively high number of employed persons per household (1.5 in 1977), These factors foster a high total household income. Table 13a demonstrates the impact of additional wage earners on total household income. With 47.4 percent of the households having two or more employed adults, one can recognize the effect.

TABLE 11C

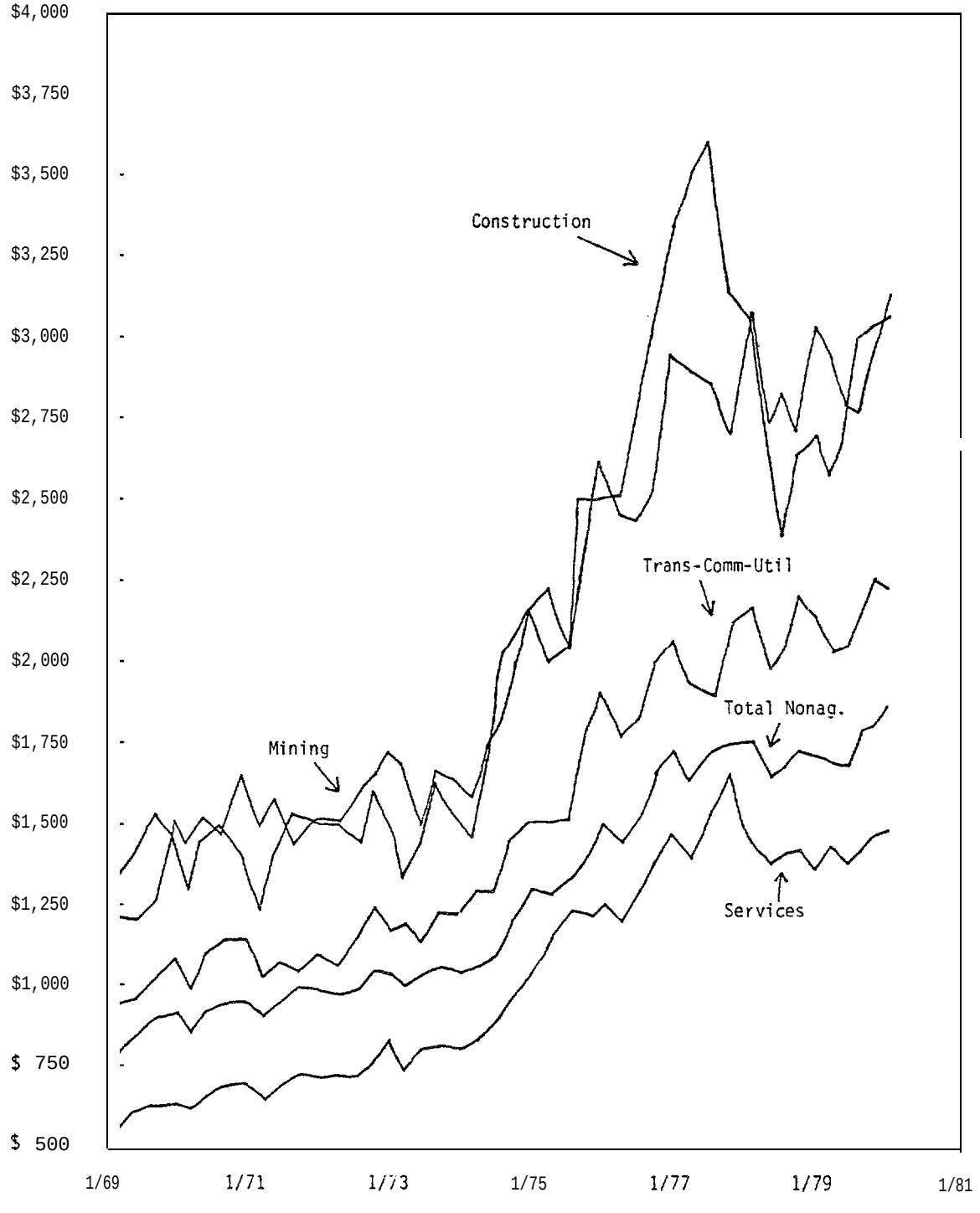
PER CAPITA INCOME AND CONSUMER PRICE INDEX

Year	Anchorage Per Capita Income[a]	Anchorage Real Per Capita Income[c]	Anchorage Yearly Avg. CPI[b]	U.S. Per Capita Income[a]	Us. Real Per Capita Income[c]	U.S. Yearly Avg. CPI[b]	Anchorage Real in cow % Difference[d]	Di ffe Pe 1 Purc Pc
1969	$ 4,196	$3,828	109.5	$3,119	$ 2,682	115.3	142.7	- $
1972	5,632	4,859	115.9	4,493	3,586	125.3	135.5	-
1973	6,050	5,008	?20.8	4,930	3,742	133.1	133.8	
1974	7,383	5,514	133.9	5,428	3,675	147.7	150.0	+
1975	10, CKI6	6,570	152.3	5,861	3,636	161.2	180.7	+ 1,
1976	10,465	6,378	1 6 4 . 1	6,397	3,752	170.5	170.0	+ 1,
1977	11,430	5,551	174.2	7,026	3,993	180.5	168.5	+ 1,
1978	12,152	6,509	186.7	7,810	3,997	195.4	152. 8	+
1979[e]	13,336[f]	6,470	206.1	8,773	4,035	217.4	160.3	+

[a]Regional Economic Information System, Bureau of Economic Analysis.
[b]The Alaska Economy, 1978, Anchorage Real Estate Research Report, Fall 1980.
[c]Actual per capita income adjusted by CPI to 1969 dollars.
[d]Anchorage real income percent if U.S. real income = 100.
[e]Difference in dollars between real incomes adjusting for cost of living differentials of intermediate family budget
[f]Projected figure based on the Alaska Economic Information and Reporting System. Alaska has a reported per capita income in 1979 of $11,219.

TABLE 12

ANCHORAGE AVERAGE MONTHLY WAGE BY INDUSTRY[a]



[a]Alaska Department of Labor, Statistical Quarterly

Between 1977 and 1979 Anchorage real per capita income fell below that of 1975, and the purchasing power of Anchorage relative to the U.S. average lost some of its advantage. The consumer price index rising in Anchorage at a rate well below the national average is the one factor which has kept the relative power of Anchorage's income from falling even further.

TABLE 13a

MEDIAN INCOME Statistics

Households Headed By	Median Household Income
Male	31,379
Female	13,177
Whit-e	30,395
Black	18,713
Alaska Native	20,860
Other Minority	24,472
Own	34,526
Rent	18,433
O Employed Adult	9,989
1	26,515
2	32,307
3	38,172
4 or more	56,610
1 Person household	15,697
2	27,861
3	31,747
4	33,867
5	36,062
6 or More	33,685

[a]Ender, 1978 Population Profile - Municipality of Anchorage

In analyzing the income patterns in Anchorage, two factors must be taken into account. The first is the effect of the consumer price index (see table 13b). With both indices beginning at an October 1967 base of 100, the U.S. CPI rose more rapidly in the early 1970's compared to that of the Anchorage area. The

TABLE 13B

CONSUMER PRICE INDEX[a]
(October 1967=100)

	Annual Average					
	1975	1976	1977	1978[b]	1979	July 1980
U.S. Average						
All Items	161.2	170.5	180.5	195.4	217.4	247.8
Anchorage						
All Items	152.3	164.1	174.2	186.8	206.2	228.4
Food & Beverage[c]	167.6	174.2	184.6	222.9	244.6	262.5
Housing	152.7	166.7	173.9	183.5	205.0	226.7
Apparel & Upkeep	138.6	147.1	157.4	158.2	161.8	182.1
Transportation	134.6	149.9	163.5	175.6	193.8	225.0
Medical Care[d]	152.5	164.1	177.3	228.6	248.3	287.7
Entertainment				188.3	192.0	197.3
Other Goods & Services				181.2	193.0	209.9

[a]Policy Analysts Limited, The Anchorage Economic Compass, Volume III, Update I

[b]In 1978 the method of collection of CPI data was expanded so that information is compiled six times a year and the number of categories was expanded from six to eight.

[c]1975 to 1977, this category labeled "Food".

[d]1975 to 1977, this category labeled "Health and Recreation".

gap between the two began to narrow as growth in Anchorage continued, transportation systems improved, and market efficiencies increased. Beginning in 1974, however, local prices began to rise faster with the advent of the pipeline and the influence of increased consumer demand for goods and services. This trend slowed and reversed in 1976, and the U.S. and Anchorage averages began moving closer together. In 1978, Anchorage's average annual CPI stood at 186.3 with the U.S. at 194.2. From 1978 to 1980, the U.S. average rose faster than the Anchorage index (especially 7979-1980). Food, beverage and medical care have moved well above the average (comparisons between 1977 and 1978 have to be made with caution) while apparel upkeep and entertainment are now below the average for Anchorage.

When comparing Anchorage per capita income, which rose 218 percent in ten years, to the CPI which gained only 88 percent, the improvement in relative income is evident. The U.S. experienced a gain of 181 percent in income and 87 percent increase in the CPI. The CPI can be related to actual income to produce real income in 1969 base dollars. The difference between the two is shown in table 11c and reflects the income gains during the pipeline years, and subsequent narrowing of the difference.

A second factor in the analysis is the cost of living differential between the U.S. and Anchorage. Anchorage and the U.S. did not both begin 1967 with the same purchasing power. Anchorage's cost of living has been consistently higher. One indicator of this is the cost estimate for urban family budgets. In 1978 this difference varied from 40.1 percent for higher budget families to 64.8 percent for lower budget groups. This cost-of-living differential

has altered slightly over time, commensurate with CPI differential changes. Until 1979, it has historically stayed within two percent of the 1978 data. Using the intermediate budget difference of 41.4 percent as the income level affecting most of Anchorage households, an approximate purchasing power difference can be calculated (1979 is calculated at 36.1 percent because of the significant shift occurring). Table 11 takes both the CPI and cost-of-living difference into consideration to compare relative per capita purchasing power between the United States' urban average and Anchorage. In the early 1970's, Anchorage incomes were not performing as well as the country as a whole, and reflected purchasing power below the national average. The pipeline boom coupled rising incomes and a fairly stable cost-of-living differential to produce a significant improvement in Anchorage incomes relative to the urban average. These gains began to errode in the post-pipeline period. With the severity of the economic slowdown affecting Anchorage in late 1977 and 1978, it suggests that Anchorage's gains eroded about one-half relative to the national average.

Another dimension of income can be seen by comparing the urban family budget with actual incomes. Using the 1977 intermediate family-of-four budget, Anchorage families had to have an income of $23,071 to maintain buying power, compared to the U.S. urban average income family earning $16,236. The estimated 1977 median income for a four-person household in Anchorage was $31,747. Within this household type, 89.5 percent were above the lower budget (which represents 80.5 percent of al 1 Anchorage households), 78.6 percent were above the intermediate budget (which represents 63.8 percent of all Anchorage households), and about 49.7 percent were above the highest budget

TABLE 14A

COMPONENT BREAKDOWN OF URBAN FAMILY BUDGET

AUTUMN 1979[a]

Components	Lower Budget			Intermediate Budget			Higher Budget		
	Anchorage	U.S. Avg.	% Diff.	Anchorage	U.S. Ava.	% Diff.	Anchorage	U.S. Avg.	% Diff.
Food at home	$4,415	$3,365	31.2%	$5,371	$4,223	27.2%	36,495	$5,043	28.8%
Food way from home	589	547	7.7	844	832	2.8	1,163	1,326	-12.3
Shelter[b]	3,790	1,810	109.4	4,605 (5,582)	2,340 (3,983)	96,8 (40.1)	5,803 (7,0s1)	3,685 (4,997)	57.5 (41.7)
House furnishings operations	1.059	599	76.8	1,805	1,021	76.8	3,365	1,931	74.3
Transportation (auto owners)	1,738	1,362	27.6	2,331	1,949	19.6	2,754	2,411	14.2
Clothing	1,018	866	17.6	1,399	1,235	13.3	1,915	1,804	6.2
Personal Care	405	323	25.4	606	433	40.0	930	613	51.7
Medical Care	1,821	1,171	61.5	1,894	?,176	61.1	1,960	1,227	59.7
Other Family Consumption[c]	568	550	3.3	1,041	1,021	2.0	1,743	1,684	3.4
Other items[d]	696	539	29.?	1,062	877	21.1	1,720	1,472	17.4
Social Security & Disability payments	1,288	781	64.9	1,484	1,256	18.2	1,484	1,413	4.8
Personal Income	2,237	1,032	116.8	4,758	3,031	57.0	10,200	6,357	60.5
Total Budget	19,694	12,585	56.5	27,933	20,517	36.1	40,785	30.317	34.5

[a]U.S. Department of Labor, Bureau of Labor Statistics, "Autumn 1979 Urban Family Budgets and Comparative Indexes for Selected Urban Areas," April 30, 1980.

[b]Shelter - under the "lower Budget" classification, shelter refers to the cost of renting housing; for "Intermed and "Higher Budget", the number in paranthesis refers to the cost for homeowners; the number with no parenthesi refers to the cost for renters.

[c]Other Family Consumption - includes the average costs for reading recreation, tobacco products alcoholic bever education and miscellaneous.

[d]Other Items - includes allowances for gifts and contributions, life insurance and occupational expenses.

TABLE 14B

URBAN FAMILY BUDGETS, AUTUMN 1979[a]

Urban Area	Lower Budget			Intermediate Budget			Higher Budget		
	Level 1978	% Chg. 1978	Index 1975	Level 1978	% Chg. 1978	Index 1975	Level 1978	% Chg. 1978	Index 1975
Anchorage	$19,690	3.5	29.3	156.5	$27,933	6.1	31.6	136.1	$40,785	6.2	34.2	134.5
Seattle/ Everett	$13,914	11.3	36.3	110.6	$20,719	11.0	32.6	101.0	$29,583	11.8	33.2	97.6
Washington D.C. MD-VA	$13,631	9.9	34.9	108.3	$22,206	10.4	39.7	108.2	$32,636	10.3	41.3	107.6
U.S. Urban Average	$12,585	9-0	31.3	100.0	$20,517	10.2	33.9	100.0	$30,317	10.6	36.0	100.0

[a]U.S. Department of Labor, Bureau of Labor Statistics, "Autumn 1979 Urban Family Budgets and Comparative Indexes for Selected Urban Areas," April 30, 1980

(which represents 40.9 percent of all Anchorage households). By 1979, the Anchorage intermediate family budget had risen 21.1 percent to $27,933 (see table 14a). The difference between Anchorage and the U.S. average dropped to the lowest in history with the intermediate budgets 36.1 percent apart; the lower budget, 56.5 percent; and the higher budget, 34.5 percent.

Table 14a also breaks the budget into specific components for comparison. Shelter still tops the list with personal income tax also well above the U.S. average. The latter will be affected, of course, by the elimination of state income tax. Food at home, medical and personal care, and house furnishings and operations also were substantially above the national average.

Table 14b compares the Anchorage family budget with the U.S. urban average, Seattle, and Washington D.C. including change since 1975 and 1978. The fact that the Washington D.C. budget grew faster than Anchorage's between 1978 and 1979 suggests the rationale behind reducing federal COLA. The problem is that even with the gap somewhat less, the difference was still 25.8 percent.

Because food constitutes a key component of a household's budget, table 14c compares the cost for one week's food at home for various family types. Differences with the U.S. average is 26 percent..

TABLE 14C

COST OF FOOD AT HOME FOR ONE WEEK

March 11, 1980[a]

Type of Household	Anchorage	U.S. Average	% Difference
Young Couple	$49.27	$38.50	28. 0%
Elderly Couple	$43.52	$34.20	27.3%
Family of four with preschool children	$68.15	$53.70	26.9%
Family of four with elementary school children	$82.11	$64.70	26.9%
% Us.	126%	1 00%	

[a]University of Alaska, Cooperative Extension Service

Income gains, however, have not been evenly distributed throughout the Anchorage population. Female heads of household earn $18,202 less than male heads of household. This is due in part to differential earning power of heads of household ($11,537 for females and $24,284 for males), and the fact that the male head of household has a greater chance of having additional wage earners in the same household (39.2 percent of female households are made up of only one adult compared to 8.9 percent for male households). In addition, female heads of household participate in the work force at a rate 11.3 percent below males and have an unemployment rate twice that of males.

The income gap between whites and racial minorities is not as severe, but nonetheless significant, as noted by table 13a. This is partially due to three factors: 1) lower earning power of the minority heads of household

compared to whites, 2) greater proportion of female heads of household for blacks (20.6 percent) and Alaska natives (24.1 percent) compared to whites (9.5 percent), and 3) higher unemployment rates for Alaska natives.

OTHER ECONOMIC DATA

Payroll

The total quarterly payroll for the Anchorage metropolitan area is an indicator of the general growth and economic health of the area. Payroll combines both employment totals and monthly wage to produce an overall indicator of economic conditions. Table 15 outlines the total nonagricultural payroll over a 45-quarter period, as well as specific barometer industries related to future OCS development.

Total nonagricultural payroll demonstrated a slow but upward growth from 1969 to 1973 when the pipeline boom caused major gains in all industrial sectors. The change from the third quarter 1969 to 1973 was 56.6 percent ($107.5 million to $168.3 million), a 14 percent annual increase. From third quarter 1973 to 1976, payroll rose another 127.7 percent or 42.6 percent annually. This rapid rise was due to direct and indirect pipeline-related industries such as mining with a 189.6 percent increase; construction, 241.9 percent increase; services, 227.8 percent; trucking and warehousing, 225.4 percent; etcetera. Government, trade, finance, etcetera performed well, but below average. From 1976 to 1977, growth slowed to 11.4 percent as both the average wage and nonagricultural employment reflected a lower level of growth. From second to fourth quarter of 1978, total payroll was down, and the 1978 annualaverage fell 0.2 percent

compared to that in 1977. The $390.1 million average payroll in 1978 rose 4.1 percent to $406.2 million in 1979. However, this was only 39.4 percent of the rise in the cost of living index. By the first quarter of 1980, total average monthly payroll stood at $413.5 million.

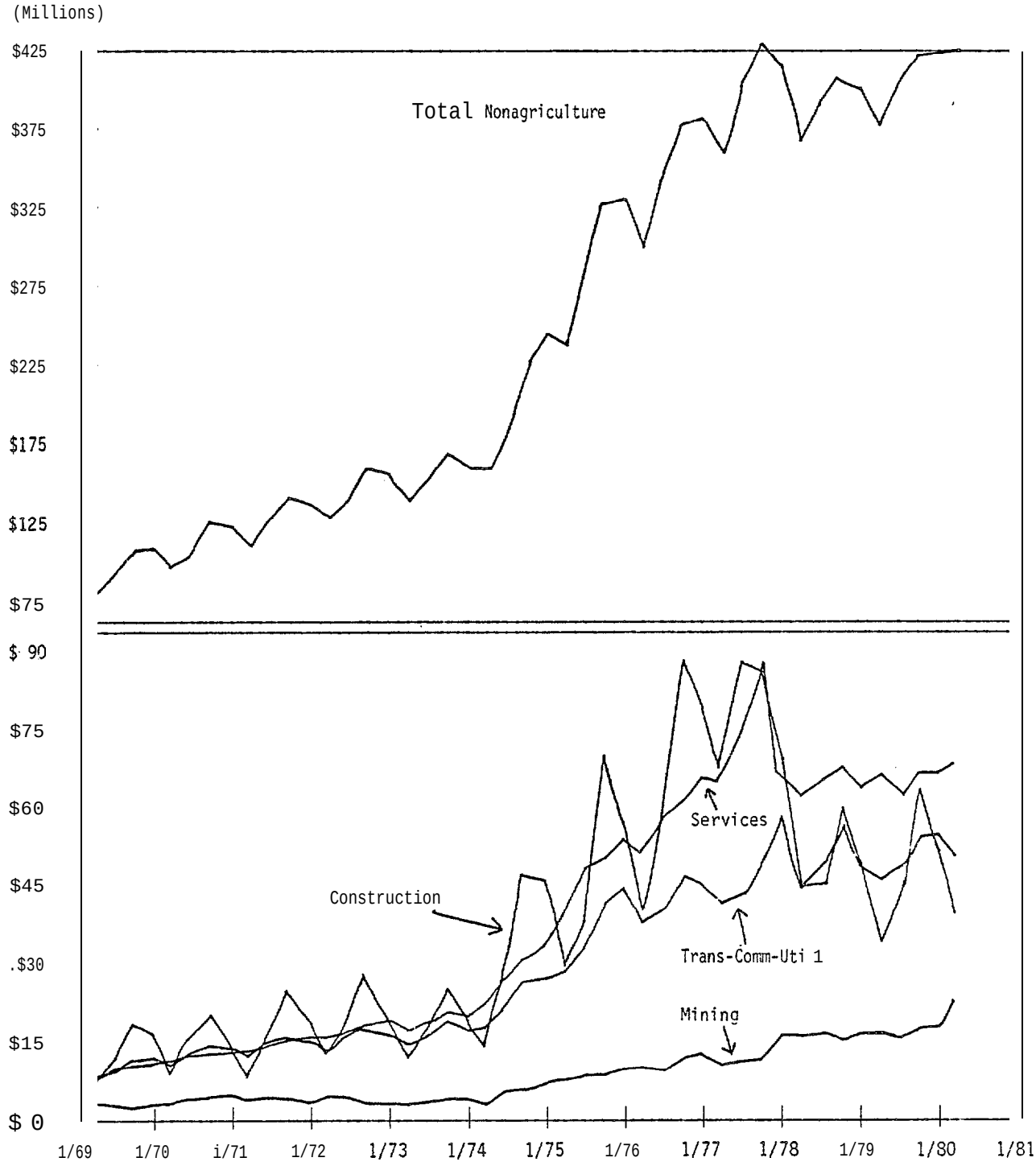
The mining industry payroll peaked in 1970 with Cook Inlet oil activity and then decreased to a low point in 1972. The pipeline period saw growth beginning in 1974, declining only in the last quarter of 1976. The mining payroll continued growing, reaching $23.0 million in the first quarter 1980 (a 424.4 percent increase since first quarter 1974).

The construction industry is the most susceptible to seasonal employment trends. It is also a major beneficiary of both direct and indirect oil and gas activities-induced growth. As the growth spiraled after 1973, seasonal swings in construction became extreme. Construction went from a $6.8 million payroll in the first quarter 1969 to an $88.0 million payroll in the third quarter of 1976. Wide seasonal swings followed a generally downward trend with construction standing at $60.1 million in third quarter 1978 (a 31.7 percent decline). In 1979, there was a slight improvement. This was due to inflation not increased activity.

Other sectors did not fair as poorly as construction though some have grown little or are essentially where they were in 1976. These include the trucking industry, services, wholesale, and some of the retail trade sectors, and federal government. The best performers in the post-pipeline period have been manufacturing (a 23 percent increase from third quarter 1976 to 1978), mining (27.9 percent), and state government (24.6 percent).

TABLE 15

ANCHORAGE AVERAGE MONTHLY PAYROLL BY INDUSTRY



Business Activity

A supplemental indicator of the health of the economy is the amount of business activity in the metropolitan area. In 1971 gross business receipts of Anchorage were $1.1 billion. A growth rate of 15.1 and 10.0 percent, followed in 1972 and 1973 respectively. In normal times, this could be seen as vigorous economic growth. However, gross business receipts climbed 62.5 percent in 1974 and 49.7 percent in 1975. By 1976 receipts totaled $3.8 billion (a more modest increase of 10.5 percent over 1975).

Other Measures of Economic Activity

The economic strength of Anchorage can be seen in terms of personal income taxes. The last year with tax data is 1978. In that year, Anchorage had $1,015,693,778 in taxable income (53.7 percent of the state's total compared to only 43 percent of the population). In addition, the 67,642 returns from the Municipality of Anchorage with 157,641 exemptions paid $48,994,300 in taxes (55.6 percent of the state's total). In Anchorage, this averaged $15,016 per return ($15,469 excluding the military reservations), and $6,443 per exemption ($6,805 excluding the military reservations). (Alaska Department of Revenue, December 1980).

Another measure of economic activity is bank deposits. Table 15a notes deposit data for Alaskan banks over 23 quarters. While the data are statewide, Anchorage financial institutions and branches dominate the series. Deposits rose sharply in 1975 and 1976 with statewide economic activity reaching historical highs. Overall deposits rose 11.5 percent from the third quarter of 1975 to 1976. This slowed to a 6.1 percent

increase between the third quarters of 1976 and 1977. A 10.8 percent growth rate between 1977 and 1978 occurred largely because of a 41.5 percent climb in public monies on deposit. With all deposits stagnant, the third quarter of 1979 reflected a flat growth of 2.1 percent over 1978. Private deposits, especially a jump in the third quarter, spurred growth in 1980 (10.8 percent increase).

TABLE 15A

ALASKA BANK DEPOSITS

1975 - 1980[a]

Banks: (in 000 current$)

		Total Demand Deposits	Total Time and Deposits	Public Monies	Private Monies
1975	1	523,964	617,145	293,392	847,717
	2	601,856	680,372	318,739	963,489
	3	683,662	734,106	355,641	1,062,127
	4	651,001	725,706	297,525	1,079,182
1976	1	630,379	708,258	270,009	1,068,628
	2	727,925	709,895	261,275	1,176,545
	3	762,980	817,360	327,670	1,252,670
	4	682,936	848,771	264,134	1,267,573
1977	1	651,218	847,892	261,235	1,237,875
	2	746,662	821,271	254,455	1,313,478
	3	774,702	901,869	327,526	1,349,045
	4	731,383	952,951	372,268	1,312,066
1978	1	666,810	973,164	385,474	1,254,500
	2	733,629	1,017,531	438,692	1,312,468
	3	788,476	1,069,567	463,578	1,394,465
	4	709,262	1,038,010	389,396	1,357,876
1979	1	666,173	1,022,224	403,366	1,285,031
	2	707,464	1,083,596	407,143	1,383,917
	3	762,295	1,134,639	479,031	1,417,903
	4	684,129	1,116,142	460,718	1,339,553
1980	1	638,520	1,109,757	440,351	1,307,926
	2	780,113	1,082,241	426,235	1,436,119
	3	891,990	1,210,395	498,789	1,603,596

aState of Alaska, Dept. of Commerce & Economic Development, Division of Banking, Securities, Small Loans and Corporations, "Comparative Statemen of Assets, Liabilities and Capital Accounts, Alaska Banks."

Local Government Revenues and Expenditures

REVENUES AND EXPENDITURES

The size, complexion, and role of local government in the Anchorage Bowl has changed commensurately with the growth of the area. Beginning as a tent city for railroad construction, Anchorage incorporated in 1920 and grew through population increases and annexation until unification with the Greater Anchorage Area Borough in 1975. The Borough had been established in 1963 by state mandate to provide areawide service to the region. Unification actually occurred during a two year transition period in which significant structural and fiscal change occurred. Using different fiscal years, the new Municipality ran parallel budgets and took the first two years to integrate the various services and develop the management systems necessary to monitor the fiscal process.

Four tables (24 through 27) summarize the revenues and expenditures of the former City of Anchorage and the former Greater Anchorage Area Borough (GAAB). The data are inherently incompatible. First, the city worked on a January through December fiscal year while the GAAB observed a July through June year. Second, the categorization of expenditures does not lend itself to aggregation. The new Municipality did develop a six-month budget (July I., 1976 to December 31, 1976) allowing the GAAB to synchronize its budgets with the city's. In 1978 the Municipality of Anchorage completed the first combined expenditure budget (see table 29). Local government in Anchorage has expanded rapidly in the past decade. (Refer to tables 24 to 27, pp. 80-81 in Technical Report

Number 48, Volume 1). Between, 1970 and 1975, GAAB expenditures increased 163 percent and revenues went up 166 percent. The city's expenditures increased 121 percent, while revenue went up 118 percent. In 1976, a portion of the city's cost of general government and other categories was removed from the city budget creating a no growth situation from 1975 to 1976.

In 1976 the City of Anchorage expended $26,952,689 and general revenues totaling $27,216,539. In 1974-1975 the GAAB spent $104,970,430 and took in $108,303,042 (this included schools which constituted 61.2 percent of the budget). The 1978 budget was the first unified budget for the Municipality. Expenditures of $89,551,710 were approved, though actual expenditures totalled $93,966,905 (see table 29). Traditional services of police, fire, road maintenance, etcetera made up the largest expenditure categories. Local property taxes made up the majority of revenues (56 percent), but state and federal sources are an increasingly important component (29 percent) (table 28).

Expenditures in 1979 were 7.2 percent above 1978 totaling $100,755,210. The budget was revised to $117,930,340, a 6.7 percent rise over 1979, and the 1981 approved figure is $133,450,540, a 13.2 percent increase. Compared to the 1978-81 period, government expenditures rose somewhat faster in the two years following unification.

Revenues have kept pace with expenditures, though the proportion of particular sources have begun to change (see table 28). Federal and

state revenues have remained about seven and 20 percent respectively. Local taxes have dropped from 56 percent in 1978 to 45 percent in 1981. This is due to an increase in the fund balance and local sources other than taxation.

The relative service distribution of budgeted expenditures is shown in table 30. Things have not changed dramatically from past budgets. The most significant shift appears to be a proportional decrease in the public safety and a comparative increase in transportation costs. The 1979 police budget represented almost 21 percent of total expenditures compared to about 18 percent in 1978. This is in part due to the expansion of this service to a greater area of the community. Police costs moderated in the 1980 and 1981 budgets. The Equal Rights Commission, administrative services, also gained in their 1979 budgets but declined proportionately thereafter. Transportation has showed a consistent pattern of growth reaching 24.7 percent of the 1981 budget. The two important areas of transportation pushing up the cost has been transit and street maintenance. Those that have had budget cutbacks include human support services, health and environmental protection, and public works.

TABLE 28

ANCHORAGE MUNICIPAL REVENUES, 1978-1981[a]

Revenue Distribution by Source	1978 (Actual) Amount	%	1979 (Revised) Amount	%	1980 (Revised) Amount	%	1981 (Approved) Amount	%
Taxes	$50,175,350	56%	$50,464,700	53%	$51,003,180	47%	$ 56,290,090	45%
Local Sources Other than Taxation	11,077,590	13	11,896,750	12	18,944,590	17	21,343,000	17
State Revenues	19,782,620	22	19,869,030	21	21,438,070	20	25,059,040	20
Federal Revenues	6,539,340	7	7,831,850	8	8,232,850	7	8,189,150	7
Fund Balance	1,976,810	2	6,016,610	6	9,903,600	9	13,805,910	11
	$89,551,710	100%	$96,078,940	100%	$109,522,290	100%	$124,687,190	100%
Other Funds								
Local Fees & Charges					$121,578,900		$126,151,880	
Contributions from Other Funds	Not Available				19,643,750		21,574,440	
G. O. Bonds					42,035,000		20,700,000	
Revenue Bonds					32,872,000		36,704,000	
Fund Balance					69,790		1,153,190	

[a]Municipality of Anchorage, 1979 Annual Operating Budget, Volume 4, 1980 Annual Operating Budget, Volume 1, 1981 Annual Operating Budget, Volume I.

TABLE 29

ANCHORAGE MUNICIPAL BUDGET DISTRIBUTION OF EXPENDITURES

Department	1978 Actual[b] Direct Cost	1978 Actual[b] Full Cost	1979 Actual[a] Direct Cost	1979 Actual[a] Full Cost	1980 Revised[a] Direct Cost	1980 Revised[a] Full Cost	1981 Approved[a] Direct Cost	1981 Approved[a] Full Cost
Assembly	$ 1,201,230	$ 1,191,230	$ 902,730	$ 1,135,940	$ 869,630	$ 1,245,280	$ 1,086,250	$ 1,426,9?0
Equal Rights Commission	230,140	230,140	312,650	362,200	322,340	400,000	356,640	432,900
Office of the Mayor	1,246,950	1,699,520	1,484,440	2,112,970	2,493,300	3,181,570	2,858,870	3,116,510
Finance	3,995,710	2,502,440	4,508,850	2,982,620	5,598,950	3,672,900	5,934,080	4,102,700
Administrative Services	10,861,130	340,530	11,209,120	1,915,880	14,865,590	1,706.130	15,978,200	1,625,970
Planning	1,516,640	2,483,270	1,690,760	2,743,320	2,4/38,030	3,696,970	2,874,490	4,203,280
Law	1,436,960	368,910	1,598,220	165,740	2,057,970	766,890	2,158,440	768,230
Management & Budget	695,490	945,720	715,310	925,060	845,740	1,074,500	937,490	956,250
Employee Relations	731,490	240,400	812,010	249,140	1,084,580	249,460	1,057,720	235,950
Social Services	209>870	165,220	220,090	232,640	349,420	313,780	414,790	376,420
Health & Environmental Protection	3,196,330	3,626,740	3,322,120	3,033,160	4,536,020	5,244,610	4,625,360	5,399,870
Transportation	9,586,730	7,990,480	10,651,610	8,950,170	12,061,480	10,422,880	14,281,650	12,507,510
Cultural & Recreation	8,771,780	10,123,500	8,872,040	10,512,260	10,223>620	12,139,310	12,091,540	14,612,910
Fire	13,011,390	13,929.350	13,596,600	14,555,770	16,289,400	17,340,710	18,505,900	19,676,370
Police	13,111,890	14,983,190	18,507,180	20,843,450	19,439,460	21,941,440	21,519,880	24,337,440
Public Works	25,522,160	23,360,770	18,935,950	18,123,340	29,549,060	27,683,540	34,219,650	32,574,480
Non-Departmental (9100)	43,700	4 3 , 7 0 0	27,020	28,020	856,220	861,820	100,000	100,000
Sub-total:	$95,369,590	$84,225,110	$97,366,700	$88,871,680	$123,930,810	$111,780,140	$139,000; 950	$126,447,960 ,
ADD: Contributions[c]	9,385,980	9,728,210	13,308,950	12,820,130	6,648,430	6,648,430	7,567,020	7,375,500
DEDUCT: Intragovernmental Charges:								
- Grants Budgets	542,710	-o-	1,541,220	-o-	2,403,350	-o-	1,957,130	-o-
- Utilities Budgets	4,889,510	-o-	4>403,090	-o-	5,289,590	-o-	6,509,040	-o-
- Capital Budgets	5,342,860	-o-	4,644,750	-o-	4,721,850	-o-	4,278,340	-o-
- Other (Vehicle Purchase)	-0-	-o-	133,990	133,990	234,110	234,110	372,920	372,920
Sub-total	$10775,080	$ -0-	$10>723,050	$ 133,990	$ 12,648,900	$ 234,110	$13,117,430	$ 372.920
TOTAL BUDGETED	$105,937,420	$105,937,420	$IIO,510,880	$110,510,880	$117,930,340	$117,930,340	$133,450,540	$133,450,540
ACTUAL TOTAL (Estimated)	$ 93,966,905	$93,966,905	$1 OO,755>210	$100,755,210	-			

[a] Municipality of Anchorage, 1981 Annual Operating Budget, Volumes 1 and 2.
[b] Municipality of Anchorage, 1980 Annual Operating Budget, Volumes 1, 2, and 3.
[c] Data for 1978 and 1979 are based on revised budget figures.

TABLE 30

EXPENDITURES BY SERVICE
1979 to 1981 APPROVED[a]

Program/Service	Amount 1979	%	Amount 1980	%	Amount 1981	%
Community Development	$ 4,485,180	4.7%	$ 6,525,940	6.0%	$ 7,129,410	5.7%
Environmental Protection	7,500,470	7.8	8,004,230	7.3	8,826,410	7.1
Human Development	1,408,830	1.5	1,353,800	1.2	1,286,730	1.0
Leisure	11,464,650	11.9	12,124,130	11.1	14,393,010	11.5
Public Health	5,552,800	5.8	5,428,650	5.0	5,531,450	4.4
Public Safety	39,217,040	40.8	41,188,150	37.6	45,600,210	36.6
Police Protection	(20,024,840)	(20.8)	(21,006,900)	(19.2)	(23,317,490)	(18.7)
Fire Protection	(12,902,350)	(13.4)	(14,969,520)	(13.7)	(16,538,890)	(13.3)
Transportation	16,941,650	17.6	24,251,580	22.2	30,738,610	24.7
Transit	(4,372,000)	(4.6)	(5,767,570)	(5.3)	(8,746,570)	(7.0)
Street Maintenance	(11,779,440)	(12.3)	(17,208,350)	(15.7)	(20,676,390)	(16.6)
Other Services	9,508,320	9.9	10,555,120	9.6	11,181,360	9.0
General Government	(7,692,640)	(8.0)	(8,649,090)	(7.9)	(8,902,980)	(7.1)
	$96,078,940	100.0%	$109,431,600	100.0%	$124,687,190	100.0%

[a]Municipality of Anchorage, Annual Operating Budget, 1979, 1980, 1981.

PUBLIC UTILITY COSTS

The configuration and services of public utilities are discussed elsewhere in this study. Expenses and revenues of the four public utility areas are shown in table 30a. The cost of utility services has risen faster than the growth of customers. This has led to rate increases since these services are supported by user fees.

TABLE 30a

ANCHORAGE UTILITY BUDGET

Total Operating & Non-Operating Expenses
($000 omitted)

Utility	1980 Revised	1981 Approved	Change From 1980	% Change
Telephone - Operating	$46,811	$ 52,111	$5,300	11.3%
Non-Operating	8,730	9,040	310	3.5
Total	$55,541	$ 61,151	S5,610	m
Light & Power - Operating	$17,387	$ 17,776	$ 389	2.2%
Non-Operating	4,225	4,849	624	14.8
Total	$21,612	$ 22,625	m	4.7%
Water - Operating	$5,194	$ 5,194	$ -o-	-O-
Non-Operating	1,547	1,391	(156)	(10.1%)
Total	$ 6,741	$ 6,585	$ (156)	(2.3%)
Sewer - Operating	$8,960	$ 9,257	$ 297	3 .3%
Non-Operating	3,036	3,355	319	10.5
Total	$11,996	$ 12,612	$ 616	5.1%
Combined Totals	$95,890	$102,973	$7,083	7.4%

Total Operating & Non-Operating Revenues
($000 omi tted) "

Telephone - Operating	$55,588	.$ 58.646	$3.058	5.5%
Non-Operating	5; 383	3,250	(2,133)	(3.9)
Total	$60,971	$ 61,896	$ 925	1.5%
Light & Power - Operating	$19,051	$ 19,625	$ 574	3.0%
Non-Operating	1,114	1,308	194	17.4
Total	$20,165	$ 20,933	$ 768	3.8%
Water - Operating	$ 5,834	$ 6,102	$ 268	4.6%
Non-Operating	1,4155		(258)	(18.2)
Total	$ 7,249	% $	1 0	0. 1%
Sewer - Operating	$8,740	$ 9,249	$ 509	5.8%
Non-Operating	2,453	2,653	200	8.1
Total	$11,193	$ 11,902	$ 709	6.3%
Combined Totals	$99,578	$101,990.	$2,412	2 .4%

ISSUES

Local Government Revenue Capacity

Local government revenue capacity is finite in terms of the legal limits and the willingness of the taxpayer to accept increased taxation. Presently, Anchorage local government receives the majority of its local revenues from the property tax. The assessed value of all taxable land in the metropolitan area was estimated to be $4.88 billion in 1978 and projected to be $6.96 billion in 1981. Using both the areawide and service area concept, the mill levy varies in relation to the services delivered. In 1979, Spenard, Sand Lake, and Muldoon had the highest levy (14.44 mills) with the old city following at 13.79 mills. Less densely populated areas which do not have services such as police, fire, road maintenance, etcetera, have lower levies. Eagle River was 12.24 mills, Chugiak was 10.96 mills, and Hillside/Rabbit Creek was 10.03 mills. The millage rate has come closer together as more services are acquired in the outlying areas. The 1980 mill levies dropped in every district while 1981 showed a mix of increases and decreases.

These differential rates produced approximately $48,357,690 in property taxes in 1978 and $51,242,580 in 1979 and a projected $56,290,090 in 1981. This excludes property tax revenues (3.93 mills in 1980-81) dedicated to public schools which consume about 32.6 cents of the property tax dollar. Historically, the highest mill rate ranged from 19.20 to 21.44 in the early 1970's but dropped between a 1976 high to a low in 1980. The major reason was the inflationary and real rise of the

assessed value of real and personal property which has been climbing faster than the expenditures. This is also due to a slowing in the rate of government growth, especially in the past two to three years.

The property tax derives most revenue from real property, but about one-eighth comes from a tax on personal property. The Municipality also has an eight percent hotel/motel tax. This was raised from five percent with passage of an October 1979 ballot proposition. Under the present tax system, the real property tax has the best chance of expanding to produce sufficient local tax revenues in the future. The latest projection of the assessed value of real and personal property suggests a pattern of continued but more moderate growth over the next six years (see table 32). This comes from new infrastructure construction, adding to the overall value and the inflationary increase of property over time. The 1982 real and personal property value is expected to be $7.489 billion and increase to $10.039 billion by 1986. Historically, assessed valuation improved 76.8 percent during the 1975-1977 pipeline period (25.6 percent annual average) and slowed thereafter. Between 1981 and 1986, the annual increase is projected to be a weaker 7.4 percent. This is due to a rethinking of population projections which are more realistic though more conservative. A 1978 analysis of assessed value suggested non-military reservation population will grow 53,654 between 1979 and 1984. In their 1979 analysis the city projected a non-military growth of only 19,250 from 1980 to 1985 (a two percent annual change). A 1981-1986 base case scenario shows a 2.5 percent annual growth from a 1981 non-military reservation population of 191,000

Page 86, replace with the following:

TABLE 31

MILL LEVIES FOR 1979 to 1981[a]

Taxing Districts	Actual 1980 Area wide	School District	Fire	Road	Police	Parks & Rec.	Solid Waste	Debt	Sewer	Total	Actual 1979	Approved 1981
Anchorage	2.35	3.93	1.42	1.30	1.90	.56	.19		.41	12.06	13.79	12.48
Hillside/Rabbit Creek	2.35	3.93	1.42			.56	.19		.41	8.86	10.03	8.55
Spenard/Muldoon/Sand Lake/Oceanview	2.35	3.93	1.42	1.30	1.90	.56	.19	.58	.41	12.64	14.44	13.03
Girdwood	2.35	3.93	.99	.14		.17	.19			7.77	9.62	6.74
Glen Alps	2.35	3.93		1.59					.41	8.28	10.54	13.09
Eagle River	2.35	3.93	.90		1.90	.50	.17			9.75	12.24	9.90
Chugiak	2.35	3.93	1.00		1.90	.50	.17			9.85	10.96	9.45
Eagle River/Chugiak Valley	2.35	3.93			1.90	.50	.17			8.85	9.96	8.45
Other, Outside Bowl	2.35	3.93								6.28	7.29	5.61
Talus West LRSA	2.35	3.93	1.42	.30		.56	.19		.41	9.66	10.03	9.35
Upper O'Malley LRSA	2.35	3.93	1.42	.80		.56	.19		.41	9.66	10.03	9.35

[a]Municipality of Anchorage, 1981 Annual Operating Budget, Volume 1 (Preliminary).

to 216,300 in 1986. While the rate may be realistic the 1981 base is still well above actual census population estimates.. A more realistic population growth lowers the estimated growth of the property values in Anchorage. However, slower growth could reduce expenditure levels. Despite this, slower growth in the local tax base usually has a depressing effect on government's ability to raise local revenues, or conversely force increases in local millage rates.

TABLE 32

1965 AND 1986 ASSESSED VALUE OF ANCHORAGE

REAL AND PERSONAL PROPERTY

Year	Actual Amount[a]	% Annual Increase
1965	$ 624,800,000	
1970	1,105,600,000	15.4
1972	1,600,897,000	22.4
1973	1,922,949,000	20.1
1974	2,201,017,000	14.5
1975	2,813,406,000	27.8
1976	3,510,860,000	24.8
1977	4,360,482,000	24.2
1978	4,881,663,000	12.0
1979	5,818,000,000	19.2
1980	6,542,000,000	12.4

Year	Estimated Amount[b]	% Annual Increase
1981	$ 6,956,000,000	6.3
1982	7,489,000,000	7.7
1983	8,064,000,000	7.7
1984	8,674,000,000	7.6
1985	9,336,000,000	7.6
1986	10,039,000,000	7.5

[a]Department of Finance, Municipality of Anchorage

[b]Municipality of Anchorage, Fiscal Outlook 1981-1986, 1980

The 1981-1986 base case fiscal outlook of the city projects a 2.5 percent annual increase in population and 7.6 percent annual rise in assessed valuation. With a projected inflation rate of ten percent, expenditures climb by a 13.3 percent annual increase which is

faster than most sources of income (non-property local taxes increase 8.6 percent annually; federal, 3.0 percent; and state revenues, 4.9 percent). This puts a burden on property tax requirements leading to a 22.7 percent annual increase. This demand on property tax is twice as fast as assessed valuation. The result is that the property tax rate is expected to go from 8.41 mills in 1981 to 16.25 mills in the Anchorage taxing district by 1986 - a 14.1 annual increase. This is assumed to be 1.8 percent of a 1981 average household income and 2.3 percent of incomes in 1986 (if average household income climbed $84,800). Long-term debt will double from $139.1 million in 1979 to $279.1 million in 1986 with debt service increasing from 10.2 percent of total revenue in 1979 to 12.8 percent of total revenue. After mill levy decreases in recent years, it is expected to climb in every municipal taxing district. In addition to the former city district noted above, Spenard/Sand Lake/Muldoon would rise from 8.96 to 16.56. If the fiscal shortfalls were added in, the situation would look even worse.

Projecting local capacity past 1986 is speculative. Outer Continental Shelf growth scenarios suggest a modest but upward trend through the study period. It would be reasonable to suggest that property valuation would follow this pattern. It is difficult to determine how high the tax can rise on residential property before the taxpayers react negatively. Legally, the local government has a 30 mill limit at 100 percent valuation. However, the inflationary increase in Anchorage property valuation could cause this to occur well below the legal limits. Also, the market could force values into a slower rate of growth if housing

costs continue to rise beyond the capacity of those who want to buy. This, of course, would effect revenue. However, all indicators are that property tax revenue will continue to grow, albeit not as rapidly as during the pipeline period, at least through the mid-1980's. The long-term limit on property tax is the finite amount of land available to be developed. As land becomes more scarce, development must slow and redevelopment would likely be able to increase the tax base as rapidly as occurred in the 1970's.

Local Tax Alternatives

If the present local tax mix becomes insufficient for meeting future revenue needs, other alternatives are available. The Municipality, the Mayor's ad hoc groups, the Operation Breakthrough Committee, and others have looked at various revenue alternatives, including sales tax, income tax, user's tax, assessment districts, etcetera. The most discussed options are a user's gas tax to pay for road improvements and a sales tax suggested for both general revenues or specific purposes, such as a civic center. With the build up of substantial surpluses at the state government level, it is unlikely the community would find it politically feasible or necessary to seek local tax alternatives in the short to medium future.

Revenue Sharing

Intergovernmental transfers constitute an important source of revenue for the Anchorage Municipality. In 1979 it is estimated that 29 percent of the budget will be paid by state and federal dollars. Federal dollars (eight percent) will continue to be important, especially with Anchorage's designation as a depressed area because of its high unemployment. It is unlikely, however, that federal contributions will grow as fast as the total budget. In fact over the next few years the current administration can be expected to cut back on a number of programs which have benefited the Municipality. In particular, CETA is expected to be trimmed substantially.

State revenues, on the other hand, have greater potential. With massive resource potential, the state will have a substantial capacity for revenue sharing in the coming years. The 1977 legislature did pass a state bill for relief of school construction debt service payments. Until now, categorical grants have been the approach for state revenue sharing. There are a number of proposals to alter the state's approach to a general grant formula. It would appear quite likely that some increase in state funding of local government will pass the current legislative session. Proposals range from a straight head count payment, basic school funding, state funding tied to a minimum cut in property taxes, capital projects expenditures, etcetera. Whatever the form, it is assumed that the state will assume a greater share of the costs of Municipal government.

Bonding for capital outlays is an integral part of the Municipality's approach to financing. As of January 1, 1979, $359,457,000 of debt was carried by local government. This rose to an outstanding debt of $406,824,939 as of January 1, 1981 (see table 32a). Seventeen point three percent are for roads and drainage projects, 4.9 percent for parks and recreation, 3.7 percent for port facilities, and 69.5 percent for utilities (with 49.5 percent of this being telephone). In 1981, $40,737,376 was paid out in principal and interests payments. Most is paid out of user fees or assessments, but about three percent of the general expenditures also go to debt services.

The Municipality's Six-Year Capital Improvement Program (CIP) constitutes the planning mechanism for capital outlays. This program is revised and extended annually. The CIP represents an ambitious set of proposals between 1981-1986, totaling $537,731,000 for general government and $437,319,000 for municipal utilities (see table 32b). Historically, capital projects have been funded by G. O. or revenue bonds. Between 1976 and 1980 fifty-seven bonds were placed on the ballot. Sixty-one percent were successful. Between 1976 and 1978, only 53 percent passed. Voter reaction improved with 86 percent passing between 1979-1980. The most recent CIP reflects a significant shift in the level of improvements planned and the source of funds expected to pay for projects. This has evolved from a series of proposals made by a private voluntary civic betterment group - Operation Breakthrough. In 1978, the group asked for $252,000,000 in capital improvements - half through bonding and half via state funding (Hunter 1978b). This effort evolved into the Mayor's

Project 80's program calling for significant investments in a range of community and economic development projects. This first phase led to state grants of $68,060,000 funding sports and arts facilities and other community improvements. In addition, $22,075,000 of G. O. bonds were placed on the October 1980 ballet in which five of seven passed. Phase II of the program shows up in the 1981 CIP in which 77.1 percent of the general government projects are expected to come from state grants. Only 13.4 percent are projected to be funded through bonding. In the area of utility projects the opposite situation is true. G. O. and revenue bonds are projected to pay for 67.9 percent of the utility improvements, with 5.1 percent coming from the state. The success of the program in the general government area is largely dependent on state action.

One key question is the operation and maintenance costs of major new investments. It appears that insufficient attention has been paid to the long-term costs of many of these projects. Without a full accounting of the attendent costs which show up on the tax bill, expenditure projections can be misleading. In addition, recently released operation costs appear to unrealistically affect costs through optimistic user charges. Serious miscalculation in this area to sell the project to the public will have fiscal repercussions in the future.

TABLE 32a

1981 APPROVED BUDGET
DEBT SERVICE SUMMARY BY PROGRAM

Program	Original Issue	Outstanding 01-01-81	Principal Payment	Outstanding 12-31-81	Interest Payment
Health	$ 425,000	$ 229,494	$ 15,977	$ 213,517	$ 9,410
Museum	1,620,000	1,310,995	85,038	1,225,357	74,382
Library	14,590,000	4,239,798	59,511	14,395,287	169,807
Emergency Medical Services	574,530	482,230	46,250	435,980	30,162
Animal Control	250,000	190,000	60,000	130,000	11,200
Fire	5,070,780	2,328,023	201,951	3,886,072	218,650
Roads and Drainage	107,969,410	70,351,216	3,597,341	78,883,875	4,840,097
Police	3,530,300	390,815	40,067	3,280,748	137,402
Parks and Recreation	24,628,50S	19,994,080	1,055,140	20,018,940	1,355,132
Solid Waste	3,800,000	3,635,000	100,000	3,535,000	196,713
Refuse Collection	850,000	-o-	-o-	850,000	32,000
Port	18,774,595	14,881,143	659,724	14,221,419	77'6,861
Parking	7,500,000	6,115,000	200,000	5,915,000	315,917
Airport	110,000	46,785	8,693	38,092	2,691
Public Transit	1,350,000	-0-	-0-	1,350,000	79,200
Sub-total	$191,043,115	$124,184,579	$ 6,139,692	$148,379,887	$ 8,249,624
Telephone	146,650,000	140,005,000	4,300,000	145,705,000	8,780,470
Electric	69,080,000	66,365,000	1,505,000	75,560,000	4,301,640
Water	30,341,155	23,840,820	1,099,330	23,341,490	1,350,960
Sewer	59,965.720	52,429,540	1,351,990	56,689,500	3,058,670
Sub-total	$306,036,885	$282,640,360	S 8,256,320	$301,296,090	$17,991,740
TOTAL	$497>080,000	$406,824,939	$14,396,012	S449,675,977	$26,341,364

TABLE 32b

CAPITAL IMPROVEMENT PROGRAM, 1981-1986[1]

($1 ,000's of Dollars)

	Program Year						
	1981	1981	1982	1984	1985	1986	TOTAL
Health	$ 790	$3,182	-0-	-0-	$ 1,149	-0-	$ 5,121
Transportation	31,031	28,017	$22,393	$21,556	25,455	$ 47,116	175,569
Culture & Recreation	77,784	28,946	32,435	12,787	10,915	15,700	178,567
Fire	2,332	3,394	260	-0-	-0-	-o-	5,987
Police	2,939	-0-	3,356	310	-0-	24,977	31,582
Public Works	16,262	26,733	20,910	26,884	25,159	24,958	140,906
TOTAL General Government	$131,138	$90,272	$79,354	$61,537	$62,678	$112,751	$537,731
Telephone	$ 37,923	$34,968	$35,200	$39,618	$44,272	$43,098	$235,078
Light & Power	11,238	18,789	8,097	10,250	8,005	9,385	65,757
Water	1,305	9,465	7,625	7,562	8,660	4,910	39,527
Sewer	10,230	22,389	19,325	25,023	12,270	7,720	96,957
TOTAL Utility	$ 60,696	$85,604	$70,247	$82,453	$73,207	$ 65,113	$437,319

'Municipality of Anchorage, Preliminary Capital Improvement Program, 1981-1986

Changing Demand and the Rising Cost of Government

Demand is one of the most difficult issues to quantify, resulting in a dilemma for local government. Two phenomena must be considered. First, survey and census analysis suggest that the character of the community is changing. The population has increased with a greater proportion of newer residents whose expectations for government services are greater than those of long time residents. The demand for services, both in type and scope, has increased in recent years. While public safety, roads, schools, etcetera, traditionally have strong public preference, the majority of the voters support even nontraditional services. The

public has expanded perception of the appropriate role for a local government in relation to services provided. There has, however, been public sentiment against increasing tax costs which would result from greater service delivery.

The second consideration is the rapid rise in service costs. General inflation, expanded services, and rapid unionization of most employees have tended to move costs steadily upward (Municipality of Anchorage, Personnel Services, 1978). Since unification in 1976, the Municipality has implemented a variety of management systems and techniques to help control the cost of local government. A unified financial management system and selected cost containment efforts have been implemented, but the trend of local government expenditures is clearly toward an increasing cost per capita. Projects and programs already planned for create a substantial increase in the local tax burden without the intervention of ever greater state subsidies and grants.

HEALTH SERVICES

Page 98, Delete data in Table 34, substitute with the following:

TABLE 34[a]

INPATIENT UTILIZATION DATA

Facility Category	Facility	Year	No. of Beds Licensed	No. of Beds Open	Admissions	Patient Days	Average Length of Stay	Occupancy Licensed Beds	Occupancy Open Beds	Average Daily Census
Acute	Alaska Hospital & Medical Center	1970	85	---	2,569	15,130	5.9	53.0	----	41.4
		1975	85	---	6,029	25,027	4.2	80.7	----	68.6
	•Civilian,	1978	154	124	7,485	33,111	4.6	53.1	70.4	90.4
	● Non-native	1979	154	124	5,657	26,721	4.7	48.0	59.0	73.2
		1980[b]	154	---	1,732	7,963	4.5	57.0	71.0	87.2
	Alaska Native Medical Center	1970	295	---	4,560	73,979	16.2	61.6	----	202.7
		1975	200	---	4,894	49,918	10.2	68.5	----	137.0
	•Public Health	1978	170	170	4,629	44,862	9.7	72.3	----	122.9
		1979	170	170	4,656	42,854	9.2	69.0	----	-----
		1980[b]	170	170	1:295	11,076	8.6	72.0	----	-----
	Elmendorf Air Force Base Hospital	1970	200	---	6,573	60,225	9.2	82.4	----	152.0
		1975	150	---	6,113	40,546	6.6	77.0	----	100.0
	*Military	1978	145	128	6,041	35,669	6.0	77.0	----	.....
		1979	105	105	5,006	------	----	----	69.0	92.6
		1980[b]	105	---	-----	------	----	----	----	-----
	Providence Hospital	1970	150	---	7,617	45,881	5.6	83.8	----	125.7
	● Civilian,	1975	150	---	10,339	45,440	4.4	83.0	----	124.5
	•Non-native	1973	250	217	11,356	65,282	5.7	71.5	82.4	178.9
		1979	250	250	11,633	68,635	5.9	75.2	-----	188.0
		1980[b]	250	250	2,960	17,521	5.9	77.0	----	193.0
Long Term	Nakoyia (SNC/ICF)	1975	100	---	181	33,079	182.7	91.0	----	91.0
	•Skilled Nursing	1978	216	216	290	42,552	210.9	73,6	----	116.6
	•Intermediate	1979	216	216	290	52,776	182.0	66.9	145.0	-----
	Nursing	1980[b]	216	216	66	13,533	205.05	68.8	148.7	-----
	Pioneer Home	1975	---	---	------	------	------	----	----	-----
	● Residential	1978	---	---	------	------	------	------	----	-----
		1979	20[c]	---	------	------	------	----	----	-----
		1980[b]	20[c]	---	------	------	------	----	----	-----
	Careage House	1975	103	----	123	37,454	204.0	98.8	----	101.0
	● Intermecli ate	1978	101	101	66	25,685	278.3	68.3	----	70.4
	Nursing	1979	101	101	46	14,177	308.0	38.4	----	39.0
		1980[b]	101	101	19	3,621	190.6	39.0	----	39.7
	Hope Cottages	1978	105	105	27	37,432	Y/A	96.0	----	102.5
	● Rehabilitative	1979	118	118	35	44,165	N/A	110.3	----	121.0
	presidential	1980[b]	118	113	0	10,908	N/A	1.02	----	120.9
	Alaska Psychiatric Institute	1970	224	---	419	65,096	155.4	79.2	----	175.0
		1972	224	---	875	61,[illegible].99	70.7	66.7	----	150.0
	● Rehabilitative	1975	2C0	---	475	46,917	38.0	76.4	----	129.0
		1978	200	126	985	35,530	35.7	----	77.3	97.0
		1979	200	133	421	35,212	38.2	48.3	73.0	96.5
		1980[b]	200	133	254	11,522	45.4	63.2	95.0	126.1

[a] Update to Alaska Department of Health and Social Services Annual Hospital Survey

[b] 1980 figures are for first quarter only

[c] Existing but not licensed

Page 98, Add new paragraph and table 34A after table 34:

Table 34A below illustrates the number of acute care beds which are licensed (and available), expressed as a ratio, based upon the total, civilian, and civilian - non-Native Anchorage Populations.

TABLE 34A

ACUTE CARE BED PER POPULATION RATIOS[a]
ANCHORAGE 1980

	Total	Civilian	Civilian, Non-Native[b]
Population	175,000	147,000	137,900
Beds Licensed (available)	699 (744)	574 (619)	404 (449)
Ratio Licensed Beds/1000 pop. (available)	3.9 (4.3)	3.9 (4.21)	2.9 (3.3)

[a]Update to SCHPD plan, 1980

[b]Currently the Anchorage supply of non-federal beds is well below the ceiling of 4.0 beds per 1000 population as recommended by the National Health Planning Guidelines.

Page 99, line 6:

Change “145” to "105"

Page 99, line 7:

Change “560” to "570"

Page 99, paragraph 2, line 1:

Change “5.1” to "5.3"

Page 100, paragraph 1, delete last sentence, substitute with the following:

There are currently 216 licensed intermediate care beds available in Anchorage.

Page 103, TABLE 36:

Change "TABLE 36" to "TABLE 35"

Page 104, TABLE 35:

Change "TABLE 35" to "TABLE 36"

Page 104, TABLE 35:

Insert new table.

Page 108, Listing at bottom of page should read as follows:

Skilled nursing care	$125 per day for private
Intermediate care	$103 per day for private
Residential care	$45 per day for two beds
Home care	$40 per visit

Page 109, Paragraph 2, line 4:

Change "9.7 days" to "8.6 days"

Page 109, Paragraph 2, line 9:

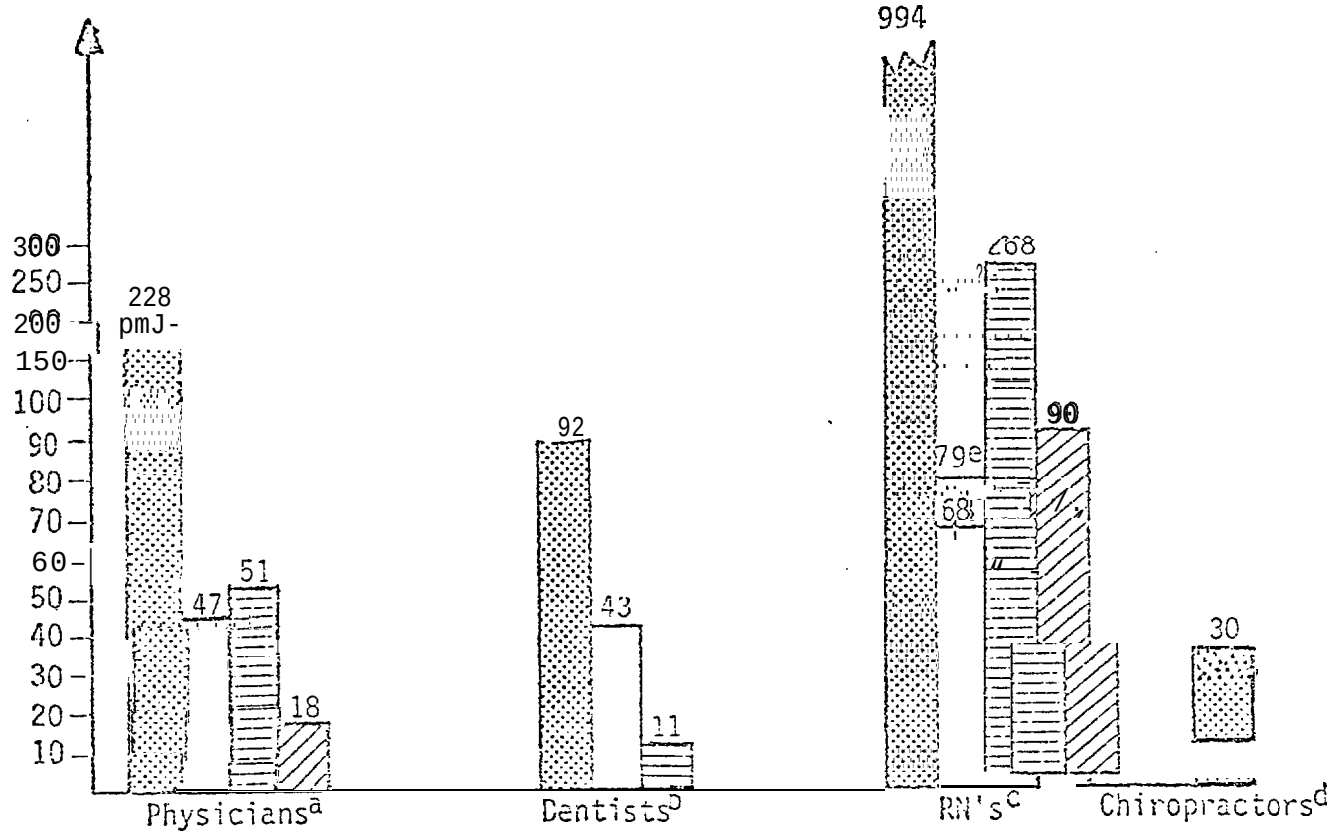
Change "9.7 days in 1979" to "8.6 days in 1980."

Page 110, Delete table 38 and last paragraph, substitute with the following:

According to P.L. 95-602: Amendment to the Developmental Disabilities

TABLE 35

ANCHORAGE HEALTH PROVIDERS



Private Practice Anchorage 1980

Military 1980

Public Health Service 1980

Other, Federal and Municipal

[a]Alaska Medical Association, July 1980

[b]Alaska Dental Society, June 1980

[c]State Dept. of Commerce & Economic development, Div. of Occupation Licensing, March 1979; U.S. Air Force Elmendorf Hospital, July 19S0

'Adrian Barber, Chiropractor, July 1980

'Military Hospital employs 68 military RN's and 11 civilian RN's

Services and Facilities Act describes the developmentally disabled by categorical medical conditions and resulting functional limitations. More thorough descriptions are found in the State of Alaska Plan of Services for Developmentally Disabled Persons FYs 1981.-83.

The P.L. 95-602 functional approach will expand the target population to include people with any mental or physical handicap manifested before the age of 22 and likely to continue indefinitely. The following is a partial list of conditions which may cause a person to be developmentally disabled.

- Mental Retardation
- Epilepsy
- Cerebral Palsy
- Autism
- Dyslexia
- Severe Emotional Disturbance
- Severe Physical Impairments
- Severe Learning Disabilities
- Blindness
- Deafness
- Orthopedically Handicapped
- Neurologically Handicapped
- Communicative

Estimates of prevalence of developmentally disabled are taken from the State Plan, and were derived by applying national rates to regional and State population subgroups.

TABLE 38

1981 ESTIMATED NUMBER DEVELOPMENTALLY DISABLED

SOUTHCENTRAL ALASKA

Functional Limitation:	Age Group 0-2	3-5	6-20	21-64
Total D.D.	524 (3%)	544 (3%)	1,677(1.87%)	2,182(1.49%)
• Learning			1,803(2.01%)	2,241(1.53%)
• Rec/Exp. Language			1,480(1.65%)	1,684(1.15%)
• Self Direction			574(0.64%)	864(0.59%)
• Mobility			458(0.51%)	498(0.34%)
• Ind. Living Capacity				2,783(1.90%)
• Economic Self-sufficiency				2,182(1.49%)
• Self Care				542(0.37%)

Source: State of Alaska Plan of Services for Developmentally Disabled Persons FYS 81-83.

The total Southcentral Alaska severely handicapped population is estimated to be 4,976 persons, or 61.5 percent of the total state handicapped population.

Page 116, Delete paragraph 2, substitute with the following:

The Anchorage Office of the State Division of Social Services received 80 to 100 calls per month in 1980 concerning abuse or neglect cases. During 1979 there were 1,051 active cases at any given time compared to 250 cases in cities of comparable size and description. As of the third quarter of 1980, the Division had served 1,861 cases of abused or neglected children.

Page 118, line 4:

Change “85 percent” to “80 percent”

Page 120, Paragraph 1, delete sentence 2, substitute with the following:

A rate of 570 for the first quarter of 1980 reflects the current use patterns.

Page 120, Paragraph 1, delete sentences 3 and 4.

Page 121, Paragraph 2, delete sentence 2, substitute with the following:

The significantly high birth rate and childbearing age female population in the past resulted in a serious shortage of pediatricians, obstetricians, and family practitioners. Based upon an informal review of physicians' practices, there no longer appears to be a severe shortage of obstetrical care.

Page 121, Paragraph 2, delete last sentence in paragraph, substitute with the following:

Several OB-GYN clinics will only accept a specified number of new obstetical cases per month, but almost all family practitioners will accept new OB clients.

Page 122, Paragraph 3, sentence 4, delete sentence, substitute with the following:

Doctors required from $0 to $300 on the first visit and requested $550 to $750 to be paid in full at time of delivery. Doctors now require $75o to $900 for a delivery.

Page 123, Paragraph 2, add after last sentence in paragraph:

From the 1980 State Legislature, funds were awarded to the Suicide Preven-

tion and Crisis Center to provide a community wide network of information and referral services.

Page 123, Delete paragraph 3, substitute with the following:

Health Demographics. Anchorage residents visit a physician 3.7 times per year compared to 5.0 times per year for the nation as a whole. (U. S. Department of Health, Education, and Welfare, Public Health Service, 1978). The crude death rate for local residents is approximately 3.0 (deaths per 1,000 population); the U. S. rate is 8.8. The Anchorage birth rate is 23.4 per 1,000 population; the U. S. rate is 15.3. The infant mortality rate is 12.7 per 1,000 live births.

Page 124, Paragraph 1, delete paragraph, substitute with the following:

Leading causes of death in Anchorage have consistently been 1) heart disease, 2) cancer, and 3) accidents since 1973. The phenomena described above are a direct reflection of the existing younger median age and a proportionately smaller population of persons in advanced age groups.

Page 125, Delete table 41, substitute with the following:

See substitution on the following page.

TABLE 41

GONORRHEA/SYPHILIS RATES PER 100,000 POPULATION

	Gonorrhea		Syphilis			
Year	Anchorage Ratea	U.S. Rateb	Anchorage Ratea	Southcentral Ratec	Alaska Ratec	U.S. Rateb
1976	1079	470.5	N/A	13.7	12.8	23.0
1977	1280	465.9	N/A	22.7	15.7	19.4
1978	1320	468.3	5.4	6.4	4.6	19.1
1979	1318	458.2	17.7	17.2	10.3	N/A

[a]Alaska Dept. of Health and Social Services, Communicable Disease Control Section. Anchorage rates based on Anchorage Urban Observatory population estimates

[b]Communicable Disease Control Form 9.688, Dept. of Health, Education, and Welfare, Public Health Service, Bureau of State Services, V. D. Control Division (civilian cases only)

[c]Alaska Dept. of Health and Social Services, Division of Public Health (total cases civilian and military)

Page 126, Delete table 42, substitute with the following:

TABLE 42

TUBERCULOSIS RATES PER 100,000 POPULATION

Year	Anchorage Ratea	Southcentral Rateb	Alaska Ratea	U.S. Ratec
1976	15.2	20.5	21.3	15.0
1977	11.8	17.2	23.2	13.9
1978	9.8	18.2	22.9	21.7
1979	7.7	15.4	21.7	12.9

[a]State of Alaska, Dept. of Health and Social Services, Div. of Public Health, Communicable Disease Control Section. Anchorage rates based on Anchorage Urban Observatory population estimates

[b]U.S. Dept. of Health, Education, and Welfare, Center for Disease Control, Morbidity and Mortality Annual Supplement, 1975

[c]Ibid., Morbidity and Mortality Annual Summary, 1977

Page 126, Delete table 43, substitute with the following:

TABLE 43

SERUM/INFECTIOUS HEPATITUS RATES PER 100,000 POPULATION

	Serum Hepatitus				Infectious Hepatitus			
Year	Anch. Rates[a]	SoCentral Ratesa	Alaska Ratesa	U.S. Ratesb	Anch. Rates[a]	SoCentral Ratesa	Alaska Ratesa	U.S. Ratesb
1976	11.8	9.7	8.2	10.6	119.3	442.5	338.3	15.5
1977	11.2	10.5	9.1	11.6	90.6	167.4	139.5	14.4
1978	10.3	14.7	11.3	6.9	14.1	37.2	31.9	13.5
1979	7.7	10.7	12.7	N/A	-O-	10.0	14.3	N/A

[a]Alaska Dept. of Health and Social Services, Div. of Public Health, Communicable Disease Control Section. Anchorage rates based on Anchorage Urban Observatory population estimates

[b]U. S. Dept. of Health, Education, and Welfare, Center for Disease Control, Reported Morbidity and Mortality, Annual Summary 1977

Page 127, Dot l, delete sentence, substitute with the following:

● Developing and biannually updating the Anchorage Health Systems Plan;

Page 127, Paragraph 3, delete the first sentence, substitute with the following:

The Comprehensive Health Systems Plan produced by the Commission is a local ordinance and, as such, is the bases for planning, implementation and evaluation of services within the Anchorage health care industry.

SOCIAL SERVICES

Page 133, Paragraph 1, delete last two sentences of paragraph.

Page 133, Paragraph 3, delete entire paragraph.

Page 135, Paragraph 1, line 1:

Change "70 percent" to "78 to 80 percent"

Page 135, Paragraph 1, delete sentence 3, substitute with the following:

During fiscal year 1979, the Anchorage Field Office, Department of Health and Social Services served a total of 2,156 clients representing 26 percent of the state's total clients served. Through the third quarter of 1980 the division served 2,387 cases.

Page 135, Paragraph 3, delete paragraph.

Page 135, Table 44, delete table.

Page 136, Dots 1 and 2, delete, substitute with the following:

- 35 licensed day care centers with spaces for 1,953 children (Alaska Department of Health and Social Services, Day Care Licensing Division) including three latch string (before and after school care) programs

- 120 licensed day care homes with space for approximately 600 children (Alaska Department of Health and Social Services, Day Care Licensing Division)

Page 137, Dot 1, delete, substitute with the following:

- 540 well child conferences serving 5,203 children (Department of Health and Environmental Protection, Physical Health Division. , total 1979)

Page 142, Delete section under CETA, substitute with the following:

- CETA. The municipal government, through the Department of Social Services, and the Cook Inlet Native Association (CINA) are the local prime sponsors for the Anchorage CETA funds. The Municipality implements programs under Title IIB, IID, III, IV, VI, and VII. The following summarizes the types and levels of service provided for Anchorage residents from October 1, 1979 through September 30, 1980.

Service	Type of Service	Persons Served[a]
IIB	Training (classroom, work experience, on the job)	919
IID/VI	Public Service Jobs	808
111	Hire for Veterans	13
IV	Youth Programs	737
VII	Private Sector	44

[a]Gorski, Community Contact, November 1980.

EDUCATION

Page 149, Paragraph 2, delete and substitute with the following:

About 2,087 of K-12 students attend 14 private education facilities which have enrollments that range from 39 to 480 pupils and total teaching staff of 94 instructors. About one-fourth are kindergarten students. Enrollments in private schools increased significantly from 1973 to 1977, stabilized in 1978-1979, and are again increasing in 1980. Educators in the private sector claim that parents want more stringent programs than are afforded in most public schools. These schools are almost solely supported by students tuition fees and their enrollment is limited by their physical capacity (Ender, Community Contact, 1979 and Anchorage Times, September 9, 1980).

Page 150, Paragraph 1, delete lines 3 through 8, substitute with the following:

. . . the 1977 peak, the student population dropped 8.5 percent. This includes a significant decline from 1978 to 1979 of 1,989 students. Currently the district serves a student population of 36,737. This includes 20,009 pupils in elementary grades, 15,760 in secondary grades, and 968 in special services. Within the K-6 totals, 302 are attending modified primary as of November 1980.

Page 150, Table 46, add 1980 data:

See next page for Table 46.

TABLE 46

ANCHORAGE SCHOOL ENROLLMENT 1969-1979[a]

Year September 30 Enrollment	Elementary	Secondary	Special Services	Total
1980	20,009	15,760	968	36,737

Page 151, Paragraph 1, delete sentences 2 and 3, substitute with the following:

Table 47 outlines three projections of student growth as presented in the 1980 Six-Year Capital Improvement Program Analysis for the school district.

Page 151, Table 47, delete and substitute with the following:

TABLE 47

PROJECTED SCHOOL ENROLLMENT 1978-1987[a]

Year	Forecast 1	Forecast 2	Forecast 3
Actual 9/30/80	36,737	36,737	36,737
1981-82	37,079	37,079	37,079
1982-83	38,681	37,947	37,208
1983-84	40,719	39,245	37,792
1984--85	42,730	40,524	38,399
1985-86	44,786	41,865	39,095
1986-87	46,873	43,245	39,863

[a]G. Markee, Statistician, Anchorage School District, December 1980.

Page 151, Paragraph 2, delete sentence 3, substitute with the following:

Presently about 5.4 percent of the student population attend private

schools, which is a moderate increase over the 3.8 percent attending' these institutions in 1978.

Page 152, Paragraph 2, line 2:

Change "(1.008 children per household average)" to "(.75 children (O to 17 years of age) per household average)"

Page 152, Paragraph 3, delete last sentence, substitute with the following:

While a no growth projection is appropriate for the short-term, the long-term prognosis and long-term plans should not be based on it.

Page 153, Table 48, add 1979-1980 data:

TABLE 48

AVERAGE PUPIL/TEACHER RATIO, 1967-1980[a]

Fiscal Year	Teaching Staff	Enrollment K-12 & Special Ed.[b]	Pupil/Teacher Ratio[c]
1979-1980	1,742.0	32,901	18.89

[a] anchorage School District, Annual Financial Report for the Fiscal Year Ended June 30, 1980.

[b] Based on June enrollment.

[c] Pupil/Teacher ratio does not include on-base schools.

Page 153, Paragraph 2, delete paragraph, substitute with the following:

To accommodate the student enrollment, the school district maintains 63 school buildings. These include 49 elementary schools, four junior high schools, three senior high schools, four junior and

senior high school complexes, two special education centers, and one career education center.

Page 153, Add new paragraph and Table 48a after paragraph 3:

Table 48a displays the current status of the Anchorage School Districts present facilities.

TABLE 48a

ELEMENTARY AND SECONDARY FACILITIES INVENTORY

	Prima ry	Secondary
Square Footage	1,851,708	1,992,662
No. of Regular Classrooms	968	398
Program Capacity		
22:1 Primary	21,296	
37:1 Secondary		14,726
Enrollment 9/30/80	20,265	16,108
Rooms Needed for 9/30/80	924	415
Additional Students		
Program Could Accommodate	1,031	- 648
Rooms Available	44	- 17
No. of Temporary Units	31	22
No. of Students Transported	6,184	9,048

Examination of the current facilities of the Anchorage School District reveals a shortage of classroom space on the secondary level. Two of the senior facilities are extremely overcrowded with Service/Hanshew at 770 over program capacity and West High School with 455 over program capacity.

Page 154, Delete page, substitute with the following:

Although the elementary schools appear to have sufficient classrooms to accommodate the 1980-81 academic year, actual enrollment is

disproportionately located primarily in the southern and eastern schools and the outlying communities, leaving the more centrally located schools with declining enrollments. There are presently 20 elementary schools with attendance levels exceeding designed capacity. These schools include: Abbott Loop, Aurora, Baxter, Bayshore, Chinook, Chugiak, Eagle River, Girdwood, Homestead, Mount Illiamna, Mountain View, North Star, Oceanview, O'Malley, 'i' Rabbit Creek, Sand Lake, Turnagain, Ursa Minor, Williwaw, and Gladys Wood. As seen in table 49 the four older subcommunities of Anchorage have suffered a combined pupil loss of 27.7 percent since 1970, while the four outlying areas showed a 46.2 percent increase in enrollment.

Page 155, Paragraph 1, delete, substitute with the following:

To meet the changing patterns within a stable pupil population, the school board voted to close two elementary schools (Woodland Park and Government Hill) for the 1979-80 year. However, disgruntled parents sued the District and the Alaska Supreme Court ultimately ruled the closures illegal. The Court found that the five day notice given to parents preceding the closure that spring was not sufficient to prepare for public hearings on the matter. Additional closures are being considered for other elementary schools in 1980-81.

The July 1, 1981 to June 30, 1987 Capital Improvements Program for the Anchorage School District discusses the recommended construction projects over the next six years. The Administration has based the

projects on Forecast III projections, the most conservative estimate of growth; however, the plan has not yet received formal approval from the School Board. The following is a listing of the major projects scheduled for the District over the next six years.

FORECAST III

ELEMENTARY REQUIREMENTS BY AREA

- Bond and construct new 24-room elementary school in the Eagle River area, 1982-1984
- Bond and construct new 24-room elementary school at Klatt Road, 1982-1984
- Construct a new 6-room addition to Chinook Elementary School, 1982-1983
- Open new facility in the Girdwood area, 1981-1982
- Construct a 6-room addition to Gladys Wood Elementary School, 1982-1983
- Construct a 6-room addition to Mountain View Elementary School, 1982-1983
- Bond and construct a new 24-room elementary school in the Service/Hanshew attendance area, 1982-1983
- Rededicate 12 rooms to Steller, 1981-1982

FORECAST 111

ANALYSIS OF SECONDARY SPACE REQUIREMENTS BY AREA

- Chugiak/Gruening area - open 18-room junior high, 1982-1983
- Dimond/Mears area - bond and construct 24-room junior high, 1983-1984
- Service/Hanshew area - bond and construct new 24-room junior high, 1982-1983

The above projects are based on the assumption that Goverment Hill and Woodland Park Elementary Schools are not operating.

Page 156, Table 50, add 1979-80 data:

TABLE 50

GENERAL EXPENDITURES PER STUDENT CAPITA[a]

Fiscal Year	General Expenditures	Average Daily Membership K-12 and Special Ed.	Expenditures Per Student
1979-80	$103,692,679	32,572	$3,183

anchorage School District, Annual Financial Report for the Fiscal Year Ended June 30, 1980,

Page 159, Table 51, delete data in table, substitute with revised figures:

TABLE 51

SPECIAL EDUCATION STUDENT AVERAGE DAILY MEMBERSHIP STATISTICS FOR NINE YEARS[a]

Year	Enrollment
1971-72	939
1972-73	840
1973"74	1,118
1 9 7 4 - 7 5	1,261
1975-76	1,441
1976-77	1,570
1977-78	1,220
1978-79	869
1979-80	1,065
1980-81	968

[a]Ender, Community Contact, 1979

Page 160, Paragraph 3, delete lines 1 and 2, substitute with the following:

Full-time equivalent student enrollment has shown a 280 percent increase

between 1970 and 1980. The growth of the enrollment. . .

Page 161, Table 52, add 1980 data:

TABLE 52

UAA FTE STUDENT[a] ENROLLMENT 1969-1980

Fall Semester	FTE Enrollment
1980	1,654.9

[a]Full-Time Equivalent Student (FTE) = 15 credit hours

Page 161, Paragraph 1, delete, substitute with the following:

As of fall 1980, there were 129 full-time faculty employed at UAA and 65 part-time instructors. The majority of those with part-time status are classified as temporary.

Page 162, Paragraph 1, delete sentences 4 and 5, substitute with the following:

The legislature has appropriated funds for several new buildings which will help to alleviate some of the space problem occurring in recent years. Presently under construction is the UAA Classroom-Office Building. Designed with 45,000 square feet at a cost of $3.8 million, the facility will house the School of Engineering, Art, and Business and Public Administration.

A second building, referred to as the Administration-Classroom Building, is scheduled to go out to bid June 15, 1981 and completion is targeted for December, 1982. This facility has appropriations of

$9 million and is envisioned with 50,000 to 53,000 square feet to house UAA Administrative Offices, School of Education, Alcohol and Addiction Studies and Criminal Justice offices. In addition, plans of expansion include a new bookstore to serve both the UAA and ACC campuses.

Page 162, Paragraph 2, delete last sentence of paragraph.

Page 163, Table 53, add 1980 data:

TABLE 53

ACC FTE STUDENT ENROLLMENT 1969-1980

Fall Semester	FTE Enrollment
1980	3,328.2

Page 163, Paragraph 1, delete paragraph, substitute with the following:

The college employs 158 full-time plus 287 part-time temporary faculty. The campus is comprised of five buildings and shares other facilities with UAA. Certain funds have been appropriated for two additional facilities for ACC. The first is an Applied Science Building targeted to house the school's nursing program, dental hygiene and their paramedic program. The second facility is a $5.2 million, 48,000 square foot Merrill Field Aviation Complex. This facility will be located at Merrill Field General Aviation Airport and will support the Airframe and Power Plant Maintenance Program. The building includes a 10,000 square foot hangar.

Page 163, Paragraph 2, delete paragraph, substitute with the following:

There are no official UAA and ACC enrollment projections available, but in the past four years enrollment has kept pace with the Anchorage population growth rising to 4.8 percent of the population in 1979 for ACC and dropping back to 4.6 percent in 1980 (see table 54). UAA headcount climbed to 2.1 percent of the population in 1977 and 1978 and stabilized with a slight dip in 1979. The latter drop appears to be due to a greater number of full-time students in population which has risen steadily throughout the period.

Page 164, Delete paragraph 1.

Page 164, Delete Table 54, substitute with the following:

TABLE 54

ENROLLMENT AS PERCENT OF POPULATION

Year	Anchorage Population	ACC Headcount	Headcount % of Pop.	FTE % of Pop.	UAA Headcount	Headcount % of Pop.	FTE % of Pop.
1975	172,334	7,091	4.1	1.7	2,117	1.2	0.5
1976	177,616	7,346	4.1	1.8	2,266	1.3	0.5
1977	186,531	8,168	4.4	1.6	3,938	2.1	0.7
1978	184,479	8,729	4.7	1.9	3,805	2.1	0.7
1979	180,876	8,672	4.8	1.5	3,625	2.0	0.8
1980	175,000	8,078	4.6	1.9	3,683	2.1	0.9

Page 165, Paragraph 2, delete paragraph, substitute with the following:

This past year, the legislature has appropriated considerable funding for large scale capital improvements to help alleviate office and classroom shortages. However, regional resource allocation by the

central administration has not always correlated with actual demand.

Page 167, Paragraph 1, delete paragraph, substitute with the following:

Fall 1978, 245 students were enrolled, and fall 1979 saw a substantial jump to 736 students. Enrollment for fall 1980 is 865.

Page 167, Paragraph 2, delete paragraph, substitute with the following:

These figures include both full-time and part-time students. APU employs 20 full-time faculty, 5 part-time, 9 administrators with teaching responsibilities, and 32 adjunct faculty.

LAW ENFORCEMENT

Anchorage Police Department

Page 170, Paragraph 2, substitute with the following:

Since Flannigan's retirement in 1973, the department has had three appointments to Police Chief: Earl Hibshun; Charles G. Anderson, a long time veteran of the department; and Brian Porter, the present Chief of Police.

Page 170, Table 55, add data for 1980:

Manpower	1980[c]
Sworn officers	235
Nonsworn officers	83

Page 171, Paragraph 1, insert after third sentence:

Recently, the APD has severed relations with the Teamsters and utilizes the Anchorage Police Department Employees Association as the labor organization. The Association hires their own attorney to handle negotiations.

Page 171, Replace paragraph 3 with the following:

The 1976 annual expenditures for the department were $11,541,850. This increased in 1977 to $15,188,070 and decreased in 1978 to $14,845,000. Expenditures in 1979 were $19,641,490 with a revised budget of $20,991,440 for 1980. The recommended 1981 budget is $23,243,120. These last three figures represent the increased cost of the newly acquired service areas. Table 56 gives approximate state and miscellaneous revenues for 1976 through 1980.

Page 172, Table 56, add data:

Year	Revenues
1979	$7,112,970
1980 (revised)	$7,717,110
1981 (recommended)	$8,337,720

Page 172, Paragraph 1, delete second sentence.

Page 173, Paragraph 3, replace last sentence with the following:

Currently, the division has 143 sworn patrol personnel.

Page 175, Paragraph 3, and Page 176, Paragraph 1, substitute with the following:

The APD service area is divided into 17 patrol districts. Except during the overlap of the three shifts 21 patrol units are available including two traffic units. In addition, two supervisory units are on duty at all times.

Page 176, Paragraph 2, substitute last sentence with the following:

This department employs 23 personnel.

Page 176, Paragraph 3, substitute with the following:

In addition a reserve unit of 35 is available to assist the force as needed.

Page 177, substitute first sentence with the following:

Investigative Services maintains four bureaus employing 59 APD personnel.

Page 177, Paragraph 3, substitute last sentence with the following:

This division employs 16 personnel.

Page 178, Paragraph 1, substitute last sentence with the following:

Technical Services has 66 personnel.

Page 178, Paragraph 2, substitute last sentence with the following:

Table 59 illustrates the crime index statistics from 1974 through the first six months of 1980.

Page 178, Table 59, add the following data:

Crime	1979	First 6 months 1980
Murder	19	8
Rape	133	72
Robbery	344	142
Aggravated Assault	1,431	751
Burglary	2,478	1,318
Larceny	7,621	3,444
Vehicular Theft	1,041	482
Total	13,067	6,217

Page 179, Paragraph 1, substitute with the following:

By adding in the Alaska State Troopers Part I crime totals, a ratio of crimes to population can be calculated. For 1979, examination of the actual number of reported Part I crimes yields a ratio of 93 crimes per 1,000 people living in the Municipality of Anchorage. In addition, when examining the violent crimes of murder, forcible rape, robbery, and aggravated assault, there is a ratio of 12.7 violent crimes per 1,000 people in Anchorage.

Page 179, Paragraph 2, add after last sentence:

When examining the differences between 1978 and 1979, it is important to note that 1979 was the major year for annexing new areas into the APD's jurisdiction. There was, of course, an increase of 15.6 percent in the reported number of Part I crimes, but much of this should be attributed to the changing police boundaries.

Page 179, Delete paragraph 3.

Page 180, Table 60, add data:

Part I Crimes	1979
Murder	57.9
Rape	13.5
Robbery	21.5
Aggravated Assault	5.7
Burglary	8.0
Larceny	23.0
Vehicular Theft	7.1

Page 180, Table 61, add data:

Loss/Recovery	1979
Lost	3,847,948
Recovered	567,389
% Recovered	14.7%

Page 181, Paragraph 1, delete after line 4, substitute with the following:

The manpower to accommodate these newly acquired service areas completed training in 1979 and all areas are now fully annexed.

Page 181, Paragraph 2, substitute with the following:

. Manpower at a minimum, the APD would like to maintain the present ratio of

police to population. However, in 1979 the department received 78,380 calls for service or 215 calls per day creating somewhat of a strain on current manpower capabilities.

Page 183, Paragraph 2, add after sentence number 4:

In addition, the Anchorage Police do have access to the Alaska State Troopers lab for criminal investigation.

Page 183, Paragraph 2, delete sentence numbers 6 and 7.

Page 183, Paragraph 2, change the beginning of sentence number 8 to the following:

"The second factor is . . . "

Page 184, Delete paragraph 1, substitute with the following:

To accommodate for natural attrition from the department there are presently 18 in the academy.

Page 184, Paragraph 3, delete paragraph, substitute with the following:

There is a definite need for the APD to obtain their own computer system. In addition, the radio equipment is outmoded and obsolete. The proposed system includes what is known as a Computer Aided Dispatch and Law Enforcement Information System or CAD-LEIS and will update and improve all vital communications, data storage and data retrieval systems. Under the CAD-LEIS system, mini computer systems coordinate locally and maintain files connected with other agencies such as the FBI or the Alaska Justice Information System. Information which might be extrapolated includes location

of hazardous chemicals and explosives, potential trouble spots in the community, locations of all active patrol units, etcetera. Personal medical information volunteered by citizens with health problems could be maintained in the system in case of a medical emergency. In case of emergency, these individuals would dial 911 and, even if they were unable to speak, the systems automatic number locator and computer aided dispatching capability would allow a medic team to be on its way to the proper address with the probable nature of the difficulty.

The proposed expenditure for the CAD-LEIS system is $2.9 million which includes $1.2 million for improving and replacing radio equipment.

Such an extensive system will benefit all aspects of law enforcement work including patrol and traffic, investigative units, inventory of property and evidence, records and administrative work. In addition, other agencies such as the Anchorage Fire Department, the Alaska State Troopers, and Civil Defense will benefit from the system. (Gorski, Community Contact, 1980h)

Page 185, Delete paragraph 1.

Page 185, Paragraph 2, last sentence, substitute with the following:

Currently there are 25 home cars in this program.

Page 185, Add after last paragraph:

On September 8, 1975 Officer Flora was killed while investigating a suspected burglary call. As a result, civic groups in the Anchorage community donated funds to the APD to begin a canine program. The program is designed

to send trained dogs in to search buildings so officers' lives are not risked. Presently there are four canines trained and assigned to four officers. Since the animals are trained in tracking, they can also aid in such activities as searching for lost children.

Alaska State Troopers

Page 186, Paragraph 1, last sentence, substitute with the following:

C Detachment presently patrols for 13,068 people within the municipal boundaries. (Population estimate, Anchorage Urban Observatory, October 1980).

Page 186, Paragraph 2, sentence 2, substitute with the following:

To serve this area C Detachment employs 22 patrol personnel with a total of 28 commissioned officers.

Page 186, Delete paragraph 3.

Page 187, Table 62, add the following data:

Type of Offense	1979
Murder	8
Rape	11
Robbery	8
Aggravated Assault	40
Burglary	310
Larceny	404
Vehicular Theft	95
Total	1,013

Page 188, Delete paragraph 1, substitute with the following:

Approximately 80 percent of the criminal Investigations are handled by the

Detachment officers which includes one full-time investigator. In addition, many of the "white collared" crimes and homicides are investigated through the Criminal Investigation Bureau under the Director of the State Troopers. This bureau is mutually exclusive from the detachment and employs eight persons. Between 1975 and 1977, Part I offenses increased by 38 percent. This increase in part is a function of the increased density within the trooper's service area. Between 1977 and 1978, Part I crimes decreased by 22 percent and between 1978 and 1979, the decrease was 58 percent. The decrease over the last two years can primarily be attributed to the acquisition of the troopers territory by the APO due to the passage of Proposition 8.

Page 188, Paragraph 2, last sentence:

Change "1978" to "197'9"

Page 188, Table 63, add 1979 data:

Year	No. of Responses
1979	919

Page 189, Paragraph 1, delete last sentence, substitute with the following:

In the past, during holiday seasons, heavy traffic was monitored and regulated through air patrol. However, this procedure was costly and tied up significant amounts of manpower and was therefore disbanded. All traffic patrol is now monitored by moving radar which is technically capable of clocking speeds in the moving mode as opposed to being stationary. There are presently 18 moving radar units.

Page 189, Delete paragraph 2, substitute with the following:

Funding for the Alaska State Troopers is provided through State revenues. The 1980 expenses for C Detachment were $1,710,000 and for 1979, $1,953,000. The projected 1981 budget is $2,930,000, a substantial increase over the last two years. To field one sworn officer, the cost to the State, in 1980 dollars is approximately $72,000.

Page 189, Paragraph 4, Delete first sentence.

Page 189, add after last paragraph:

This past year the Alaska State Troopers have embarked on a vigorous highway safety campaign through the media. The promotion is funded through the Highway Safety Traffic Funds and utilizes the catch campaign slogan "Staying Alive Driving 55." The Troopers are in hopes that public awareness will reduce accidents and fatalities and conserve energy.

FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES

Page 191, Paragraph 3, last sentence, substitute with the following:

The division has 200 personnel.

Page 191, Paragraph 4, first sentence, substitute with the following:

The Emergency Medical Services Division has five medic units with 34 personnel on staff.

Page 193, Paragraph 2, last sentence, substitute with the following:

Support Services Division has six personnel.

Page 193, add new paragraph after paragraph 2:

The Civil Defense office now functions under the Anchorage Fire Department. The office consists of one director and one deputy director to plan for man-made and natural disasters.

Page 193, Paragraph 3, substitute with the following:

In addition an administrative staff of six oversees department activities and a clerical staff of six functions as support.

Page 193, last paragraph, substitute last sentence with the following:

Table 64 shows frequency of fire and rescue operation responses from 1975 through June 30, 1980.

Page 194, Table 64, add the following data:

Year	Number of Responses
1980 (first six months)	1,982

Page 194, Paragraph 2, substitute with the following:

Some of the leading causes of fire in 1979 were 1) illegal burning with 110 incidence, 2) defective or overloaded electrical equipment with 101 responses, 3) careless smoking with 88 responses, 4) children playing with matches, etcetera with 85 responses, 5) arson with 74 responses, 6) suspicious with 31 responses, and 7) vehicle arson with 17 responses.

Page 194, Paragraph 3, substitute with the following:

Year end statistics for 1979 revealed a response time of three minutes for

first arriving units in the Anchorage bowl area and eight minutes for first arriving units in the Eagle River area. This is a reduction of .23 minutes over the response time achieved in the Anchroage bowl area for 1978.

Table64a displays a breakdown of fire loss by occupancy classification for 1979.

TABLE 64a

FIRE LOSS ESTIMATES

Occupancy Classifications	1979
Public Assembly	$5,142,435
Educational	1,975
Institutional	9,035
Residential	3,071,643
Stores and Offices	3,391,995
Basic Industry and Miscellaneous	920,950
Manufacturing	81,500
Storage	33,125
Special Property	74,210
Vehicle (including recreational)	311,448
Total	$13,038,316

For 1978, fire loss was estimated at $4,506,270. The 1979 fire loss was estimated at $13,038,316, an increase of 189 percent over 1978.

Page 195, Paragraph 1, last line:

Change “1978” to “the first six months of 1980”

Page 195, Table 65, add the following data:

Year	No. of Responses
1980 (first six months)	4,659

Page 195, last paragraph, and page 196, first paragraph, substitute with the following:

The firemen are trained emergency medical technicians and, if necessary, can begin emergency life saving procedures prior to the arrival of the medic unit. Some of the types of calls the medics responded to in 1978 and 1979 were as follows:

	1978	1979
·Auto Accidents	740	753
"Illness	3,234	3,554
·Other Accidents	458	329
·Gunshot Wounds, Stabbings and Assaults	319	349
·Home Accidents	193	332
-Indication of Suicides	141	97

Of the 9,352 responses by medic units, 5,729 or 61 percent were transported to a hospital or other facility.

The paramedic personnel are highly trained in the current practices of emergency medicine. In many cities, the paramedics must be in contact with a participating emergency room staff and receive permission prior to the administration of medical procedures. In Anchorage, medics are permitted to administer emergency medical treatment without contacting the local emergency room physicians and do so in about 90 percent of the cases. This higher level of training is very beneficial since certain areas of the municipality would not allow for proper radio telemetry and radio contact is at times impossible.

Page 196, Funding, substitute with the following:

The 1980 revised budget for the Anchorage Fire Department is $14.2 million, an increase of 12 percent over expenditures for 1979. Funds are provided through State revenue sharing, local taxes, and miscellaneous revenue sources.

Page 197, Add after second line:

The State of Alaska is phasing in fire fighting crews under the State Division of Fire to handle fire and rescue operations in Chugach State Park. The State has a new station near the Eagle River correctional facility. Any fire breaking near the Park would undoubtedly receive attention from both the Anchorage Fire Department and the State Division of Fire.

Page 197, Paragraph 1, sentences 2 and 3, substitute with the following:

In 1979, 110 fires had sufficient evidence to be labeled arson and an additional 95 fires were labeled suspicious - indicating that the fire's origins pointed to arson but there was not sufficient evidence to label the fire as such. Comparing per capita loss in Anchorage to national figures, in 1977 Anchorage experienced $9,600 per capita versus the national figure of $4,500.

Page 198, Paragraph 2, delete sentence 7.

LEISUREAND RECREATION

Page 201, Delete paragraph 3 and substitute with the following:

Within the Anchorage bowl area, there are over 1,902 hectares (4,696.73 acres) of parkland. Outside the metropolitan area, there are 1,776.5 hectares (4,388 acres) of parks. The total accessible parkland equals 3,676 hectares (9,085 acres) in 190 parks and areas. (Gorski, Community Contact, 1980i). The size, type and proprietary status are displayed in table 66:

Page 202, Delete table 66 and substitute with the following:

TABLE 66

PARKLAND INVENTORY

	No. of Parks	Type of Park	# of ectares	# of cres
Municipal	43	Vest Pocket	20.74	51.24
	19	Neighborhood	70.33	173.72
	13	Community	247.72	611.87
	8	Large urban	989.76	2,444.70
	6	Conservation areas	106.89	264.01
	14	Open spaces	156.86	387.44
	3	Regional - outside metropolitan area	1,776.52	4,388.00
	3	Greenbelts	309.21	763.75
State	1	Accessible wilderness	200,404.86	495,000.00

Page 202, Delete paragraph and substitute with the following:

- Paths and Trails. A trail plan, including bike, hiking, skiing, dog sledding, and other trails has been adopted by the municipal government. There are currently 322 kilometers (200 miles) of ski/bike paths within the Anchorage bowl area (municipal bikeways, 129 kilometers [80 miles];

hiking and ski trails, 105 kilometers [65 miles]; one snow mobile area; sled dog trails, 48 kilometers [30 miles]; state hiking/skiing trails, 499 kilometers [310 miles]). An additional 161 kilometers (100 miles) are projected for construction through state and local government by 1982. Trails are of great importance to Anchorage residents, supporting both winter and summer activities.

Page 204, Delete table 67 and substitute with the following:

TABLE 67

MUNICIPAL RECREATION Facilities

Type Of Facility	Number of Facilities
Indoor hockey rinks	2
Outdoor hockey rinks	4
Public rinks[b]	90
Ski hills	3
Sledding hills	3
Snow machine areas	1
Tennis courts	58
Bowling green	1
Baseball diamonds	20
Outdoor basketball courts	7
Golf course	1
Softball fields	16
Outdoor volleyball courts	2
Camper parks	2
Football fields[b]	12
Swim beaches	3
Swim pools	4
Soccer fields	4
Boating lagoon	1
Day camp	1
Tracks[b]	9
Community gardens	1
Exercise trail	1
Playgrounds	36
Outdoor recreation vehicle area	1

[a]Gorski, Community Contact, November 1980

[b]The Anchorage Public School District maintains 82 free hockey rinks, 33 tennis courts, nine tracks, and eight football fields

Page 208, Paragraph 1, add new paragraph at the end of paragraph 1:

There has been a recent move to double the size of the proposed headquarters library. The expansion is being considered under Phase II of Project 80's (discussed in next section) and would be funded through state oil revenues.

Page 209, Delete page.

Page 210, Delete paragraph 1.

Page 210, Preceding paragraph 2, introduce with heading:

"Current Issues"

Page 210, Paragraph 2, line 1:

Delete the word "second"

Page 211, Delete page and substitute with the following new section:

Project 80's. The 1980 legislative session granted approval for a $68 million public works package for Anchorage that will totally alter the leisure infrastructure of the community. Utilizing state oil revenues, Anchorage will realize a number of major capital improvement projects over the next several years. Voters have failed such proposals in the past primarily due to the hefty price tag. The new program, as envisioned by the Mayor, is entitled Project 80's; and Phase I has been approved for funding. It's components are as follows:

- A $20 million convention/civic center. Proposed, is a building located mostly underground creating a park overhead highlighted by an open-air amphitheatre at the corner of Fifth and E Streets.

- A $15.4 million start on a $51 million performing arts center. This project is proposed to fill the block bounded by Fifth and Sixth Avenues and F and G Streets.

- A $25 million sports arena to house hockey, and basketball; and depending on the type built, an indoor playing field for football and baseball. The spectators arena is envisioned as seating 10,000. Site selection and type of structure is as yet undecided.

- A $5.4 million underground F street mall connecting the convention and arts center.

- $250,000 to begin preparation on a winter recreation facility, This study will make recommendations on what kind of winter recreation facilities are needed and are feasible in Anchorage.

- $80,000 for an historic Anchorage railroad town. This proposal would help to preserve several log cabins and cottages presently being threatened.

In addition, Project 80's includes a small boat harbor, being funded mostly by private enterprise. The developer is York Steel Company of Anchorage. The land has been leased from the Alaska railroad and is scheduled for completion sometime in 1982. The project will increase

the length of Anchorage's mile long water front by 20 percent and will add an additional 3,000 linear feet of year-round all-tide docking facilities. The facilities presently carry a price tag of $35 million and include a number of marine related services.

Another proposal under Project 80's relates to urban beautification. Proposed is a town square to be located next to the convention center. The project is presently being reviewed by the Anchorage Assembly and carries such complications as relocation of businesses.

Phase II of Project 80's is in its preliminary stages and contains $163 million worth of civic improvements. The components planned thus far are as follows:

- $19.6 million for expansion of the Anchorage Historical and Fine Arts Museum.
- $25 million to build an indoor field that would accommodate football, soccer and tennis.
- $39 million in additional funds for a new headquarters library.
- $10.3 million to fund a golf course, clubhouse, riding and running trails to be located between O'Malley and Abbott Loop Road.
- $6.4 million for winter recreation facilities.

- $13.7 million for Phase II of the downtown performing arts center. The project proposed is a musical/comedy opera house.

- $15 million for beautification for sidewalk improvements, landscaping of International Airport Road and Minnesota Boulevard to form a Gateway Drive, and additional landscaping throughout the city.

- $4.4 million for the tourist railroad town.

- $1.7 million for transit center improvements.

- $2.2 million for improvements to the Anchorage waterfront.

- $15.5 million for downtown parking.

- $10 million for Phase I of the Coastal Trail that would begin north of the downtown sector and would follow the coastline to Potter's Marsh. This proposal is part of the Municipality's Areawide Trails Plan.

Public hearings for citizenry input will probably be held in January, 1981 for Phase II of Project 80's.

As a sidenote, Governor Hammond has indicated that the doling out of State revenues in future years will not be as lucrative a procedure as was experienced in 1980. It is likely that a more conservative trend will be adopted by the State with respect to future revenue sharing and as a result, Phase II will probably not be funded in its entirety.

Physical Characteristics

LAND USE

Page 216, Add the following after paragraph one:

Table 68a denotes an alternative land use analysis for 1980. Dividing use by broad categories of zoned development, acreage for single family land use is calculated to include not only residential land but also transportation and utility corridors supporting this development. Because of different approaches, the data are not comparable. Looking at the 1980 distribution, 41.8 percent of the developed land was residential; 4.0 percent, commercial; 4.5 percent, industrial; and 49.8 percent were public lands and institutions, In total, 32,345 acres in the Anchorage bowl (Eagle River/Chugiak and the Turnagain Arm are included in the data) were developed and 27,356 acres were undeveloped. Thus 54 percent of the land in the bowl was classified as developed.

The pattern of land use is also shown for 16 subareas. The Hillside, Muldoon and Sand Lake areas have the largest number of acres developed as single family residences (62 percent), while Muldoon, Spenard and Mountain View are the three areas with the highest number of acres developed for two family and multi-family units (56 percent). Commercial development is concentrated in Spenard and Downtown/Fairview with Muldoon, Mountain View and Sand Lake also important. Fifty-two percent of land developed for industrial use is found in Sand Lake and the Ship Creek/Port area.

Page 217, Substitute with new figure 6.

Page 219a, Add table 68a.

Page 220, Paragraph 1, delete, substitute with the following:

Residential Land Use

The most visible impact of rapid growth on Anchorage has been the availability and cost of housing. Anchorage has had a history of residential housing shortages and surpluses. A rapid expansion of the population in the 1970's occurred in response to the economic boom. The civilian area housing stock in Anchorage increased 44.7 percent from April 1970 to July 1975, while the same population rose 49.0 percent. Housing shortages began in the summer of 1974 and a severe level in 1975 when the overall housing vacancy fell to one percent. While population pressure began to ease in 1977, residential building remained active, especially in multiunit structures (a 47.2 percent increase between July 1975 and July 1980). The single family unit stock has grown at a slower rate (a 30,1 percent increase between 1975 and 1980). This pattern of activity resulted in an oversupply of apartments and condominiums. It was not until late 1978 and 1979 that housing construction slowed dramatically under the weight of excess units.

TABLE 68a

OEVELOPED & UNDEVELOPED LANDS BY USE IN ACRES FOR ANCHORAGE SUB-AREAS, 1980[a]

Sub-Areas	Single Family		Two Family		Multi-Family		Commercial		Industrial		PL I		Unrestricted		Totals	
	Dev. By Use	Undev.	Dev. By Use	Undev.	Dev. By Use	Undev.	Dev. By Use	Undev.	Dev. By Use	Undev.	Oev. By Use	Undev.	Dev. By Use	Undev.	Dev. By Use	Undev.
Ship Creek/Port	2				12		1	1	353	218.	216				584	219
Government. Hi 11	43		21	8	55	9	6		9	1	16				150	18
Downtown/Fai rvi ew	161		30		140	72	178	109	67	9	215				791	190
Merrill Field/ Mt. V i ew	4		1		9		42	22	139	32	187				382	54
Mountain View	299	7	63		290	287	110	55	5	21	509	40			1,276	410
Muldoon	1,623	152	185	496	487	643	116	99	60	17	466	2			2,937	1,409
Lake Otis	624	33	61	13	64	122	47	68			1,189				1,985	236
Turnagain, Inlet View, South Addition	489	96	87	6	40	44	11	11			264				891	157
Spenard	773	20	136	201	375	439	464	359	78	125	271	5		1	2,097	1,150
Airport							28		167	82	3,837	210		307	4,032	599
Sandlake	1,202	1,336	88	177	162	449	105	125	402	648	2,109	260		258	4,068	3,253
Campbell/Klatt	385	1,392	23		116	161	23	67	47	717	36	75		212	630	2,624
Oceanview	635	485	20	9	29	89	57	59	2 6	192	134	80		40	901	954
Abbott Loop	583	857	29	81	136	454	74	157	87	333	187	432			1,096	2,314
Campbel 1 Ai rst rip Area	87						10				5,120			503	5,217	503
Hillside	3, 849	5,673	20	88	71		28	5	4-		1,336	1,316		6,184	5,308	13,266
TOTALS	10,759	10,051	764	1,079	1,986	2,769	1,300	1,137	1,444	2,395	16,092	2,420	-o-	7,505	32,345	27,356

'Municipality of Anchorage Planning Department, 1980.

TABLE 69[c]

HOUSING UNITS AUTHORIZED BY BUILDING PERMITS

Locality Anchorage Area (Municipality of Anchorage)
Annually, 1970-1980; Monthly, 1979-1980

Year	Number of Units					
	Single Family	2 to 4 Family	5 or More Family	Mobile Homes[a]	Total Units	Conversions Demolitions[b]
1970	1,400	1,600		N/A	3,000	-59
1971	1,385	1,665		N/A	3,050	-39
1972	1,445	1,506		N/A	2,951	-63
1973	1,402	684		N/A	2,086	-54
1974	1,798	1,024		N/A	2,822	-41
1975	1,827	2,183		N/A	4,010	-12
1976	1.269	2,216		453	3,938	-46
1977	1,955	1,070	1,432	420	4,877	-22
1978	1,492	751	675	371	3,289	-12
1979	588	270	369	232	1,469	±10
Jan	7	3	41	25	77	+ 1
Feb	10	0	0	4	14	0
Mar	31	8	132	10	181	0
Apr	60	31	27	29	148	+ 1
May	134	48	100	21	303	0
Jun	129	70	27	16	242	0
Jul	62	52c	0[e]	22	137	+ 1
Aug	66	20	14	20	122	+ 2
Sep	25	18	0	25	71	+ 3
Ott	50	16	2B	36	132	+ 2
Nov	14	4	0	12	30	0
Dec	0	0	0	12	12	0
1980	896	186	115	190	1,396	± 9
Jan	1	7	0	6	14	0
Feb	8	0	0	10	18	0
Mar	8	0	0	8	16	- 1
Apr	39	20	20	13	92	0
May	59	22	12	18	111	0
Jun	101	17	0	16	134	0
Jul	144	15	0	23	188	+ 6[d]
Aug	137	14	65	8	226	+ 2
Sep	175	66	18	26	285	0
Oct	181	15	0	31	227	0
Nov	41	6	0	23	71	+ 1
Dec (p)	2	4	0	8	14	0

[a] This is suppose to be net additions to mobile home inventory (new or used), but appears it is just a new utility connects number without subtracting out the disconnects. N/A = Not Available.

[b] Conversions may be plus or minus; if plus , these are included in total units beginning in 1979.

[c] Economist, Department of Housing and Urban Development.

[d] 80-unit Linda Arms Apartments was demolished.

(p) Preliminary.

Note: Effective January 1. 1576, all building permits were issued by the Municipality of Anchorage as a result of the merger of the City of Anchorage and the Greater Anchorage Area Borough on September 15, 1975.

Page 223, Delete page, substitute with the following:

All land use permits issued for Eagle River, Chugiak, Girdwood, and Portage areas (where building permits are not required) are included in single family type from July 1976 through April 1976; beginning in May 1976, they are reported by number of units of each type (single family, multifamily, and mobile homes).

TABLE 70

VACANCY RATE FOR ANCHORAGE AREA

Type of Residence	April 1970[a]	April 1972[a]	Nov 1974[a]	May 1975[a]	Oct 1975[a]	May 1976[b]	July 1977[b]	May 1978[b]	May 1979[b]	June 1980[b]
Total Residence	2.9	4.5	3.9	1.0	2.3	1.8	3.6	4.9	9.1	10.9
Single Family	2.0	2.6	2.3	0.5	2.0	0.8	1.1	1.3	2.9	2.1
Multi-Family	4.8	7.6	6.4	2.0	2.9	205	6.3	9.3	16.2	19.8
Mobile Homes	1.4	2.5	3.0	0.5	1.7	3.3	3.2	2.5	6.3	7.7

[a]HUD Postal Vacancy Surveys, Director's Release, October 14, 1975.

[b]Federal Home Loan Bank of Seattle, Anchorage Housing Vacancy Survey, 1977-1980.

Note: All data is adjusted to include civilian housing only. Figures are based on postal surveys, thus rural routes and box deliveries are excluded.

TABLE 71

CIVILIAN RENTAL HOUSING VACANCY RATE[a]

Month	1974	1975	1976	1977	1978	1979	1980
March	N/A	0.6%	1.5%	6.9%	13.4%	21.8%	26.2%
June	N/A	0.4	1.2	5.0,	13,8	23.2	19.8
September	N/A	0.7	2.4	5.6	14.4	27.8	13.1
December	3.4%	1.4	6.3	9.0	21.8	32.2	12.1

	Year	Low Rental	Medium Rental	High Rental
December	1978	26.8%	16, 1%	22.2%
June	1979	35.0	14.1	13.9
December	1979	45.1	25,1	18.1
June	1980	31.7	15.9	8.9
December	1980	24.2	7.3	3.4

[a]Joint Military Housing Referral Office, Elmendorf Air Force Base.

Note: Data based on sample of rental stock with four or more units.

Page 229, Delete last full sentence, substitute with the following:

The single family market has done somewhat better; vacancy rates still were three percent or less, but the increases in the average sales price did moderate.

Page 230, Paragraph 2, delete sentence 2, substitute with the following:

In 1978, household income may have declined in real dollars.

Page 231, Delete page, substitute with the following:

The historical level of construction in Anchorage is seen in table 71a in terms Of the dollar value of construction permits authorized. Activity, both in actual and real dollars, peaked in 1977. Note that 1977-78 were the highest residential construction years denoting a

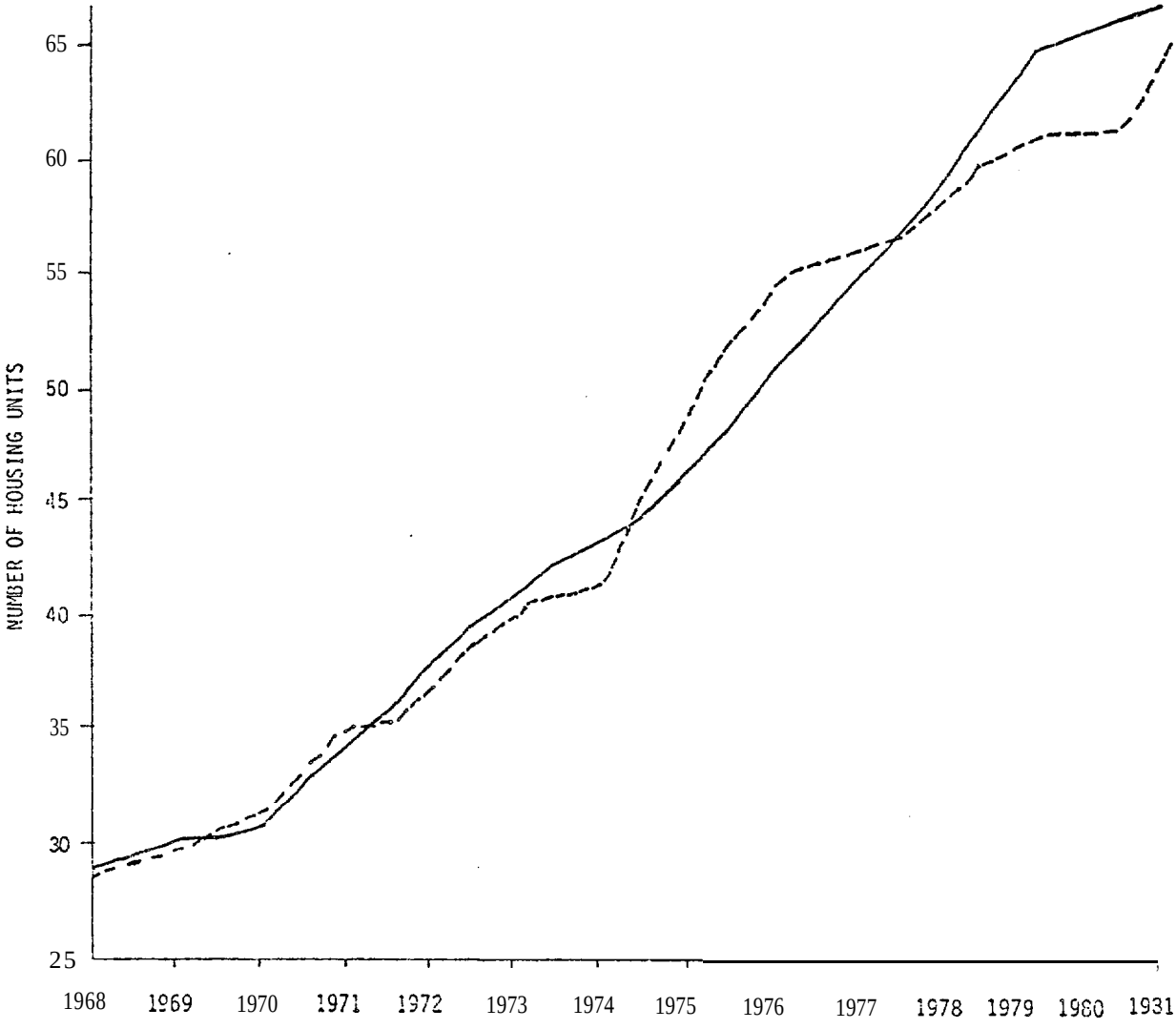
response to pipeline activity as the boom was already receding insuring an oversupply in the housing market.

The situation in 1979 deteriorated even further. Vacancies in rentals were sharply up in the low to medium price range with even high priced rentals reaching 18.1 percent. Permits on housing data in 1979 reflect a decline of 58 percent compared to 1978. Most evidence suggests that the housing market continued to worsen in 1979.

The year 1980 had mixed signals. The first two quarters were down substantially below 1979 with only 385 permits issued. The last half reflected increased optimism with 72 percent of that year's permits taken out after June. Vacancies stayed up during the first two quarters but this was primarily in the rental stock. Anticipatory net in-migration began to bring down vacancies among all rentals, especially in the medium to high cost rentals. AHFC programs continued to boost the sale of single family keeping vacancies low and prices high.

To summarize the Anchorage housing market during the 1970's Figure 8 compares supply and demand. These two factors were reasonably balanced until 1973 when the rapid building from 1970-72 exceeded the decreased demand resulting from a slowdown in population growth. The start-up of pipeline construction changed a housing surplus in early 1974 to a housing shortage in late 1974. This shortage continued to early 1977. The rapid increase in housing stock continued well past the pipeline's

Page 232, Figure 8, delete figure, substitute with the following:



Solid line - supply

Dotted line - Demand

FIGURE 8

CIVILIAN HOUSING SUPPLY AND DEMAND ANCHORAGE AREA, 1968-1979

completion. As an oversupply appeared in early 1978, residential construction was at an all time high. By 1979, the market softened creating a severe imbalance of supply over demand. In the last two quarters of 1980, the surplus of units was cut substantially. Single family units were even in a situation of shortage though the overall balance was still surplus.

The distribution of the housing stock by area is shown on figures 9 and 10. This can be correlated to the residential intensity map to understand the residential land use patterns.

Figure 11 notes the compound annual growth of residential housing stock between 1975 and 1980. Overall the Anchorage bowl area (excluding Eagle River/Chugiak and Girdwood) experienced a 6.06 percent annual rate of growth and an overall increase of 34.23 percent between 1975 and 1980. The map in figure 11 gives some understanding to the pace and pattern of new construction in the past five years. The most consistent growth occurred in southeast and southwest Anchorage.

Page 231a, Add new table 71a.

See table 71a on following page,

TABLE 71a

CONSTRUCTION VALUATION AND HOUSING UNITS Authorized

	In Current Dollars (000)			In 1967 Dollars (000)		
	Total Construction	Residential	Non-Residential	Total Construction	Residential	Non-Residential
1975	123,158	88,555	34,603	80,736	58,102	22,634
1	3,632	1,227	2,405	2,542	859	1,623
2	49,214	38,126	11,088	32,809	25,417	7.392
3	48,010	38,065	9,945	31,216	24,750	6,466
4	22,302	11,137	11,165	14,169	7,076	7,093
1976	179,654	94,521	85,133	109,492	57,594	51,898
1	22,323	6,369	15,954	14,058	4,011	10,047
2	38,842	29,795	9,047	24,021	18,426	5,595
3	77,692	36,876	40,816	47,115	22,363	24,752
4	40,797	21,481	19,316	24,298	12,794	11,504
1977	341,336	164,614	176,719	194,987	93,645	101,142
1	18,563	10,042	8,519	10,957	5,928	5,029
2	131,747	49,584	32,163	76,331	28,728	47,603
3	134,961	81,605	53,356	76,078	46,001	30,077
4	56,064	23,383	32,681	31,621	13,189	18,433
1978	196,473	141,735	54,738	105.114	75,951	29,163
1	23,711	16,196	7,515	13,232	9,038	4,194
2	56,828	47,100	9,728	30,952	25,654	5,38
3	77,853	54,999	22,834	41,301	29,177	12,124
4	38,081	23,440	14,641	19,629	12,082	7,547
1979	100,834	69,378	31,456	49,329	33,974	15,356
1	11,813	7,054	4,759	5,963	3,561	2,402
2	49,367	37,695	11,672	24,403	18,633	5,770
3	28,295	17,682	10,613	13,643	8,526	5,117
4	11,359	6,947	4,412	5,320	3,254	2,067
1980(est.)	(135,237)	(91,075)	(44,157)	(59,782)	(31,025)	(19,595)
1	5,399	1,826	3,573	2,474	837	1,637
2	34,838	20,615	14,223	15,484	9,162	6,322
3	60,162	48,024	12,138	26,340	21,026	5,314

[a]Municipality of Anchorage, Quarterly Economic Indicators, Volumn 2, Number 3. Construction validations and housing units authorized data were obtained from the monthly "Building Safety Activities/Revenues Report" published by the Municipality of Anchorage, Department of Public Works, Building Safety Division. The area covered includes all portions of the Municipality which use a building permit system. This excludes the military reservations , Eagle River/Chugiak, and Girdwood/Alyeska. Construction valuations expressed in 1967 dollars were deflated using the Anchorage consumer price index for all items.

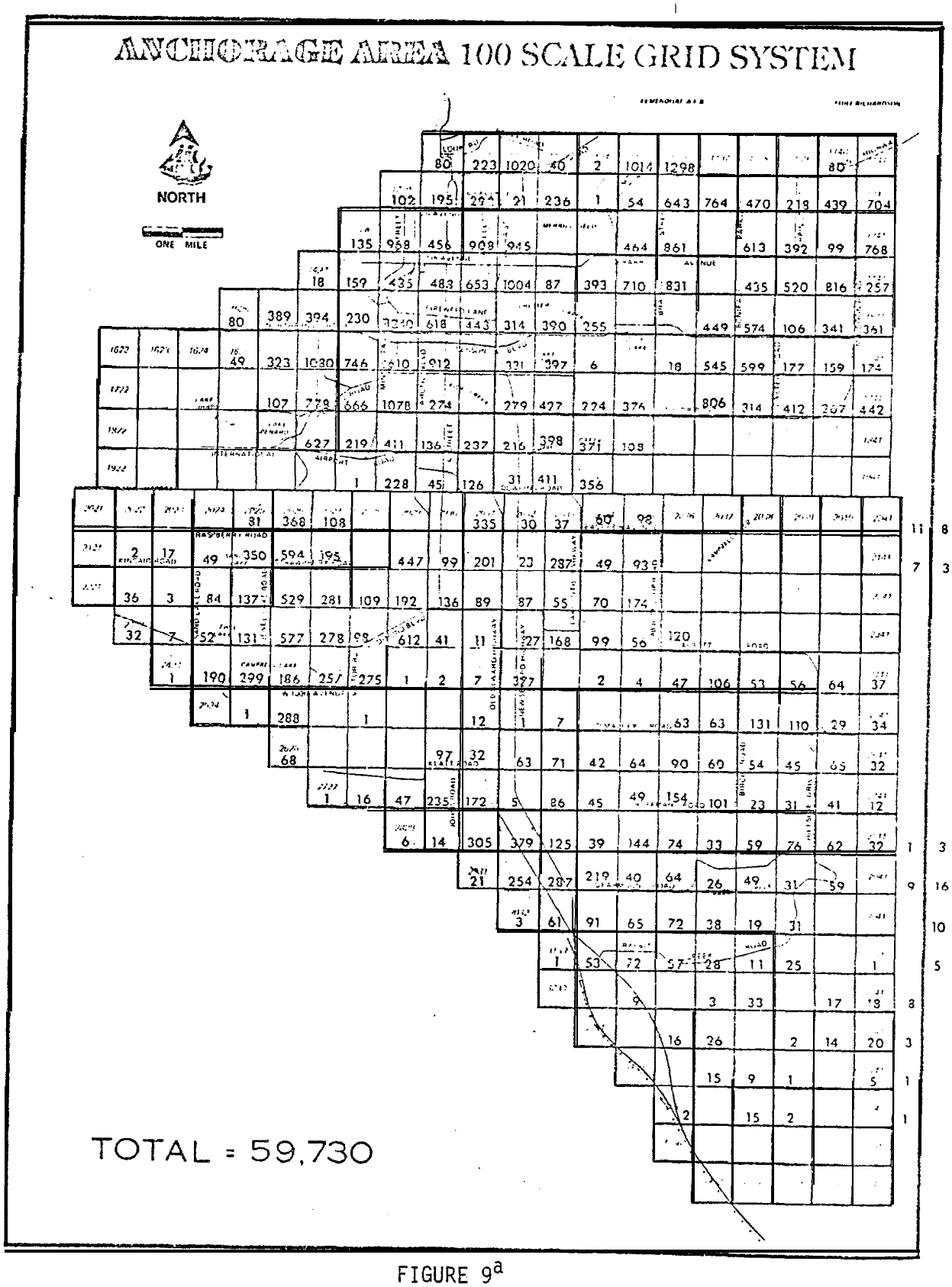


FIGURE 9[a]

1980 HOUSING STOCK

[a]Municipality of Anchorage, Planning Dept. , Research Section

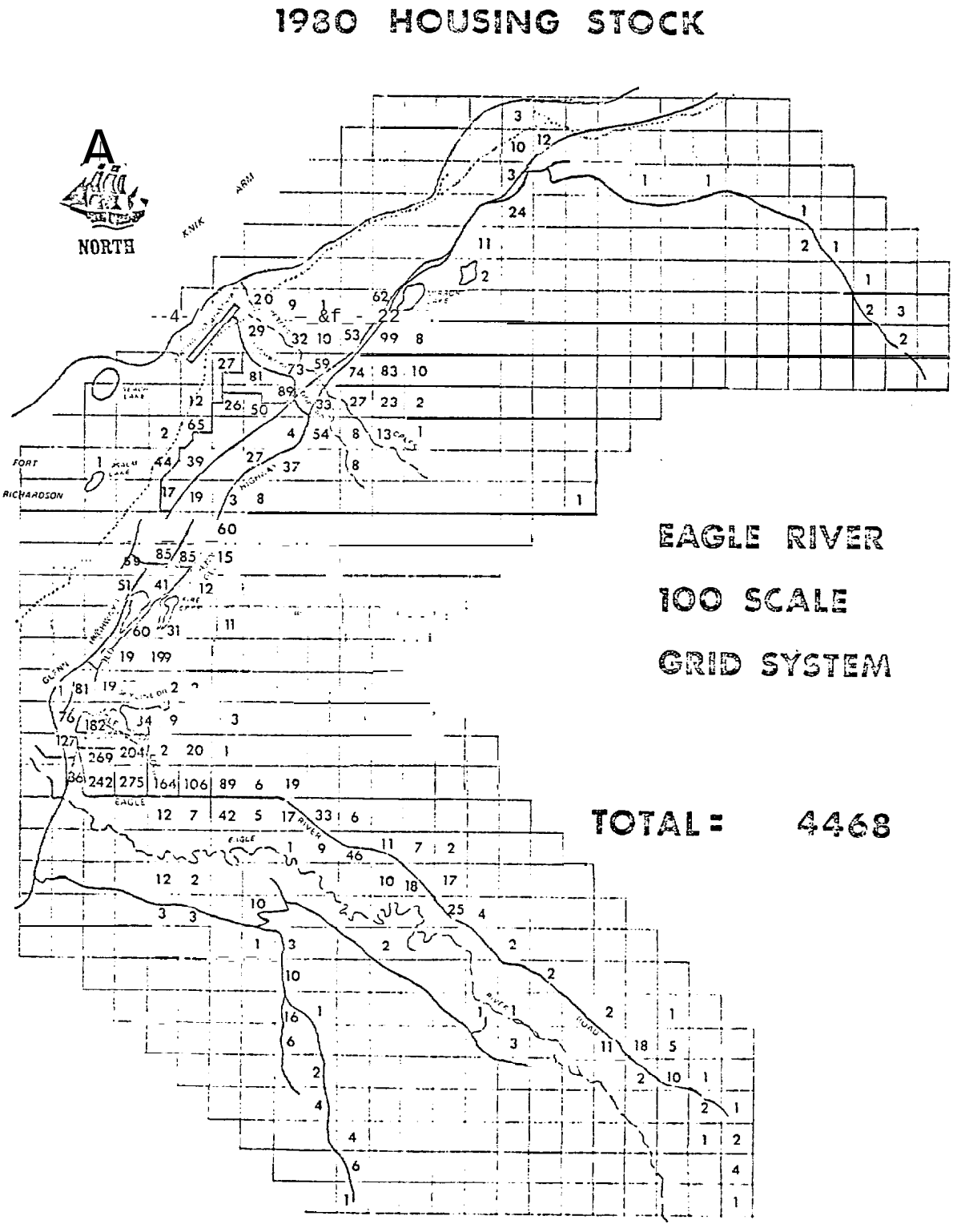


FIGURE 10[a]

1980 HOUSING STOCK

[a]Municipality of Anchorage, Planning Dept., Research Section

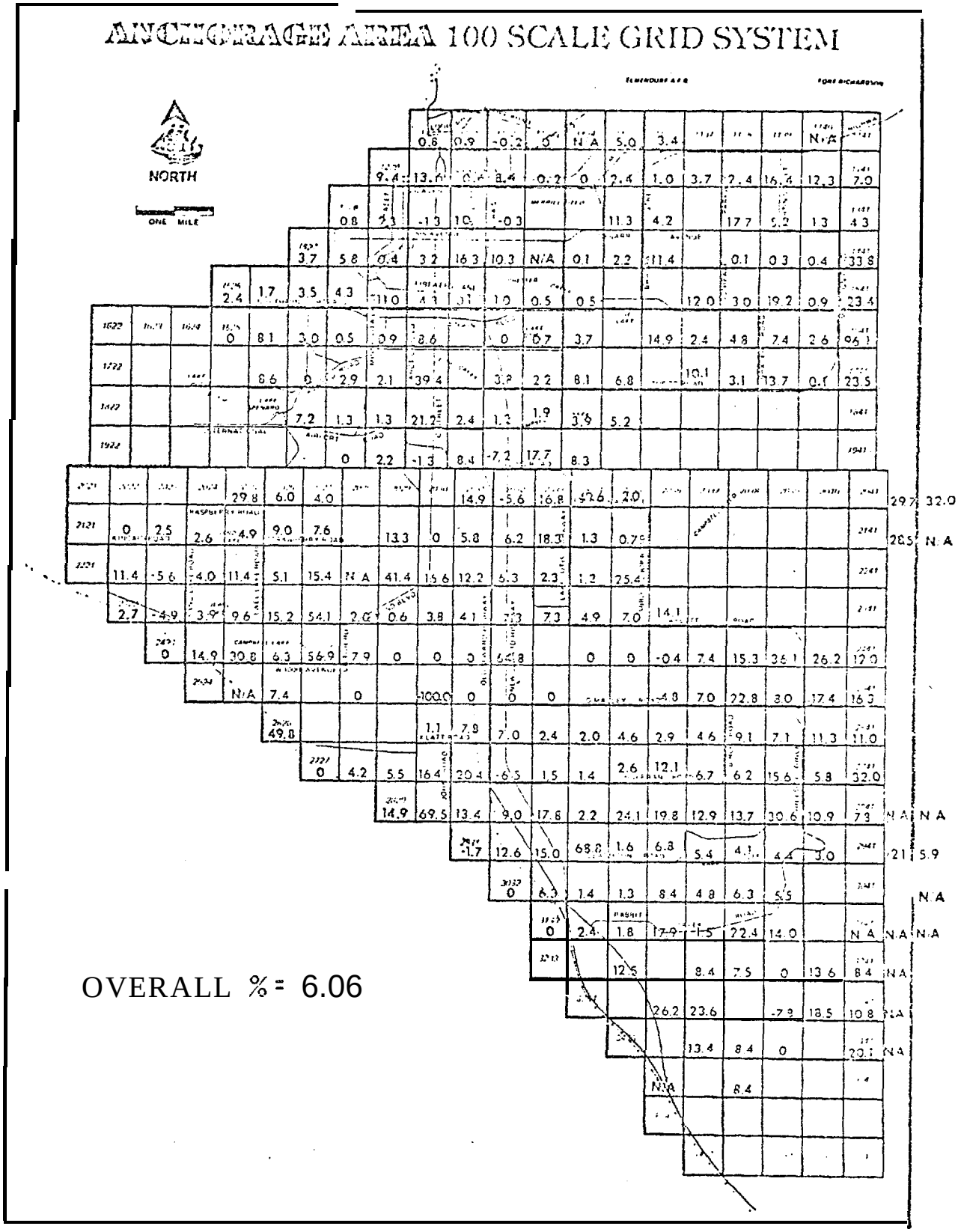


FIGURE 11

HOUSING STOCK, COMPOUND ANNUAL GROWTH

1975-1980[a]

[a]Municipality of Anchorage, Planning Department, Research Section

Page 233-237, Delete section, substitute with the following:

In the area south of Dowling Road and east of the Old Seward Highway, about 59 percent of the residential grids showed an increase above the community average. For that area south of Dowling Road and west of the Old Seward Highway, 57 percent of the residential grids increased at a rate above the average. In all areas north of Dowling Road only 33 percent of the residential grids had an increase above the bowl average. Of the increases in the northern half of the city about one-half were largely concentrated east of Bragaw, and in scattered sites, filling in open space or redeveloping sites of higher density.

A second analysis of Municipal assembly districts found four of six districts malapportioned by at least 27 percent. The outer areas of Eagle River/Chugiak and Hillside had gained the most, while the areas surrounding the CBD and Spenard showed the greatest decline.

Housing Type

About 42 percent of the developed land in Anchorage is devoted to residential uses. Table 72 shows the estimated distribution of housing stock. The amount and distribution of stock has been a debated topic for some time. The mapping of the housing stock by the Anchorage Planning Department identified discrepancies and produced an accurate evaluation of the existing stock within one percent of the preliminary census data. In 1980, 46.3 percent of the civilian housing stock were single family units, 42.0 percent multifamily, and 11.7 percent mobile

homes. Of the multifamily units, about 20 percent were duplex units and 80 percent were in structures of three or more units.

Elmendorf Air Force Base and Fort Richardson provide housing for a majority of the military personnel and dependents stationed in Anchorage (1,958 and 1,803 units respectively). As of January 1981, there were 17,064 military and dependents living on the two bases, and 9,923 living off base (see table 72a).

The major trend in the housing stock suggest two points. In the early 1970's single family units were constructed at a rate faster than other types. In 1970, single family represented 46.4 percent of the stock. This was estimated to have increased to 48.3 percent by 1975. The pipeline period altered this as the cost of land and building rose rapidly and the demand for other types of housing appeared to increase. By 1980, single family dwellings had fallen to 46.3 percent of the civilian stock and the multifamily climbed from 38.8 percent in 1975 to 42.0 percent in 1980. The slower growth of mobile home stock dropped this type of unit from 14.5 percent in 1970 to 11.7 percent ten years later.

TABLE 72

DISTRIBUTION OF ANCHORAGE HOUSING STOCK

Housing Stock	April 1970[a]	July 1975	July 1976	July 1977	July 1978	July 1979	July 1980[b]
Single Family	15,538	23,398	25,205	26,460	28,394	29,870	30,451
Multifamily	13,059	1S,806	20,965	23,157	25,631	27,041	27,683
Mobile Home	4,864	6,229	6,429	6,832	7,152	7,473	7,689
Total Civilian Stock	33,461	48,433	52,599	56,449	61,177	64,384	65,823
Military	4,154						3,761
Total Stock	37,615						69,584

Civilian Stock	April 1970	July 1975	July 1980
Single Family	46.4	48.3	46.3
Multifamily	39.0	38.8	42.0
Mobile Home	14.5	12.8	11.7
Total	99.9	100.0	100.0

ail. S. Census, 1973
bU. S. Census, 1980 preliminary census, 1975-1979 adjusts census based on counts by the Anchorage Planning Department and building permits

TABLE 72a

DISTRIBUTION OF MILITARY HOUSING AND Population

	On-Base/Post Population	On-Base/Post Units	Living in Barracks	Living Off Base/Post	Total Population
Elmendorf AFB	7,154	1,958	1,676	7,854	16,684
Military	1,882	-	1,676	2:784	6,342
Dependents	5,272	-	-	5,070	10,342
Ft. Richardson	6,696	1,803	1,538	2,069	10,303
Military	1,750	-	1,538	788	4,076
Dependents	4,946	-		1,281	6,227
Total	13,850	3,761	3,214	9,923	26,987
Military	3,632	-	3,214	3,572	10,418
Dependents	10,218	-		6,351	16,569

TABLE 72a Continued

[a] Department of Housing and Urban Development, Anchorage Office, "Housing Situation Report, Anchorage, Alaska, As of January 1, 1981"

Page 238, Paragraph 2, delete sentences 1-3, substitute with the following:

The long-term building that occurred from 1975 to 1977 to meet short-term demand has created a serious oversupply problem which, in 1981, is only beginning to correct itself. One response to this problem was the conversion of rental units to owner-condominium units. In 1979-80, 546 rental units were converted; 270 were scheduled for conversion; and 100 were attempted but reconverted to rentals.

Page 239, Delete sentences 1 and 2, substitute with the following:

About 55.1 percent of the housing in Anchorage is owned and 44.9 percent is rented. The ratio of owner-occupied units to all units increases to 58.3 percent for civilian housing (see table 73).

Page 239, Delete sentence 4, substitute with the following:

This difference is larger when considering that 10.7 percent of the owners owned their home outright.

Page 240, Table 73, delete table, substitute with the following:

See table on following page.

TABLE 73

ANCHORAGE HOUSING STOCK - JULY 1, 1980[a]

Housing Stock	Single Family	Multi-Family	Mobile Home	Military	Total
Owner-Occupied	25,640	6,238	6,490	--	38,368
Renter-Occupied	4,811	21,445	1,199	3,761	31,216
TOTAL STOCK	30,451	27,683	7,689	3,761	69,584
Vacancy Rate	2.0%	24.2%	7.7%	---	11.2%[c]
TOTAL VACANT	598	6,711[b]	590	---[d]	7,899
TOTAL OCCUPIED	29,853	20,972	7,099	3,761	61,685

anchorage Urban Observatory, 1981

[b]Includes about 600 recreational and other non-year-around units, adjusted vacancy is 22.5%.

[c]Vacancy rate adjusted to exclude military and non-year-around units.

'Vacancies occur from normal turnover or refurbishing with military policy of 98 percent occupancy.

Page 240, Paragraph 1, delete sentence 2, substitute with the following:

Less than 3.5 percent of the housing can be classified as structurally poor and therefore classified as substandard.

Page 241, Paragraph 2, delete paragraph, substitute with the following:

Future Residential Use

Future residential land use will develop with a high density profile in those subcommunities which currently house older, sing'le family residences. By 1995, it is expected that those areas will experience

urban renewal with multifamily dwellings replacing the older, single family homes. Areas which can be expected to experience these changes (or continue to experience a trend already begun) include the land between the central business district and the Northern Lights commercial strip, portions of Spenard and Mountain View, and some areas within the central business district. The communities located in the more peripheral areas of the Anchorage Bowl will probably continue to develop along a low density urban profile with a predominance of single family dwellings. These communities include Muldoon, Sand Lake, and Abbott-O'Malley-Hillside areas. However, due to concentric zoning patterns, one can expect high density units to continue to be constructed along major thoroughfares in much of the bowl. Only the Hillside has not had the pattern of development to date.

Page 242, Paragraph 2, sentence 5:

Delete the word "recently"

Page 242, Paragraph 2, sentence 7:

Delete the words "recently released"

Page 242, Paragraph 2, add after least sentence:

This same reaction is presently facing the draft coastal goal management plan. Those who call most loudly foran aesthetically pleasing city are also those who many times oppose minimal planning to direct development into that path.

Page 244, Paragraph 2, sentence 3:

Change "fugure" to “future”

Page 245, Paragraph 2, delete sentence 1, substitute with the following:

The construction of the Boniface, Dimond, and Northway Centers predicts the further development of subcommunity commercial centers at multiple sites.

Page 245, Paragraph 3, delete paragraph, substitute with the following:

Another problem was the oversupply of commercial space, both retail and office. With retail sales plateaued, marginal locations are showing signs of difficulty. Even the larger centers are not attracting sufficient business especially for the smaller speciality shops. Retail space has continued to expand dramatically. This situation has led to raiding existing centers for clients and jeopardizing existing locations. One extreme example is the International Marketplace which failed to open and is in bankruptcy.

Page 246, Paragraph 1, line 5:

Delete the word “only”

Page 246, Paragraph 3, add the following after the last line:

Informal estimates in late 1980 suggest that commercial space vacancies are down within acceptable levels.

Page 249, Paragraph 1, line 1:

Change “has” to “had”

Page 249, Paragraph 1, delete last sentence, substitute with the following new section:

The availability of commercial space can be seen in the range of price for office space. Rents climbed rapidly from 1974 through 1976. The increases slowed in 1977 and 1978. A decline in average rents occurred in 1979 with 1980 showing only modest gains back to 1977-78 levels. A projection by Jack White Company sees increases in rents for all quality levels of space (see table 74a).

TA8LE 74a

ANCHORAGE OFFICE SPACE RENTAL PRICE RANGE[a]

Year	Quality[b]		
	High	Medi urn	Low
1974	$1.10 -1.30[c]	$ .85-1 .00	$.60- .85
1975	1.25-1.45	.90-1.20	.65- .85
1976	1.40-1.55	1.05-1.30	.75-1 .00
1977	1.50-1.65	1.10-1.25	.75-1. 05
1978	1.50-1.65	1.15-1.35	.80-1 .05
1979	1.35-1.75	1.00-1.30	.70-1 .00
1980	1.45-1.95	1.05-1.40	.75-1.00
19811(est.)	1.55-2.00+	1.20-1.45	.80-1 .15

[a]Norman Rokeberg, Jack White Company, 1980

[b]High - New construction with full air conditioning
Medium - Less than 10 years old with air conditioning or air moving
Low - 10 years old or older with limited or no air conditioning

[c]Rates quoted for the monthly cost per square foot of space. The rates include all building utilities and janitorial services.

Utilities

SOLID WASTE

Page 257, Replace Table 76 with the following:

TABLE 76

PER CAPITA SOLID WASTE

Year	Quantity Per Person	
	Kgms	Pounds
1920[a]	1.25	2.75
1970[b]	2.27	5.00
1975[c]	2.14	4.71
1976	2.40	5.30
1977	2.33	5.14
1978	2.47	5.45
1979	2.36	5.20
1980	2.20	4.84
1985	2.20	4.86
1990	2.25	4.96
1995	2.29	5.04
2000	2.35	5.19

[a]Preliminary Solid Waste Master Plan, 1975

[b]Request for Proposal, Milling Operation, 1977

[c]Feasibility of Resource Recovery from Solid Waste, 1979

Page 257, Paragraph 1, substitute with the following:

Standard Metropolitan Areas require planned collection and disposal of solid wastes. As displayed in table 76, per capita solid waste generation jumped 82 percent between 1920 and 1970. Since 1970, however, the data reflects a leveling off of per capita solid waste generation and projections indicate only a slight rise in 2000. This would indicate a general trend toward resource recovery and conservation.

Page 258, Delete paragraph 2, substitute with the following:

For discussion purposes, Anchorage is divided into four areas: the Anchorage Solid Waste Disposal Service Area encompassing the Anchorage basin; the military bases; Eagle River and Chugiak; and Girdwood.

Page 259, Delete lines 11-15, substitute with the following:

At saturation, the landfill will be utilized in the expansion of Merrill Field General Aviation Airport. (See table 76A for landfill statistics).

Page 259, Add table 76A after paragraph 1.

TABLE 76A[a]

SOLID WASTE ENTERING MUNICIPAL LANDFILL

Year	Metric Tons	Tons
1977	143,500 . 56	158,214.51
1978	152,675.24	~~168,329.02~~
1979	146,588.55	161,619.13[b]

[a] Information Sheet, Division of Solid Waste

[b] Decrease may be due to drop in construction activity

Page 259, Delete paragraph 2, substitute with the following:

Refuse collection is accomplished by municipally owned vehicles and private refuse collection companies, the largest of which is Anchorage Refuse, Incorporated. Collection within the old city limits of Anchorage is mandatory and is handled by 19 municipally owned vehicles. (At present, only 13 of the 19 vehicles are operative). Collection in the area outside the boundaries of the old city limits of Anchorage is

on a subscription basis. (Gorski, Community Contact, 1978p and 1980j).

Page 262, Add after paragraph 2:

In addition, a mini transfer station has been put into operation in Girdwood. The site utilizes two 38.23 cubic meter (50 cubic yard) containers which can accommodate refuse from construction activitiy. The Division has a contract with Alpine Refuse for pickup. Alpine lacks the appropriate equipment for pickup with this type of container and has, in turn, contracted with Anchorage Refuse to dispose of refuse from the transfer station.

Page 262, Paragraph 2, delete lines 6-10, substitute with the following:

. . . new sanitary landfill location. Preliminary investigations have allowed planners to identify a number of plausible locations. Recommendations should be available in January, 1981.

Page 262, Add after last paragraph:

The Department of Public Works at a cost of $4.5 million has recently completed construction of a solid waste shredder between the Old and New Seward Highways, one block south of International Airport Road. The shredding plant is an asset in the management of solid waste with several distinct advantages. First, shredded solid waste is more aesthetically pleasing and produces a nondescript odor. Perhaps more important, however, is the reduction in the volume of lands consumed by 30 percent due to increased density. This level of technology is allowing an extension of the life expectancy of the present landfill, and is to be considered

a sound procedure with regard to space utilization especially with limited land availability in the Anchorage bowl. The shredder can accommodate a maximum of 90.7 metric tons (100 tons) of solid waste per hour.

The shredder began full operation on January 7, 1980 after several months of testing. The shredder was operational January, February and most of March accommodating 20,262.38 metric tons (22,340 tons) of refuse. However, on March 24, 1980 a flammable liquid exploded in the vicinity of the shredding mechanism, producing $467,000 in damages. Repairs will be underway soon and the shredder should again be operational in 1981.

Page 263, Delete page and substitute with the following:

Planning

The Municipality of Anchorage and the military have completed a study entitled “Feasibility of Resource Recovery From Solid Waste” through Metcalf and Eddy Engineers. The primary objective of the study was to determine the feasibility of using refuse derived fuel (RDF) as a supplemental fuel for boilers in the Anchorage area. In addition, the study examined the feasibility of materials recovery during RDF preparation. General conclusions included that the most practical and economical alternative for burning RDF is to convert the Fort Richardson boilers to co-fire coal and RDF. The RDF would be produced by the Municipal Shredding Facility. It is noted, however, that this alternative is not yet economically feasible due to the low cost of gas presently used as the fuel source. In addition, the only materials which would be cost effective to recover are aluminum and computer tab cards. Most scrap iron, steel, copper, and lead in the Anchorage area

is already recycled by scrap metal brokers. It was noted, however, that these scrap brokers may be interested in bidding on the shredded farrous metal recovered at the Municipal Shredding Facility once it is available. However, a review of the study by Black and Veatch Consulting Engineers has revealed that such a conversion would be more costly than first anticipated due to certain physical constraints of the existing boilers. Based on this report, the Corps of Engineers has recommended against boiler conversion until mandated by the Department of Defense.

Page 264, Delete entire page, insert the following:

Proposed Eagle River Landfill

The State of Alaska has recently transferred patent of an 8.09 hectare (20 acre) parcel between the Old and New Glen Highways, just south of North Birchwood Loop, to be developed as a new landfill for the Eagle River/Chugiak area. The use of the land for this purpose has been restricted, however, to eight years. The new landfill should be operational in the spring of 1981.

WATER

Page 266, Paragraph 2, substitute with the following:

The military water supply for Elmendorf AFB and Fort Richardson is taken from Ship Creek at a dam and intake structure located 16.9 kilometers (10.5 miles) above the mouth of Ship Creek. The dam,. located on the military reservation and owned by the military, is used jointly with the

Municipality of Anchorage. Water from the intake flows through a common pipeline which then splits into individual lines serving Fort Richardson and the Municipality. The water rights, as determined by the State of Alaska, provide the first 24.2 mld (6.4 mgd) to the military and the next 27.3 mld (7.2 mgd) to AWU with further water shared proportionately between the military and AWU. The water treatment plant at Fort Richardson supplies treated water to both Fort Richardson and Elmendorf AFB. The water is sold to Elmendorf AFB on a continuous basis and service is only terminated when water is not available to serve Fort Richardson. At that time standby wells at Fort Richardson and Elmendorf are available to supply those installations when Ship Creek runs low. There is one inter-tie on Government Hill to provide assistance with AMU and a temporary connection at the Air Force Hospital can be established. (U. S. Army Corps of Engineers, 1979a).

Water extracted from Ship Creek flows to two separate treatment plants. The dam and military treatment plant were constructed and placed into operation in 1950. The Municipal treatment plant was completed in 1962.

Page 266, Delete paragraph 3.

Page 269, Add after paragraph 1:

With respect to increasing the actual summer flow capacity, a 91.44 centimeter (36 inch) pipeline is under construction to direct excess water from Ship Creek to the Municipal treatment plant. Plans have been delayed for a number of years because of nonconcurrence by the military on whose land the pipeline is to be located. However, in 1979, an agreement was

reached between the Municipality and the military and the Municipality will pay an agreed upon sum to the military each year to get the water out of Ship Creek Dam. The payment also includes the fees for maintenance and land. The pipeline should be completed in the summer of 1981.

Page 269, Delete paragraph 2, substitute with the following:

Planning

Anchorage Water Utility is accepting a grant toward the cost of a 37,850,000 liter (10 million gallon) distribution "storage facility located off Tudor Road. This reservoir would be of assistance in times of water shorage. In addition, AWU plans to expand the water treatment facility in 1982 or 1983.

The Army Corps of Engineers has now completed the eleven volume Metropolitan Anchorage Urban Study (MAUS). The purpose of MAUS was to identify the needs of the area's inhabitants and environment and to formulate from an array of available alternatives the optimum plan for meeting such needs through 2025. Goals included water needs and related land resource problems, formulating long-range plans and implementing recommendations. (U. S. Army Corps of Engineers, 1979). The Assembly for the Municipality formally adopted the MAUS reports in October, 1980.

Volume II of the MAUS reports projects water demand through the year 2025 and alternatives to meet this demand. Table 78 indicates population projections, total demand for water, and increased demand for the period under study.

SEWER

Page 278, Paragraph 1:

Change "AWSU" to "Anchorage Sewer Utility (ASU)"

Page 279, Paragraph 2, delete second sentence, substitute with the following:

Construction of the new facility, which will incorporate the present treatment plan, is underway and should be completed in February, 1981.

Page 280, Paragraph 1, add after last sentence in paragraph:

The actual collector system is composed of 18 pumping stations and approximately 675.91 kilometers (420 miles) of sanitary sewers ranging in size from 15.24 to 243.84 centimeters (6 to 96 inches).

Page 280, Paragraph 3, line 1:

Change "AWSU" to "ASU"

Page 281, Paragraph 3, delete last line, substitute with the following:

The Municipal Planning Department is presently conducting the Hillside Wastewater Plan to determine which areas can accommodate additional on-site systems and would not require the introduction of sanitary sewers.

Page 283, Paragraph 1, line 7:

Change "few" to "five"

Page 284, Delete paragraph 2, substitute with the following:

Expansion. URS Company and Bomhoff and Associates, Inc. have recently

completed the “Greater Anchorage Area Wastewater Study.” The study is intended to provide a comprehensive plan for improvements to and orderly development of wastewater facilities for the entire area and attempt to eliminate costly duplication of facilities. URS Company and Bomhoff and Associates analyzed future land use and population projections and based the comprehensive plan on a population of 563,000 (not including military) for saturation.

Page 284, delete paragraph 3, substitute with the following:

To help understand and begin to offset the infiltration/inflow problem, as discussed above, a sewer system evaluation study of infiltration/inflow has been completed. In the major drainage system, the average inflow is approximately 17 percent of the wastewater flow but does exceed this during spring runoff significantly.

ELECTRICITY

Page 285, paragraph 3, delete sentence, substitute with the following:

Chugach Electric Association operates as a nonprofit cooperative. At the end of 1979, Chugach was serving approximately 47,332 (residential and commercial) retail customers.

Page 286, Paragraph 1, change line 1 to read as follows:

" . . . the Beluga Station with eight gas turbines producing a total of 326.3 . . . “

Page 286, Paragraph 1, line 4:

Change “49.23” to “47.0”

Page 286, Paragraph 1, line 5:

Change “48.65” to “45.0”

Page 286, Paragraph 1, line 6:

Change “16.50” to “15.0”

Page 286, Paragraph 1, line 7:

Change “10.00” to “14.5”

Page 286, Paragraph 1, line 12:

Change “431.59” to “456,8”

Page 287, Paragraph 1, line 1:

Change “in October 1979” to “this past year”

Page 287, Paragraph 1, add after last line:

Total capacity of ML&P's generation facilities is approximately 213.4 megawatts.

Page 287, Delete paragraph 2, substitute with the following:

When combining Chugach Electric, ML&P, and Alaska Power Administration’s Eklutna Project, estimated megawatt output for the area is approximately 693.2 megawatts.

Page 288, Paragraph 2, delete sentence starting with:

“One proposal pending final . . .“ and combine paragraphs 2 and 3.

Page 289, Paragraph 1, add after last sentence:

In addition, the U. S. Senate has passed legislation which mandates certain gas and oil units in utilities to convert to something else - presumably coal. Another form of the bill would aid such utilities with $3 to $6 billion to help offset costs of such a conversion. This type of legislation essentially toughens up the Power Plant and Industrial Fuel Use Act. The U. S. House is presently examining legislation in subcommittee.

Page 290, Paragraph 2, delete sentence 5, substitute with the following:

In addition, Municipal Light and Power is investigating other fuel alternatives for future generation such as coal and hydroelectric which will be needed on line sometime in the 1987-1989 period.

Page 290, Paragraph 2, add after last sentence:

Another possibility is the concept of coal gasification as a fuel source for future generation. This could provide a potential solution to the restrictions placed on natural gas.

Page 290, Delete paragraph 3, substitute with the following:

Chugach Electric has recently installed another turbine at their Beluga Plant adding an additional 54 megawatts to their present load. This unit is also a combined cycle waste heat recovery unit. In addition, Chugach is also exploring a number of long-range projects. It is important to note, however, that the growth rate has tapered off from the annual rate of 15 percent that existed two years ago. The principal

concern for the utility is of course examining the cost when considering alternatives to future generation. Long-range plans could include a large coal or combination gas and coal fired plant. If natural gas is used, an administrative exemption from the Power Plant and Industrial Fuel Use Act of 1978 will have to be obtained. As yet, guidelines for exemptions have not been established.

TELEPHONE

Page 292, Paragraph 2, add after last sentence:

All of the Anchorage bowl, with the exception of Elmendorf Air Force Base are presently serviced through the Anchorage Telephone Utility. The Utility currently has a petition pending before the Alaska Public Utilities Commission to acquire the service to the Base.

Page 293, Paragraph 3, sentence 2, substitute with the following:

The number of telephones in 1970 was 56,607 and in 1979 that figure had increased 142 percent to 136,804 (includes both main stations and extensions).

Page 293, Table 83, substitute with the following:

(Substitution on the fol lowing page).

TABLE 83

GENERAL PLANNING FORECAST 1978-83[1]

ANCHORAGE TELEPHONE UTILITY

	1978	1979	1980	1981	1982	1983
North Main Stations	39,516*	36,319*	36,0463	37,487	39,174	27,501
South Main Stations	12,284*	13,084*	12,624[4]	8,686[5]	9,077	9,486
East Main Stations	13,796*	13,666*	14,144	14,710	15,298	16,706
West Main Stations	5,244*	8,241*	10,114	10,569	11,097	11,652
Rabbit Creek Main Stations			950	5,392	6,033	6,763
Central Wire Center						13,632
Girdwood	330	334	407	456	505	555
Indian	81	62	74	80	86	92
Hope	32	33	39	41	46	52
Fort Richardson		2,005[2]	2,055	2,105	2,160	2,205
Subtotal Main Stations	71,283*	73,744*	76,453	79,526	83,476	88,644
Subtotal Extensions	58,830	63,060	63,591	66,617	69,944	73,892
TOTAL	130,113	136,804	140,044	146,143	153,420	162,536

*Actual year-end figures

[1]All figures represent year ending as of December 31

[2]February figures

[3]Transfer of 1,544 stations to West Wire Center

[4]Transfer of 950 stations to Rabbit Creek Wire Center

[5]Transfer of 4,442 stations to Rabbit Creek Wire Center

Page 294, Paragraph 2, change last sentence to the following:

The change to solid state has several distinct advantages, such as lower maintenance costs, faster time getting telephone calls through and offers many custom calling features. The Anchorage Telephone Utility's switching equipment should be entirely solid state by 1990.

Page 294, Add new paragraph after paragraph 2:

Next summer, the Anchorage Telephone Utility will be installing a fiber optic system between wire centers. The system uses small glass fibers to transmit the phone calls and is considered to be a revolutionary move by the industry. A two-pair 1.27 centimeter (½ inch) diameter fiber optic cable will replace a 2700-pair cable, 10.16 centimeters (4 inches) in diameter.

Page 294, Paragraph 3, substitute with the following:

A recent revision of tarrifs have brought in-state telephone rates in line with actual costs. Due to tarrif structures of Alascom and AT&T, in-state rates were, indirectly, subsidized by the cost of interstate calls. Revamping of the tarrifs now, more closely, approximates the actual costs to call out-of-state as well as in-state but has consequently increased the cost of intrastate calls substantially.

Transportation

Page 298, Paragraph 1, substitute last sentence with the following:

One of the latest replacements is for Muldoon and Tudor Road with the proposal to add a parallel arterial to the east and south of the existing network.

Page 298, Paragraph 3, line 2, substitute:

"1980-1985" with "1981-1986"

Page 300, Figure 18, substitute with new figure 18:

See next page.

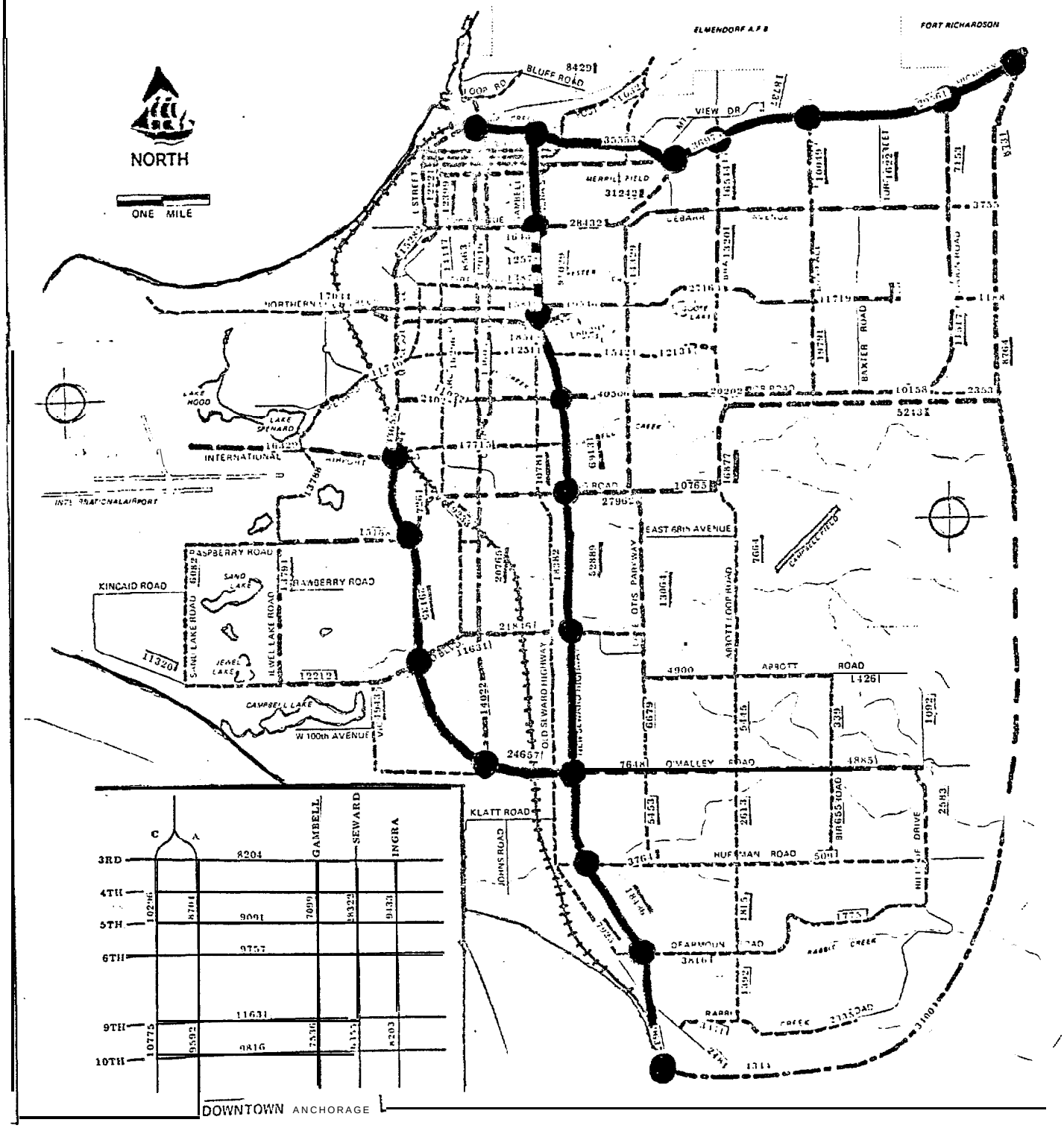


FIGURE 18
PROJECTED DAILY TRAFFIC VOLUMES
AVERAGE DAILY VEHICLE TRIPS -1'395

Page 301, Paragraphs 2 and 3, substitute with the following:

Future construction projects for principal arterials include (but not limited to):

- Seward Highway interchange at Huffman. New 4-lane between O'Malley and Huffman and paving of Northbound Frontage Road
- Glenn Highway interchange at Boniface Parkway, grade separation at McCarrey Street and removal of left turns at Turpin
- Seward Highway interchange at DeArmoun and Rabbit Creek (new 4-lane from Huffman to Potter Flats)
- Upgrading Northern Lights
- Construction of the A-C Couplet
- Upgrading Dimond Boulevard from the New Seward Highway to Jewell Lake
- Glenn Highway interchange at Bragaw
- Upgrade Boniface Parkway from Debarr to Tudor Road
- Northside/Glenn Highway - urban location study from Boniface to the Port access
- East City Bypass location study
- Seward Highway and 36th Avenue grade separation over 36th Avenue
- Minnesota Highway modifications at the southbound ramp at Hillcrest

e Glenn Highway upgrade 6/8 lanes from Muldoon to' Bragaw

● Seward Highway upgrade 6 lanes from Dimond to Tudor

● Lake Otis Parkway, Tudor to Abbott (4 lanes)

e 15th Avenue Bypass - "L" Street to the Glenn Highway

● Jewell Lake upgrade Raspberry to Dimond

In addition, 28 improvements are planned for the minor arterials in Anchorage, 4 rural primary projects, 6 miscellaneous projects, 10 traffic safety projects and 12 traffic engineering projects. (See figures 19 and 19A).

Page 302, Figure 19, delete and substitute with new figure 19 and 19A.

Page 303, Paragraph 2, delete entire paragraph.

Page 303, Table 84, delete table and substitute with the following:

TABLE 84

SIX YEAR CAPITAL IMPROVEMENTS PROGRAM
ANCHORAGE ROAD SYSTEM (000's)

Road System	Federal	State	Local	Total
Principal Arterials	$131,364.0	$21,914.5	- -	$153,278.0
Minor Arterials	30,566.5	5,034.5	$37,190.0	72,791.0
Rural Primary	51,881.5	3,905.0	- -	55,786.5
Misc. Areawide Projects	3,232.6	718.8	29,881.6	33,833.0
Safety Projects	9,387.1	706.8	- -	10,093.0
Traffic Engineering Project	- -	. .	4,140.0	4,140.0

AMATS 1980 T.I.P.
FEDERAL AID
FY 81-86 CONSTRUCTION PROGRAM

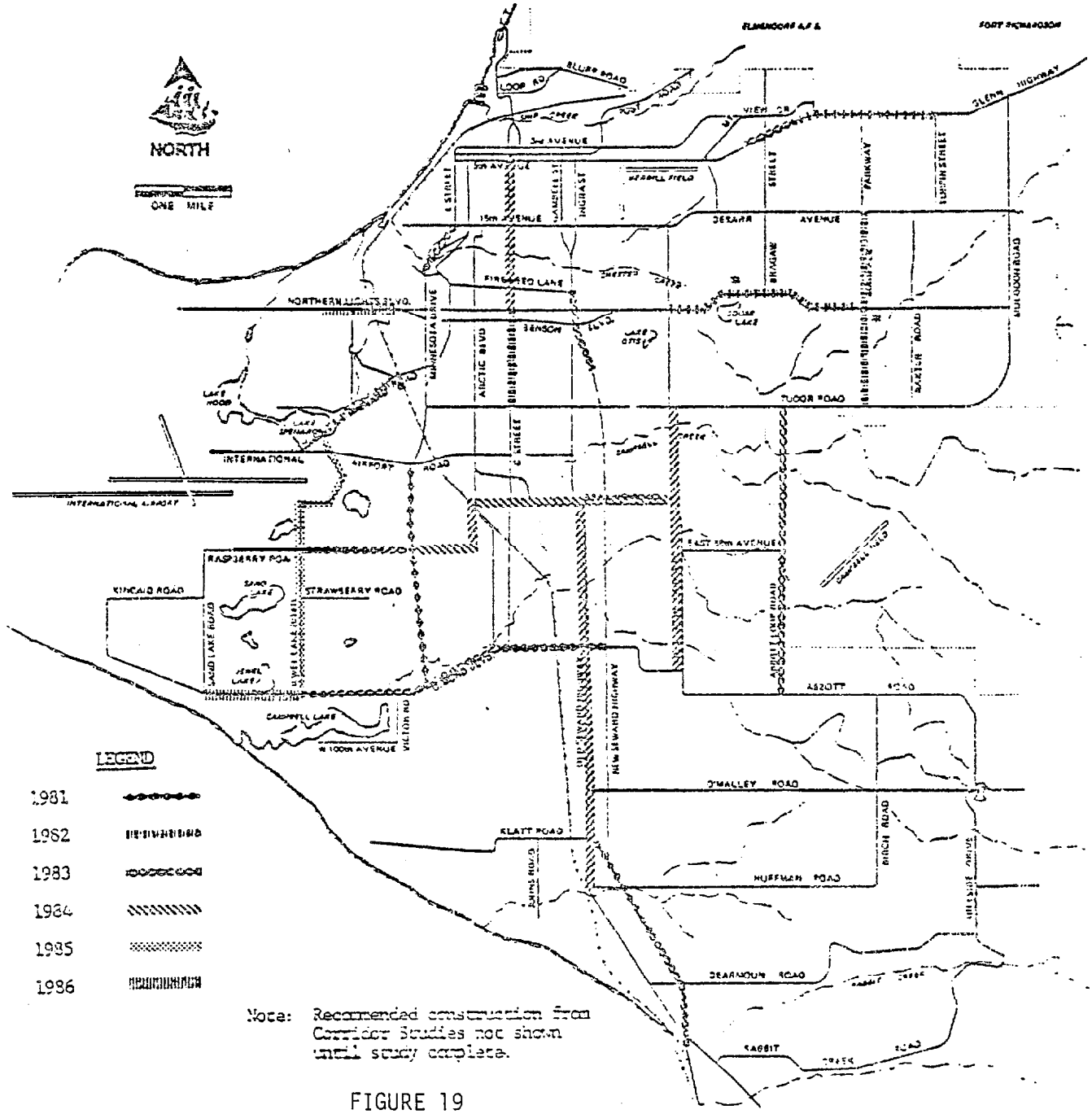


FIGURE 19

AMATS 1980 T.I.P.
NON-FEDERAL AID
FY 81 -FY 86 CONSTRUCTION PROGRAM

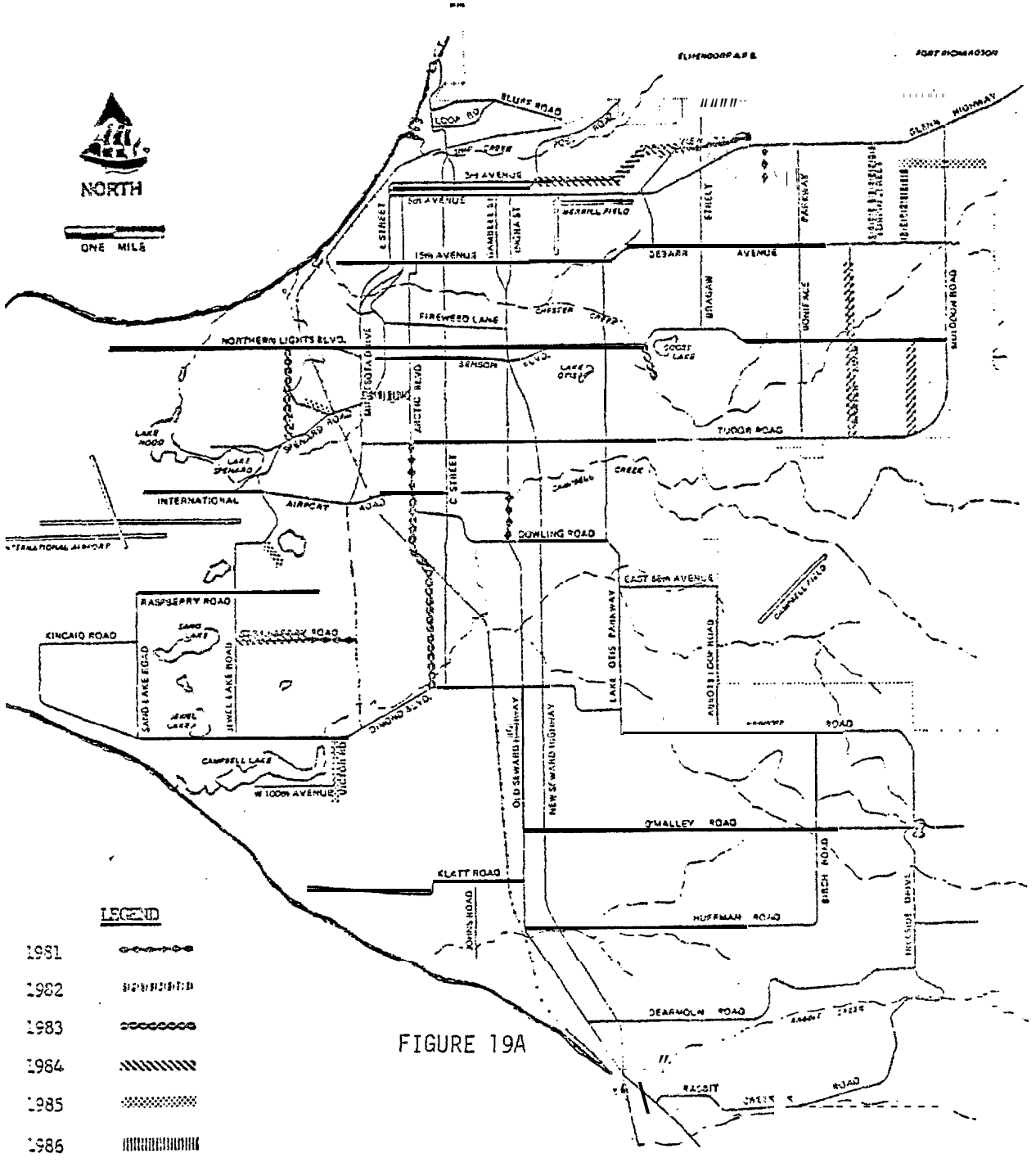


FIGURE 19A

Page 307, Paragraph 3, delete and substitute with the following:

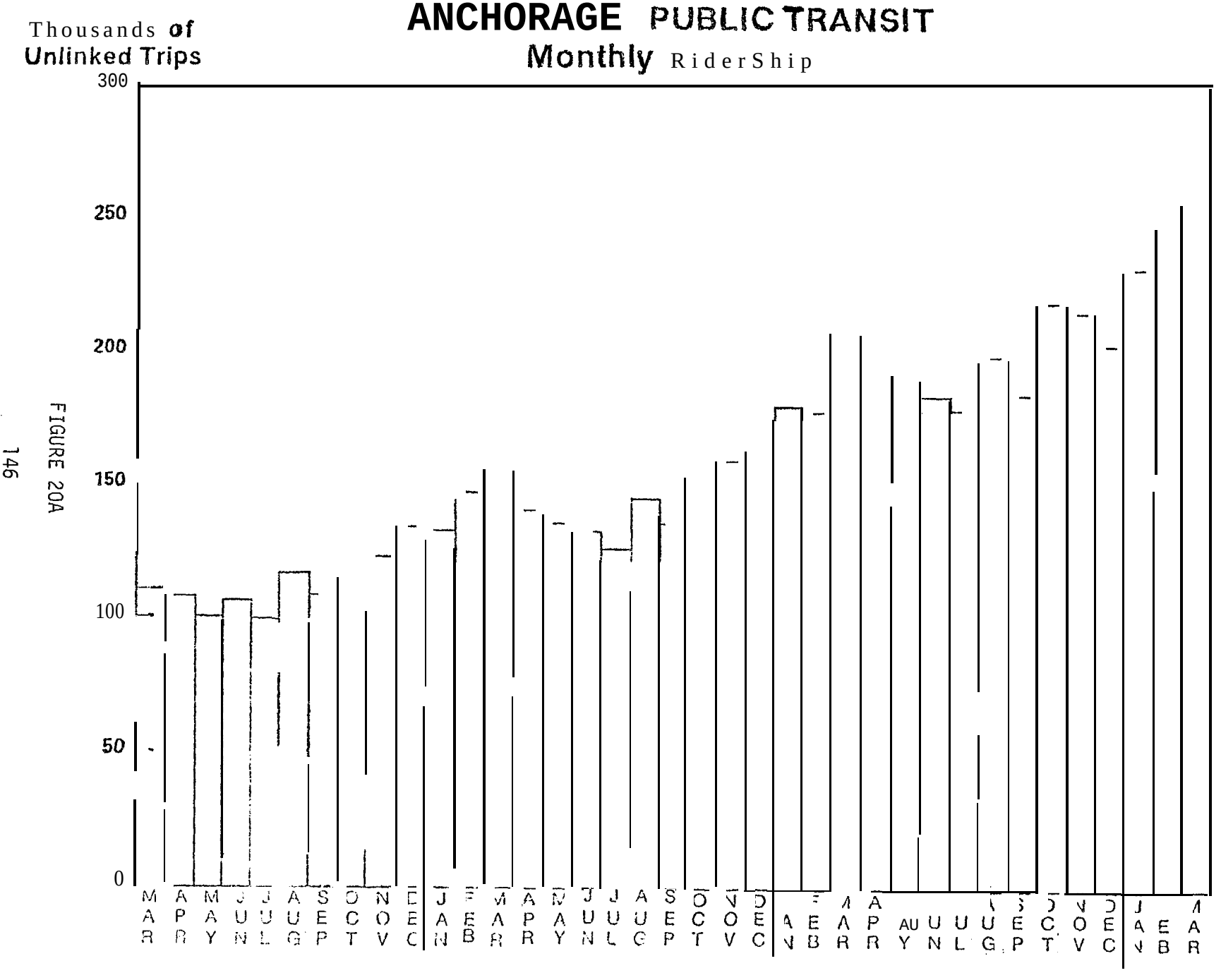
The public transit system, the People Mover, in Anchorage began officially in June 1972 when the city initiated a small bus line with a demonstration grant from the Urban Mass Trasit Administration. Over the past several years, the system has shown strong gains in ridership principally as a result of increasing energy costs.

The People Mover utilizes a flat fare system and presently operates six days per week. Monday through Friday, operation lasts for 18.5 hours with 12.5 hours of service on Saturday. In 1979, the People Mover was scheduled to cover 39,100 miles per week. (Municipality of Anchorage 1979, 1980).

Page 308, Paragraphs 1 and 2, delete and substitute with the following:

Figure 20a displays monthly ridership from 1977 through the first quarter of 1980. It is evident that public use of the municipal transit system is definitely on the upswing. The annual ridership broke the two million mark for the first time in 1979. Transit Division reports indicate that 2,328,675 passengers rode the system last year - a 35 percent increase over the 1978 total. It should be noted that this increase occurred despite the fact that no new equipment has been added since late 1977. (Planning Department, May, 1980).

Achievement of increased ridership can be attributed to several factors - most important of which is the rising cost of gasoline and other increasing transportation costs due to rapid inflation in recent


ANCHORAGE PUBLIC TRANSIT
Monthly RiderShip
Thousands of
Unlinked Trips
300
250
200
150
100
50
0
MAR
APR
MAY
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JUL
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FIGURE 20A

years. In addition, a number of improvements were made in 1978 and 1979 that resulted in better public service. The major items include: (Municipal i ty of Anchorage, Planning Department, May 1980)

- Major route and schedule changes to Chugach View which includes a senior citizen home
- Installation of bus service on "C" Street ultimately resulting in a 75 percent jump in ridership
- Opening of the downtown accommodation center in October, 1975 at 6th & G Streets
- The addition of an extra bus to Eagle River to accommodate increased commuter ridership. It should be noted that increased service has resulted in such a substantial increase in ridership that both buses are now completely filled to overflow
- Implementation of several express bus routes
- Addition of the new Federal Building as a major transfer point in the downtown area
- A major routing and schedule change in 1979 resulting in a 10 percent increase in downtown arrivals in the A. M. peak and a 32 percent increase in downtown departures in the P. M.

In the past, data on the People Mover system indicated that most people utilizing the buses were those that were young and elderly who, in fact, had no other means of transporation. With route and schedule

improvements over the past two years, as well as increasing energy costs, commuters are fast becoming an important component of the system's ridership.

Page 308, Paragraph 3, delete sentence 3 and substitute with the following:

With the delivery of 15 buses in 1981 peak period fleet will total 40. Total fleet size in 1981 including 15 to be delivered is 55; however, some of the buses date back to 1952 and will probably be retired.

Page 309, Table 85, add 1980 data:

TABLE 85

AVERAGE DAILY RIDERSHIP, 1975-1980

Average Dialy Use	Daily Totals	% Change Over Previous Use
1980	10,400[b]	15.6

Page 309, Delete Short Range Transit Plan, substitute with the following:

Transportation Systems Management Element

This document, produced by the Municipality of Anchorage Planning Department, is a recent requirement by the U. S. Department of Transportation. The purpose of the document is to "make existing facilities and infrastructure more efficient before investing in costly new facilities." (Municipality of Anchorage, May 1980). Included in the document are transit improvements scheduled through 1986. Presently, there is a 40 bus backlog resulting from orders dating from 1978 through 1980. There are plans to add an additional 20 buses in 1981

and the Municipality is due to take delivery on 15. This results in a current backlog of 45 buses at the end of 1981. Anchorage is not unique in this situation. Increasing demand across the country, as well as stringent federal regulations over the industry have resulted in severe backlogs. Continued delays will undoubtedly hamper an increase in ridership.

Table 85adisplays transit improvement plans from 1981 through 1986. The new buses will enable headway times on present routes, new routes, and expansion of service and further development of the park and ride concept. The 1995 goal for transit is the achievement of a 10 percent modal split.

TABLE 85a

TRANSIT MULTI-YEAR PROGRAM[a]

Facilities	1981	1982	1983	1984	1985	1986
Transit Coaches and Associated Equipment	20	20	20	20	25	25
Shelters	10	0	20	20	20	20
Bus Turnouts	10	10	10	10	10	10
Regular Bus Stop Signs	0	20	20	20	30	30
Informational Bus Stop Signs	50	0	10	10	20	10
Park and Ride Lots	0	0	0	2	0	1
Minor Accommodation Center	0	1	1	2	1	1
Supplemental Service Accessible Vans	3	2	3	2	3	2

TABLE 85a, Continued

Facilities	1981	1982	1983	1984	1985	1986
Vans for Non-Profit Organizational	2	3	2	3	2	3

[a]Municipality of Anchorage, May 1980

Efforts are being directed toward improvements to the system with respect for service to the handicapped. As noted in the Transportation System Management Element, the transportation planning program consists of three separate but interrelated elements (Municipality of Anchorage, May 1980)

- Continued expansion and monitoring of the municipal supplemental service through a private contract
- Overall coordination and monitoring of the 16(b)(2) programs
- Bring People Movers into conformance with "Section 504" requirements which would make fixed route systems accessible to handicapped persons. Requirements stipulate that at least one half of the peak hour buses must be wheelchair lift equipped, as well as the elimination of related barriers.

Page 311, Paragraph 1, delete last sentence, substitute with the following:

To achieve the mode split goal of 10 percent by 1995, it will be necessary to sustain the current 30 percent annual growth rate through 1985 then expand at least 15 percent per year until 1995.

Page 311, Paragraph 2, delete entire paragraph, substitute with the following:

Implementation of the long range plan as recommended will require nearly $83 million per year from 1979 through 1995 (see table 86). Funding has been identified for portions of the plan. However, $340.73 million is needed to complete roadway projects, $19.75 million for transit capital costs, and $449.45 million for transit operating costs. Federal highway funds approach $95 million per year for the State of Alaska. Through a distribution formula, the Central Alaska Highway region receives approximately $40 million. Of this amount, some $20 million per year is allocated to the Municipality of Anchorage. In addition to federal funding, Anchorage receives State bond funds and local revenues for road improvements (Municipal ity of Anchorage, Planning Department, 1979) (AMATS, 1979 Long Range Transportation Plan Update).

Page 312, Table 86, delete, substitute with the following:

See table 86 on following page.

TABLE 86
FINANCIAL PERSPECTUS
LONG RANGE ELEMENT
1980-1995

costs	Funded 1980-1985	Unfunded 1986-1995	TOTAL
Freeways	$42,924,000	$321,000,000	$363,924,000
Major Arterials	49,614,000	110,000,000	159,614,000
Minor Arterials	40.194,000	97.000.000	137.194.000
TOTAL	$132,732,000	$528,000,000	$660,732,000
Buses	$ 11,110,000	$84,990,000	$96,100,000
Fixed Facilities	3,780,000	28,740,000	32,520,000
Operating Expenses	3,670,000	531,070,000	534,740,000
TOTAL	$ 18,560,000	$644,800,000	$663,360,000

Revenues	Total	Highway	Transit
Highway Construction Funds	$320.00[a]	$320.00	-
UMTA Section 3	108.87		$108.87
UMTA Section 5	21.24	-	21.24
Local-State	64.05	-	64.05
TOTAL	$514.16	$320.00	$194.16

[a]In millions of dollars.

PORT OF ANCHORAGE

Page 317, Table 88, add 1979 data.

TABLE 88

PORT OF ANCHORAGE TONNAGE

1967-1979[a]

COMMODITY	1979
Frt. N.O.S.	2,281
Cement-bulk	21,423
Cement drill mud	--
Insulation	--
Iron or steel	5,752
Lumber	--
Oil well equipment	--
Petroleum bulk	658,595
Petroleum N.O.S.	--
Vans, flats, containers	800,177
Vehicles	14,935
Total Cargo	1,503,163

[a]Port of Anchorage

Page 320, add after paragraph 1:

However, as part of the Mayor's Project 80's capital improvements, a small boat harbor is being constructed adjacent to the present facilities at the Port.

AIRPORTS

Page 324, Add data to table 89.

	1979	
	Itinerants[b]	Local Operations
Anchorage International[a]	174,684	33,067
Elmendorf AFB[c]	96,980	
Bryant Field (Ft. Richardson)[d]	--	--
Merrill Field[a]	116,632	168,287
Lake Hood	68,076	9,414
TOTAL	667,140	

Page 330, Paragraph 1, Delete sentences 4 through 8 and substitute with the following:

All land from the sanitary fill is presently dedicated for the expansion of Merrill Field at saturation.

Page 330, paragraph 3, Delete sentence 1 and substitute with the following:

Anchorage International Airport has recently completed the new north-south runway.

Page 331, Paragraph 2, Delete sentence two and substitute with the following:

Plans call for doubling the terminal area (construction commensed in 1980), triple auto parking and almost double private airplane tiedowns.

II. OVERVIEW OF INFRASTRUCTURE STANDARDS

The following standards have been developed for Anchorage services and local government capacity so that future needs in these areas can be determined in the event of growth in population and employment. The standards combine both nationally established norms and local standards derived from historical data on the Anchorage community.

This section is to be read in conjunction with Technical Report Number 48, Volume 2, Gulf of Alaska and Lower Cook Inlet Petroleum Development Scenarios Anchorage Impact Analysis. The introduction of new tables are noted with the letter "a" following the table number.

Education

Pages 13 - 16, Delete, substitute with the following:

Over the past ten years, the school district has provided more teachers than their standard student teacher ratio of 27 to 1. Currently, this ratio is 18.89 students per teacher with 1,742 teachers and 32,901 students excluding military facilities. Nevertheless, because special education and special programs requires approximately one teacher per twelve students (Harper, Community Contact, 1978), the standard student ratio of 27 to 1 has been adjusted down to 20 to 1 and will be the standard utilized in assessing student/teacher manpower requirements for future population growth.

For facilities planning, the Anchorage School District utilizes two ratios to assess student/classroom needs. Planned program capacity on the elementary level is 22 students per classroom with the secondary level at 37:1. These ratios will dictate facilities which will accommodate both regular classrooms and special education programs generally yielding an optimum number of 25 students per classroom in the conventional classroom setting.

The Anchorage School District utilizes the cohort survival method to forecast student populations for their Capital Improvements Program. Presently, the ratio of primary students to secondary is approximately 54 to 46 respectively, The forecasting method produces an increasingly disproportionate ratio of primary to secondary through 1986 of 58 to 42.

This suggests the occurance of an increasing birthrate which has generally been the case over the past several years. It is anticipated that this trend will continue through 1990 at which time the secondary enrollment will begin to show a marked increase as these children reach junior and senior high school age. It is further assumed that the birthrate will again taper off in the late 1980's. Table la displays the proportion of primary to secondary through the period under study. The facilities standards will be applied to these ratios to assess necessary classroom space.

TABLE la

PROPORTION OF PRIMARY AND SECONDARY ENROLLMENT

Year	Percent Primary	Percent Secondary
1980	54.0	46,0
1982	54.8	45.2
1985	56.5	43.5
1990	59.0	41.0
1995	56.5	43.5
2000	54.0	46.0

The Anchorage School District's Capital Improvement Program presents capital projects for the district to 1986. Between now and the fall of 1987, the District will phase out approximately 55 classrooms including relocatable and add 162. Assuming that the classroom ratio stays approximately the same, the 1,526 rooms remaining in 1987 could support about 41,040 students. This is slightly higher than the administration's conservative projection of 39,863. The reason for this conservative assessment is the low growth rate of the student population in the 1970's.

From 1970 to 1979, the student population rose at a rate only one-fifth the growth rate of the whole population. The influx of new residents was composed more often of young, unmarried men and women and young couples who do not have children or whose children are below the age of five. In addition, the higher transiency of this population keeps many of these preschoolers and children born in Anchorage from reaching the Anchorage system. Moreover, present enrollments in the school district are affected by the number of students attending private Anchorage institutions (5.4 percent of the total school age population), students attending schools outside Anchorage or the state (1.6 percent), and drop-outs (0.4 percent) (Ender, 1977a). In recent years, the percent of public school children within the population has declined from 24 to 20 percent. In 1975 it was 23.0 percent; in 1977 it was 21.2 percent; and 1980 it was 20.9 percent. Considering the demographics of the community, the proportion of the school age population will likely bottom out at some point in the future. When this will be is difficult to predict. However, comparing the School Boards projections for 1986 to the non-OCS base case for the St. George lease sale suggests that only 16.2 percent of the population will be in primary and secondary schools.

The greatest factor that could change the character of the Anchorage population and likewise the student enrollment is stabilization of the population. Anchorage in recent years has been characterized as young and transient. As the community stabilizes, children whose families usually leave the area before they reach school age will be enrolling

in the public schools. Also, stabilization will increase the number of 25 to 35 year old females. As this female cohort group increases, the birth rate should increase. Anchorage already has a high birth rate. This will also increase the number of school age children especially in the elementary schools but, later, even in the secondary schools. There is also the possibility that the .75 children per household may rise and thus increase the number of school age children. National demographic analysis suggests that the present child-bearing cohort has delayed having children; but with the large size of this group, the birth rate will increase even if the children per family rate stays low. Speculating on the future, it would seem that a school age growth rate below the population will continue into the middle or late 1980's. This is a period of strong expansion and should continue the transient nature of the population. During 1985 to 1995, the growth should slow and the transiency should slow with it, All of these factors appear to indicate that the 20 percent ratio is a reasonable and possibly a conservative predictive tool.

In order to realistically approach its future needs, the School District will be forced to reevaluate its present projections of growth by the early 1980's. The present movement away from the older central areas of the city to the northern and southern boundaries will affect the evaluation of the usefulness of the schools located in the central areas.

Because of this assessment, a sliding ratio for projection of the non-OCS case will be used. This will begin at 20.9 percent in 1980 and drop

annually to 18 percent by 1985 and return to 20 percent by 1990, stabilizing at that point. For the incremental effects of the OCS scenarios, a constant 18 percent of the population is used to project primary and secondary school enrollment.

Another issue is the escalating costs of education. If public school expenditures continue to rise substantially above the general cost of living, the capacity to fund education could be jeopardized. Between 1969 and 1979 the cost of living rose 126.5 percent while public school expenditures per student rose 254 percent. With the state now taking a greater share of construction and education costs and with some measure of fiscal restraint, the projected local revenue base should keep pace with expansion of the system. Because of this, no standards will be tied to expenditures.

Pages 17 and 18, Delete, substitute with the following:

Public Institutions

For the two public postsecondary institutions in Anchorage there are no applicable quantifiable standards. However, recently there has been a split between the two public institutions, University of Alaska, Anchorage (UAA) and Anchorage Community College (ACC), and they are now mutually exclusive institutions. Due to its program orientations in vocational/technical training, it can be assumed that ACC will continue to grow at a steady pace. Between 1975 and 1980, ACC has increased its proportion of students to the population from 4.1 to 4.7 percent. Continued expan-

sion beyond this 4.7 percent would require major new resources for program development. UAA will continue to grow as its programs change to that of a four-year institution. It has increased its proportion from 1.2 to 2.0 percent. As a four-year institutional model is developed, it is reasonable to assume that this proportion should be increasing slowly to four percent by 2000. However, this development is also contingent on funding.

Based on the assumption that the well established Anchorage Community College (ACC) has reached its potential penetration of the community, as the population grows, its student population will reflect a 4.2 percent rate by the year 2000. Conversely, the University of Alaska, Anchorage (UAA) has grown rapidly since its establishment and should continue growing faster than the normal population as it expands in a four-year university model and programs improve. It is estimated that UAA will slowly increase its share to 4.0 percent by 2000. The second possibility is that the potential of a greater number of full-time students could raise the credits per students in the coming years. UAA has increased its credit for student ratio to 7.1 in the past two years, and this is expected to rise to 9.0 over the projection period. ACC as it continues to stress a community education model with a significant non-credit component should maintain its present credit per student ratio of 6.1 credits per student.

Private Nonprofit

There are no quantifiable standards for the one private nonprofit

university in Anchorage, Alaska Pacific University. The University was closed in 1976 due to lack of funding and reopened again in 1977. Due to its recent reopening, the impact of future population growth cannot be assessed.

Private Profit

No quantifiable standards exist for private profit education institutions. It can be assumed that as long as there is a demand for training in schools such as hair design, business, etcetera, they will be viable enterprises.

Public Safety

LAW ENFORCEMENT

Delete pages 18 - 20 and substitute with the following:

Several nationally accepted standards are available to determine adequate levels of manpower in law enforcement; however, no one standard has been deemed absolutely valid in assessing requirements for a city the size of Anchorage. Each city's workload and associated crime profile is unique and forces should be tailored to meet the corresponding need.

The first standard ratio recognized in law enforcement is one sworn officer per 500 in the population. The second is a national average of 2.1 officers per 1,000 population. For projection purposes, the standard of 1 per 500 will be used to assess manpower needs for the period under study.

A constant of 18,000 will be subtracted out of the projections provided by the Institute of Social and Economic Research in order to reflect lack of jurisdictions" control over military personnel.

The present ratio of police and troopers to the population is 1.68 excluding on-base personnel. At a minimum, the Anchorage Police Department would like to maintain this level of manpower, but this figure is by no means firm. Variables such as the number of requests for service, incidence of Part I crimes, budgetary constraints and population shifts could realistically increase or decrease this ratio of police/troopers to the population. When applying the standard of one per 500, the combined manpower of the

Anchorage Police Department and the Alaska State Troopers should be 314 sworn personnel. Presently, the total of police and troopers is 263 or 84 percent of the recommended standard.

FIRE

Page 20, Delete last paragraph and Page 21, Delete first two paragraphs and substitute with the following:

The Anchorage Fire Department employs 268 people on the force. Two hundred personnel are under the Fire and Rescue Operations Division and 34 are employed with the Emergency Medical Services. The remaining personnel are under the Fire Protection Division, Civil Defense, Support Services and administrative and clerical positions.

The Anchorage Fire Department's (AFD) service area includes the Anchorage bowl and Eagle River. Chugiak, the military bases and Girdwood have separate fire fighting units. Total households in the AFD's jurisdiction are approximately 56,813 based on a service population of 153,900. Utilitizing fire department manpower of 200 fire and rescue operations personnel and 34 medic personnel, two critical ratios can be calculated:

- .60 paramedics per 1,000 households
- 3.52 fire and rescue operations personnel per 1,000 households

Only the emergency field personnel are utilized in the ratios. These figures reflect current ratios and are not set national standards. However,

since the AFD would, at a minimum, want to maintain the current service level, these ratios are offered as a means of assessing manpower requirements for future population growth. Although portions of the Municipality are receiving volunteer fire fighting services, it is assumed that if these areas become part of the AFD service districts, the manpower level will closely reflect the above ratios. A constant 18,000 will be subtracted out of the population projections by ISER to reflect only civilian population.

ELECTRICITY

Del ete pages 28 - 32 and substitute with the following:

The utilities providing electric service within the Municipality of Anchorage base their load projections on a multivariate process. Variables determining the planning and sizing of additional generation facilities include such factors as monitoring of federal legislation with regard to the possible curtailment of the use of certain fossil fuels, historical demand figures, trends in conservation, population projections and proposed commercial/ industrial development for the southcentral region.

Utilizing a per capita KW as a method of projecting future load requirements by itself is not suitable methodology. In addition, the assumptions and methods utilized by the industry produce modeling techniques beyond the scope of this research. Therefore, what is offered as the standard to assess future load requirements is the results of the Power Market Study. Comparisons will be drawn between population projections utilized by the Power Market Study and those done for the Saint George Lease Sale.

Power Market Analysis

This study was completed in January 1979 by the Department of Energy, Alaska Power Administration for the Upper Susitna River Project. The study provides an updated power market analysis for the proposed Susitna Dam. The current project, as put forth by the Corps of Engineers, is a two phase, two dam complex to include Watana and Devils Canyon dams and power plants. The

study includes the entire rail belt region from Fairbanks through the Kenai Peninsula. For study purposes, however, only the Anchorage/Cook Inlet area will be considered. The study displays energy sales for each of the utilities in the study region from 1970-1977. Table 2a displays net generation for the utilities pertinent to the OCS study area.

TABLE 2a

NET GENERATION (GWH)[a]

ANCHORAGE - COOK INLET AREA

Year	MLP[b]	CEA[c]	MEA[d]	APAe	Total[d]	Growth %
1960	0.8	27.5	0.1	187.6	216.0	--
1965	156.2	167.4	0.6	132.1	456.3	111.3
1970	186.0	385.5	1.1	154.7	727.3	59.4
1971	245.3	476.6	1.3	144.9	868.1	19.4
1972	270.0	554.2	1.5	164.0	989.7	14.0
1973	359.0	657.3	0.3	96.3	1,112.9	12.4
1974	389.6	678.4	--	125.1	1,193.1	7.2
1975	384.3	888.8	--	135.1	1,408.2	18.0
1976	442.9	1,054.5	--	118.5	1,615.9	14.7
1977	420.3	1,179.7	--	203.6	1,803.6	11.6

[a]GwH - gigawatt hours

[b]MLP - Municipal Light and Power

[c]CEA - Chugach Electric Association

'MEA - Matanuska Electric Association

[e]APA - Alaska Power Administration

The study utilized utility data (energy sales, net generation, peak load) to forecast future net generation and peak load requirements. Criteria used in the evaluation also included population forecasts, employment, customers, weather and tariffs. After net generation was forecasted, peak load was derived through use of the following formula:

Peak Load=8760 $^{hrs}/_{yr}$ X Load factor X net generation

The load factor was assumed to be a constant 50 percent.

Major energy determinants in the 1970's were determined to be the construction of the trans-Alaska oil pipeline and the fuel crisis which occured during 1973 and 1974. Other factors such as weather and tariffs were determined to be of little significance. Specifically, since 1973, conservation became a significant factor in energy use.

The study found that net generation/capita ratio seemed to reflect the closest correlations in recent years and this ratio to population was used to forecast net generation values between 1980 and 2025. Net generation per capita annual average was 12,7 for the Anchorage-Cook Inlet region between 1973 and 1977.

The forecasts for power requirements were based on the Institute of Social and Economic Research population projections for the Southcentral Region Water Resources Study. These projections were utilized to obtain utility net generation. Net generation is the product of forecasted energy use per capita and

projected population. Table 3a displays ISER's population estimates for the Anchorage - Cook Inlet region for two scenarios of growth.

TABLE 3a

POPULATION ESTIMATES

Year	High	Low
1980	247,200	239,200
1985	320,000	260,900
1990	407,100	299,200
1995	499,200	353,000
2000	651,300	424,400
2025	904,000	491,100

Assumed in the study is that residential, commercial/industrial and total sales of energy to net generation remain constant.

The net annual per capita generation in kilowatt hours was estimated at 7,630 for 1977.

Basic energy use for the entire railbelt area is an assumed 3.5 percent average annual, mid range, 1980 - 1985 growth rate. This is based on historical data occurring between 1973 - 1977. Conservation is assumed to be a factor affecting growth through the period under study and table 4a displays the three scenarios and the decreasing growth rates in five year increments.

TABLE 4a

ASSUMED GROWTH RATES

Time Period	High	Mid	Low
1980 - 1985	4.5	3.5	2.5
1985 - 1990	3.5	3.0	2.0
1990 - 1995	3.0	2.5	1.5
1995 - 2000	2.5	2.0	1.0
2000 - 2025	2.0	1.0	0

Multiplying these growth rates by forecasted 1980 values of KWH/capita resulted in energy use estimates.

The 1980 mid-range value of KWH/capita was derived from the 1973 - 1977 average annual growth of net generation. As noted earlier, the Anchorage - Cook Inlet mid-range assumption of 12 percent for 1980 was used and is based on an historical 12.7 percent.

Future demands were developed using the high and low ISER population projection: and high, middle and low KWH/capita assumptions to obtain six different generation utility forecasts. From these, the high population/high energy use and low population/low energy use were used for the final projections. The two were averaged to obtain a mid-range estimate. Table 5a displays the three forecasts of growth for utilities only. (National defense and industrial have been excluded).

TABLE 5a

POWER DEMAND FORECASTS

Year	Megawatts High	Medi urn	Low
1980	620	570	525
1985	1,000	810	650
1990	1,515	1,115	820
1995	2,150	1,500	1,040
2000	3,180	2,045	1,320
2025	7,240	3,370	1,520

The Upper Susitna Project report also displays several other forecasts. Table 6a illustrates the combined forecasts for the utilities within the study area. Forecasts were provided by the utilities in 1978.

TABLE 6a

UTILITY PEAK DEMAND FORECASTS

MEGAWATTS

Year	Total
1980	567
1985	1,124
1990	2,008
1995	3,234
2000	4,759

The projected figures for the Anchorage - Cook Inlet area by the utilities are somewhat higher than the medium and low projections in the Susitna Power Market study indicating an assumed higher annual growth rate.

OCS Standard

Projected power requirements for the area located within the boundaries of the Municipality of Anchorage are not available. Power lines extend up into the Mantanuska Valley through Matanuska Electric Association and down onto the Kenai Peninsula through Chugach Electric Association. What is possible, however is to estimate the approximate load requirements for Anchorage based on the proportionate population. In a study entitled "Population and Racial Distribution by Areas of Alaska", by Policy Analysts Limited, the most current populations were compiled for regions around the state from secondary data sources. Table 7a displays the following projections for the southcentral region.

TABLE 7a

PROJECTIONS FOR SOUTHCENTRAL REGION

Area	Population	% of Total
Kenai Peninsula	24,335 (1978)	10.5
Anchorage	188,254 (1978)	81.5
Matanuska Valley	18,536 (1979)	8.0
Total	231,125	100.0

Assuming no one section will have a growth rate greater than the other two and the commercial/industrial/residential load is proportionate, the Percentage: can be applied to the ISER projections for the water resources study to obtain corresponding population and consequential load projections. Table 8a displays these figures.

TABLE 8a

POPULATION PROJECTIONS AND LOAD REQUIREMENTS

	High	Medium	Low
1980 pop.[a]	200,232	--	193,752
mw[b]	502	462	425
1985 pop.	259,200	--	211,329
mw	810	656	527
1990 pop.	329,751	--	242,352
mw	1,227	903	664
1995 pop.	404,352	--	285,930
mw	1,742	1,215	842
2000 pop.	527,553	--	343,764
mw	2,576	1,656	1,069
2025 pop.	732,240	--	397,791
mw	5,864	2,730	1,231

[a]pop. - population
[b]mw - megawatts

There are two points to note. The first is that this is merely one set of projections based on the Upper Susitna River Project study. There are others available based on different economic assumptions of growth and growth factors. The second point is that all indications from the preliminary counts of the 1980 census are that the Anchorage population is probably closer to 175,000, which is 87 percent of the projected high scenario for 1980 and 90 percent of the low scenario projection. However, planning for additional load based on slightly inflated figures is not necessarily unwise. Adding generation facilities such as hydroelectric plants and coal fired plants requires considerable lead time and is notably costly. Delays in construction can be commonplace. A slightly inflated growth rate may help utilities meet needs

in a more timely fashion. Conversely, too high a projection can mean construct of unnecessary projects whose exorbitant costs would be borne by the consumer.

With regard to the non-OCS and OCS projections, comparisons will be drawn between ISER's projections used in the forecasting for the Upper Susitna River Project and those generated for the St. George Lease Sale. As a side-note, if the Susitna Project is built, the tentative design calls for 1,553 megawatts of load. Presently, the combined capacity of Chugach Electric, Alaska Power Administration and Municipal Light and Power is 693 megawatts. Assuming the Susitna Project benefits the entire railbelt region, Anchorage should have adequate power supplies through at least 1995 under the low and medium projections of growth.

SOLID WASTE

Page 32, Table 9, Substitute with the following:

TABLE 9

DAILY SOLID WASTE GENERATION

Year	Quantity per Day kgms	pounds
1920	1.25	2.75
1970	2.27	5.00
1975	2.14	4.71
1976	2.40	5.30
1977	2.33	5.14
1978	2.47	5.45
1979	2.36	5.20
1980	2.20	4.84
1985	2.20	4,86
1990	2.25	4.96
1995	2.29	5.04
2000	2.35	5.19

[a]Preliminary Solid Waste Master Plan, 1975

[b]Request for Proposal, Milling Operation, 1977

[c]Feasibility of Resource Recovery from Solid Waste, 1979

Page 33, Paragraph 2, line 2:

Change “1985” to “1980”

TELEPHONE

Page 34, Paragraph 1, delete paragraph.

Page 34, Table 10, delete table.

Page 34, Add after paragraph 2:

Presently, there are .48 telephones per person in the Anchorage Telephone Utility Service Area. Assuming that the communications industry progresses to maintain this standard, the ratio is offered as a means to assess need over the period under study.

Housing

There are three major criteria needed to predict the housing needs in the Anchorage metropolitan area. The first is the number of units based on the size of the household. The second deals with the mix of units necessary by type to meet differential market demands. The third focuses on the Anchorage construction industry's capacity to build housing units within the forecasted limits.

Housing Unit Demand Based on Housing Size

The 1980 civilian household size in Anchorage was estimated to be 2.75 persons per unit. This reflects a national decline in family size. The 1970 Anchorage census, for example, noted a household size of 3.28. This pattern, however, is not uniform by housing type. It ranges from single family residences with 3.2 persons per household to multi-family with 2.28 persons per household and mobile homes with 2.5 persons.

The overall household size will rise or fall based on continuing demographic trends and the mix of housing built in the future. As discussed in the section on education, the declining number of children per household is expected to stabilize by the mid-1980's. This should tend to stabilize household size since declining numbers of children have been the primary cause of this trend. On the other hand, higher units of single adults, one adult households, or multifamily unit living styles should continue to press household sizes down for at least a decade or so. Average household size is expected to decline from 2.7526 in 1980 to 2.6692 in 2000 (see table 11).

Type of Units Needed to Meet Market Demand

The plurality of occupied housing in Anchorage is the single family unit (48.6 percent), while 39.8 percent are multifamily and 11.6 percent are mobile homes. However, the stock has not been increasing proportionally to the existing mix. Fifty-three percent of the housing built from 1975 through October 1977 were multifamily. This pattern is encouraged by the high cost of alternative housing, land availability, and encouragement of high density housing styles from building economies, financing methods, and other reasons.

The primary problem is the softness of the multifamily market both in the rental and owner areas. Housing desires of the community still favor the single family unit, and the relative prosperity of the community makes ownership a possibility for at least a majority of the residents. Out-migration from 1978 - 1980 tied to state loan programs for home ownership created substantial vacancy levels in multi-family which was only partially overcome with net in-migration beginning in mid - 1980. The other market, mobile homes, has-demand potential but is unlikely to grow rapidly because of legal constraints and community resistance.

Considering demand preference and the economic constraints of the single family house, the balance of housing type is expected to show a 3.6 percent decline of single family, two percent in mobile homes and about a 5.6 percent increase in the proportion of multifamily units (see table 11.) These demand proportions will be altered somewhat by factoring in a two percent vacancy rate for single family and mobile homes, and four percent for multi-family units. In addition, all demand projections are based on the civilian housing market. Therefore, total population forecasts are adjusted by subtracting a constant 16,000 to

remove those housed on military reservations.

TABLE 11

CHANGING HOUSEHOLD SIZE AND DISTRIBUTION OF HOUSING TYPE

Year	Single Family		Multifamily		Mobile Home		Total
	Person/HH	%	Person/HH	%	Person/HH	%	Person/HH
1980	3.2	48.6	2.28	39.8	2.5	11.6	2.7526
1985	3.1	48.0	2.4	40.9	2.5	11.1	2.7471
1990	3.1	47.0	2.3	42.4	2.4	10.6	2.6866
1995	3.2	46.0	2.2	43.9	2.4	10.1	2.6802
2000	3.2	45.0	2.2	45.4	2.4	9.6	2.6692

Capacity of the Construction Industry

The capacity of the construction industry to build housing appears to be quite flexible. With a recent history of 4,000 plus units per year and an excess number of craftsmen and construction workers in the labor pool, the industry should at a minimum be able to build 4,000 units a year with a capacity to increase above this amount.

Page 38, table 12:

change "144" to, "219"

Page 38, table 12, Footnote b:

change "195,000" to "175,000"

Page 41, Table 14, Delete table and substitute with the following:

TABLE 14

APPLICATION OF ACUTE CARE BED NEED STANDARDS IN ANCHORAGE COMPARED TO THOSE STANDARDS FOR ENTIRE U.S.

	Anchorage	Us.
Occupancy rate	65%[a]	80%
Available beds/1,000 population	2.9[c]	4[b]
Inpatient days/1 ,000 population (1979)	687	1,200
Average length of stay (days)	4-5	6

[a]Percent of licensed beds

[b]National Guidelines for Health Planning CFR 42, Part 121, 1978

[c]Figure is for civilian - non-native population only and is based on the 1980 preliminary census counts.

Page 43, Table 15, add 1979 data.

TABLE 15

NUMBER OF LIVE BIRTHS PER HOSPITAL FOR 1977-1979

HOSPITAL	1979 No. of Live Births
Elmendorf	640
Alaska Native Medical Center	596
Alaska Hospital	882
Providence Hospital	2,045
Births outside a medical facility	75

Social Services

Page 46, Delete last word on' page.

Page 47, Delete paragraphs 1 and 2.

Page 4-7, Paragraph 4, Line 6:

change "34,000" to "31,000"

Page 47, Paragraph 4, line 7:

change "(42)" to "(35)"

change "2,110" to "1,953"

Page 47, Paragraph 4, line 8, revise line to read as follows:

"... children and approximately 120 licensed day care homes serve an additional 600 . ..."

Page 48, Paragraph 1, line 1:

change "7.8 percent" to "8.2 percent"

Page 48, Paragraph 3, delete paragraph and substitute with the following:

The need for low income housing currently exceeds the supply of adequate units. In 1979, 14,802 households were considered eligible for some form of housing assistance under Section 8 Guidelines (Polk, 1979). This number constitutes approximately 22 percent of total civilian housing units in Anchorage. Current service levels address the needs of less than ten percent of the target group (1978 Housing Assistance Plan.) It appears that projections of actual units necessary to serve one-third of the target population go beyond the financial and developmental means available for support of such acquisition and construction. Increasing numbers of dollars available for actual rent subsidies and other housing

assistance payments may be a more realistic means of achieving some level of service to 33 percent of the target population.

For forecasting purposes, 22 percent of projected households will be usedto assess targeted low to moderate income households. Of that 33 percent will be utilized as the factor to project service needs through the period under study.

Transportation

Page 50, Paragraph 1, Delete sentences four through six and substitute with the following:

It should be noted that this projection is above the non-OCS base case for the St. George Basin as outlined in the study. Because of this, any shortfall in actual population growth below AMATS estimates would benefit the capacity of the system to handle future demand. OCS scenarios added to the St. George Base Case will not noticeably affect the quality of the transportation system in Anchorage.

Government Expenditures and Financial Capacity

Predicting government expenditures and financial capacity can be risky in a community with a history of rapid growth, boom - bust cycles and burgeoning service demand. In developing a standard for expenditure projections the following factors were considered:

- Population must be considered as the driving force behind real expenditure increases. Population is both a measure of consumer demand for services as well as an indicator of growth in property services demand. More people mean more clients for public health, more public safety problems, increased building permits, and crowded roadways.

- Extent of service demand is partially related to the size of the community, the political culture, and the demography of the residents. Increased community size is normally related to greater service expenditures. The complexities of urban life tend to create a climate or culture of added service demand. The variety of services, their sophistication, and cost rise with size. A community's demographic configuration also affects demand. Concentrations of poor tends to increase the requirements for people related services. While affluency usually means added property oriented services.

- Demand must be placed in the context of the existing service infrastructure. Strong demand within a well developed infrastructure will have fewer problems compared to similar demand levels made upon inadequate, poorly developed delivery systems. This latter situation raises the cost of service delivery

by adding on the price of start-up.

- The final factor is the availability of resources or revenue. The use of public monies is not unlimited but the range is considerable. This is due to the elasticity of the local tax and revenue base which involves both the wealth of the community and the willingness of citizens to pay. Boston, a relatively affluent area, economically is presently faced with severe service cut backs due to voter mandated reductions in property taxes. Also, state and federal revenues must be considered. Federal dollars to local government has grown tremendously in the past two decades while the ability of states to transfer money to local government differs considerably from state to state.

Using these four factors, the following observations were made to project expendit for Anchorage:

- Anchorage experienced a period of infrastructure development in the 1970's A small town in the 1950's, recovery and growth in the 1960's, set the stage for rapid expansion in the extent and variety of services provided by local government. The requirement for this increase was partly mandated by a rapid growth in population and economic activity. Services provided in a developing mode can be expected to increase in "real" dollars per capita while services for a mature maintenance system should be expected to remain relatively constant in dollars per capita when controlling for inflation.

As expected, Anchorage's government expenditures rose during the 1970's. Between 1970 and 1980, "real" dollar expenditures per capita climbed about

40 percent. The separate school budget increased 37'percent while real dollars per pupil rose 29 percent. It is reasonable that the school system reflected a lower increase having a more established and developed infra-structure. Expansion in specialized educational programs in the 1970's probably accounted for a significant portion of the cost/pupil increase.

o The relationship between Anchorage's expenditures and populations is not perfect. Sharp rises in population tend to cause a jump in the dollars per person spent beyond normal increases. In addition, population decline does not force a cut-back in expenditures but does slow it to about the rate of inflation.

o Anchorage has followed the national trend which relates community size and the extent of services delivered. Rapid expansion of the service base in the 1970's was partially attributable to reaching size levels associated with general urban area characteristics requiring expenditures in land use regulation, public safety, public health, recreation and other areas. The fact that Anchorage is the only urban center in Alaska tends to accentuate the establishment of services that might be expected in a somewhat larger community. Thus, the optimal population size in Anchorage for certain services may be smaller than the lower 48.

0 The 1970's also produced a qualitative change in the political culture of Anchorage. The in-migration of oil workers and general job seekers brought greater demand for community services similar to those normally received elsewhere. Police service and road improvement extended in the Municipality as voters asked for improved levels of service. This was

labored by a reluctance of taxpayers to increase their local tax burden. A number of general obligation bonds failed to receive voter approval in 1977-1978 and public debate focused on the nationwide tax revolt. This is accentuated by the availability of large state surpluses. Local taxpayers are reluctant to tax themselves with the possibility of state transfer present to fill the gap between demand and revenue.

- Anchorage is a heterogeneous community, It has a relatively small minority community. The cost of living makes it difficult for many, but the number of poor in the population does not exceed 12 percent using governmental definitions. Incomes are high even accounting for cost of living different and home ownership is high. The workforce is substantially white collar and service oriented consisting of a large number of professional/technical and managerial workers. The base of taxable property (the only major loca tax source) has grown substantially and this is forecasted to continue for the short to medium term. The present mill rate is now less than one-third the legal limit. All this suggests the kinds of demands made and the capacity to pay.

- Anchorage's present infrastructure is still growing. While the range of services is not likely to expand, there is considerable room for improving and extending existing ones. Police services are likely to to extend to the Hillside in the next few years, and road improvement both at the arterial and subdivision level is expected to require substantial investment in the 1980's. Major expansion is also planned in the area of leisure and recreation. The configuration of some services

as to designation of primary provider and revenues is still being argued.

- While national politics is cutting back federal dollars available to Anchorage and local politics is keeping local revenues in check, the potential for intergovernmental transfers from the State of Alaska is substantial. This permits some increases in general services, substantial support in capital investment, greater support for education, and reduced local taxes. The large state surplus and fluidity of decision-making as to the balance of state and local revenues for Municipal services makes it impossible to estimate future revenues by category. This climate, however, is expected to provide an impetus for service growth in the medium term similar to what happened in the 1970's. One suggestion to this is planned capital improvements for the next six years averaging almost $90 million annually. In addition, Municipal utilities plan to invest about $123 million annually expanding services during the coming six years.

Based on this analysis, the following assumptions will be used to provide standards for projecting future expenditures:

- "Real" per capita general government expenditures are projected to increase at a decennial rate of 39.6 percent in the 1980's and 20 percent in the 1990's. This is based on the assumption that the Anchorage service infrastructure is not fully developed, substantial service and capital expenditure increases are already planned through 1986, and State revenue surpluses are expected to fill any gap in local revenues during the 1980's. By contrast, the pattern of growth

in the 1990's is more incremental and should be adding to a more stable mature service delivery system. (See table 16a).

- "Real" per student education expenditures are projected to increase at a decennial rate of 29.1 percent in the 1980's and 15 percent in the 1990's. Similar assumptions apply in education as in general government (see table 16a).

TABLE 16a

"REAL" DOLLAR EXPENDITURE STANDARD OVER TIME
(1980 Dollars)

Year	Per Capita Expenditures For General Government	Per Student Expenditures For Education
1980	$625	$3,183
1985	749	3,646
1990	873	4,109
1995	961	4,417
2000	1,048	4,725

111. ST. GEORGE BASIN IMPACT ANALYSIS

Baseline Conditions and Forecasts of Conditions Without the Planned Lease Sale

SIGNIFICANT FACTORS AFFECTING CHANGE

Change in the St. George Basin non-OCS base case is generally incremental with declines in population experienced in 1981, 1982 and 1987, and growth occurring in other years during the forecast period. The factors affecting change are the primary components of the MAP Model and include the relationship among the internal dynamics of the local economy, the fact that Anchorage is the center for much of the economic activity in the state, and assumptions concerning national economic health.

OVERVIEW OF THE ASSUMPTIONS, METHODOLOGY AND RESULTS - NON-OCS BASE CASE

Detailed assumptions and review of methodology of the non-OCS base case forecast are available in the report, "St. George Basin Petroleum Development Scenarios and Economic Analysis," Institute of Social & Economic Research. The following basic assumptions were made in forecasting employment and population in the non-OCS case:

- The U.S. consumer price index has an average rate of increase of 8.85 percent through 1990, and 8.3 percent thereafter. U.S. real disposable per capita income is forecasted to increase at a 3.38 percent average annual rate. U.S. hourly earnings are forecasted to increase at 10.2 percent, while average hours worked in the U.S. are forecasted to decline slowly at -0.23 percent. (Tuck, et al. , 1980)

- Statewide economic assumptions consist of time series on employment and output in certain export base or exogenous industries. While individual projects may not occur as forecasted, the general level of economic activity is assumed to fol low the economic scenerio developed by ISER. The one exception is a separately developed bottomfishing projection which is strongly optimistic. Any error in this forecast, however, has only a modest effect on the Anchorage projections. Significant new economic assumptions include construction of the natural gas pipeline (1982-86), Beluga Coal Production (1985 +), Pacific LNG Project (1982 +), hydroelectric development at Susitna (1984 +), and Bradley Lake (1981 +), development of the National Petroleum Reserve in Alaska (1985 +), and expansion in domestic bottomfish industry.

Tables ?8-21 show the growth and structure of the Anchorage economy to the year 2000 under the assumption of the non-OCS base cases. It should be noted that this is substantially below past forecasts by ISER. A review of the forecast by Policy Analysts, Limited suggest only one disagreement. The forecast notes population peaking in 1980 and dropping to a low in 1982 before returning to a growth mode. Historical evidence available after the forecast was made suggests that Anchorage peaked in population in 1977, dropped to a low in 1980 and increased in 1981. We feel the decline cycle is off but reality and the model can be expected to converge in 1982 suggesting the long-term assumptions of the model are intact. Policy Analysts, Limited does contend that the mid-1980 population estimate should be 175,000, and 1981, 193,000. Other differences are not considered significant.

TABLE 18

BASE CASE GROWTH OF ANCHORAGE POPULATION - 1980-2000[a]

Year	Base Case
1980	196,154
1981	188,536
1982	187,061
1983	191,521
1984	206,018
1985	219,954
1986	225,467
1987	224,861
1988	225,142
1989	227,343
1990	231,686
1991	238,232
1992	245,089
1993	251,392
1994	256,927
1995	263,489
1996	271,383
1997	280,449
1998	289,395
1999	297,390
2000	306,259

[a]MAP Regional Model for St. George Basin Base Case Projections

TABLE 19

BASE CASE GROWTH OF ANCHORAGE EMPLOYMENT - 1980-2000[a]

Year	Base Case
1980	83,186
1981	83,885
1982	86,487
1983	91,553
1984	101,255
1985	111,448
1986	115,569
1987	115,383
1988	115,395
1989	117,216
1990	120,755
1991	125,763
1992	130,720
1993	135,286
1994	139,325
1995	143,565
1996	148,800
1997	154,836
1998	160,813
1999	166,165
2000	171,808

[a]MAP Regional Model for St. George Basin Base Case Projections

TABLE 20

ANCHORAGE EMPLOYMENT INDICATORS

BASE CASE 1980-2000[a]

Year	Support Sector Employment	Government Employment	Basic Sector Employment
1980	33,393	35,027	8,435
1981	33,535	35,350	8,588
1982	35,442	35,488	8,912
1983	39,663	35,453	9,468
1984	48,266	34,773	10,640
1985	56,542	35,200	11,699
1986	58,977	36,507	12,002
1987	57,737	37,437	12,138
1988	57,081	37,847	12,352
1989	57,998	38,365	12,632
1990	60,374	38,945	13,002
1991	63,998	39,583	13,472
1992	67,469	40,257	14,037
1993	70,540	40,979	14,597
1994	73,049	41,792	15,115
1995	75,771	42,497	15,714
1996	79,405	43,095	16,431
1997	83,687	43,793	17,197
1998	87,815	44,635	17,934
1999	91,286	45,588	18,633
2000	95,032	46,373	19,475

[a]MAP Regional Model for St. George Basin Base Case Projections

TABLE 21

ANCHORAGE INCOME INDICATORS

BASE CASE 1980-2000[a]

Year	Total Personal Income[b]	Per Capita Personal Income[c]
1980	7888.03	9625.23
1981	1939.70	10288.20
1982	2049.97	10958.90
1983	2263.92	11820.70
1984	2746.38	13330.80
1985	3188.34	14495.50
1986	3260.63	14461.70
1987	3196.17	14214.00
1988	3231014	14351.60
1989	3334.42	14666.90
1990	3505.16	15128.90
1991	3706.73	15559.30
1992	3910.72	15956.30
1993	4105.61	16331.50
1994	4269.86	16618.90
1995	4459.88	16926.30
1996	4699.95	17318.50
1997	4977.61	17748.70
1998	5238.02	18099.90
1999	5471.73	18399.20
2000	5734.68	18724.90

[a]MAP Regional Model for St. George Basin Base Case Projections

[b]Millions of 1980 Dollars

[c]1980 Dollars

The forecasts of population, employment and income in the non-OCS base case produce the following assumptions:

- Population grows by 56.1 percent during the forecast period. As noted, declines occur in 1981, 1982 and 1987, while longest gains occur in 1984, 1985.

- Emp loyment more than doubles (107 percent increase) with the most rapid growth experienced during the projected construction of the Northwest pipeline in 1984-85 (10.4 percent annual average). This causes a bulge in the projection during this period and results in a decline in employment in 1987 and 1988. The growth rate and employment stabilizes to a great extent and increases on an average of 3.5 percent between 1990 and 2000. In addition, the employment participation rate is projected to increase from 42.4 percent in 1980 (actual estimate 44.1 percent) to 56.1 percent in 2000. This continues the trend of higher rates of adult work force participation and declining family size.

- Anchorage is projected to decrease its share of the state's population from 49.0 percent to 44.6 percent. This reverses the trend in Alaska since the post-World War II period. In the 1980 census, with Anchorage at its lowest post-pipeline population, it was about 44 percent of the population, a gain over 1970. Policy Analysts, Limited would expect this trend to continue with Anchorage growing from about 44 percent to 47 percent of the state's population by 2000.

e Broken into three broad sectors, employment is expected to perform strongest in the support area (185 percent increase), second in the basic sector (131 percent), and weakest in government (32 percent). This patterns the historical trend with the greatest gains in the service industry as well as trade and transportation.

e Total personal income in 1980 dollars is forecasted to increase 204 percent, while per capita personal income is expected to almost double (94.5 percent increase). Per capita income as estimated by the Bureau of Economic Analysis is above $13,000 in 1980 suggesting the ISER figure is conservative.

- Growth in Anchorage is the result of state expenditures, increasing personal income, increasing demand for local products, and Anchorage's role as the financial, distributional, and administrative center for the rest of the state, accounts for continued economic concentration and growth.

- The structure of the Anchorage economy cushions the effects of seasonality of employment when comparing it to other areas of the state.

RESULTS OF ANALYSIS

Reviewing the existing service infrastructure, the following additional needs for education, public safety, leisure activities, utilities, housing, health and social services, transportation, and financial capacity are seen to be required to the year 2000 in the case of the non-OCS scenario.

Education

Primary and Secondary. Applying the ratios as described in the overview of infrastructure standards section, tables 22 and 23 display the projected student population through the year 2000, number of teachers required and number of classrooms necessary to accommodate the projections in the non-OCS case. The data reflected in the tables are cumulative such that each year reflects the previous year plus incremental effects between the two dates.

TABLE 22

TEACHER NEED

NON-OCS BASE CASE

Year	Projected Student Population	Required Number of Teachers
1980	40,996	2,050
1982	37,038	1,852
1985	39,592	1,980
1990	46,337	2,317
1995	52,698	2,635
2000	61,252	3,063

If the ratios so approximate those used for forecasting, there will be a marked increase in demand for teachers between 1985 and 2000, (55 percent) with the greatest increase occurring between 1995 and 2000.

Table 23 displays classroom need and projected number of primary and secondary students anticipated through the forecast period.

TABLE 23

CLASSROOM REQUIREMENTS - NON-OCS BASE CASE

Year	Number of Primary Students	Number of Secondary Students	Primary Classroom Program Requirement	Secondary Classroom Program Requirement	Total
1980	22,138	18,858	1,006	510	1,516
1982	20,297	16,741	923	452	1,375
1985	22,370	17,222	1,017	465	1,482
1990	27,339	18,998	1,243	513	1,756
1995	29,774	22,924	1,353	620	1,973
2000	33,076	28,176	1,503	762	2,265

The implications for the Anchorage School District is a shortage of classrooms by 1990 if no planned construction occurs after 1986. However, with this impact occurring a full decade away, it is more likely that such growth would be anticipated with sufficient lead time to allow for appropriate expansion.

Postsecondary and Career Vocational Training. Applying the ratios as described in the standards section, table 24 displays the projected student population and credit hour projection through the year 2000. The data are cumulative. This projection produces two mature strong institutions each with unique public education missions totaling almost 200,000 credit hours per semester which is two and one-half times its present level.

Private university and career/vocational training programs have not been projected. Issue's' discussing their role in postsecondary education can be found in the baseline section of this report.

TABLE 24

PUBLIC POSTSECONDARY STUDENT ENROLLMENT PROJECTIONS - NON-OCS BASE CASE[a]

Year	UAA Student Population	UAA Credits	ACC Student Population	ACC Credits
1980	3,398	24,241	8,274	50,779
1982	3,741	27,122	8,605	52,749
1985	5,499	43,992	9,898	60,675
1990	6,951	59,084	10,194	62,183
1995	9,222	82,998	11,330	69,113
2000	12,250	110,250	12,863	78,464

[a]UAA based on an increasingpercentage of the population of students from 1.94 to 4.0 percent of the population, and 7.13 to 9.0 credits per student. ACC based on a 4.7 to 4.2 percent decline of the population with 6.1 credits per student.

Public Safety

Police and Troopers. Applying the ratio of one sworn officer per 500 population, table 25 displays the cumulative number of law enforcement personnel required in given years through the forecast period. The population projections were adjusted to reflect civilians only.

TABLE 25

LAW ENFORCEMENT FORECAST

Year	Manpower Requirements
1980	356
1982	338
1985	404
1990	427
1995	491
2000	577

When applying the above standard to the ISER population forecast, there is a 62 percent increase in the required manpower. In 1980, manpower requirements dictate a combined force size of 356, this tapers to a low of 338 in 1982. This five percent decline in law enforcement personnel might best be met with a slower rate of increase in 1981 and 1982. If additional law enforcement services are required, increasing the size of the reserve force might best meet the need. The adequacy of the recommended manpower will, in part, be determined by how the profile of the Part I crime index varies as Anchorage becomes more densely populated.

Fire. Table 26 displays the manpower requirements for Fire and Rescue Operations and Paramedic personnel through the forecast period. As described in the Overview of Infrastructure Standards, force size is dictated by .60 paramedics per 1,000 households and 3.52 Fire and Rescue Operations personnel per 1,000 households. Only emergency field divisions are considered in the projections.

TABLE 26

CUMULATIVE MANPOWER REQUIREMENTS OF FIRE DEPARTMENT PERSONNEL

Base Case

Manpower	1980	1982	1985	1990	1995	2000
Fire and Rescue Operations	237	227	269	291	334	394
Paramedics	40	39	46	50	57	67

Comparing figures in table 26 to present manpower levels, the Anchorage Fire and Rescue Operations and Emergency Medical Services would double in size under this growth scenario utilizing the above standards. Achievement of this service level, however, will be determined by

such other factors as incidence of fire and demand for emergency medical services, budget constraints, and land use.

Leisure

The following projections are provided in relation to population increases under the non-OCS case.

Recreation Facility Needs. Utilizing the standards established by the National Recreation and Park Association, Table 27 displays the cumulative requirements based upon population growth as projected under the non-OCS case.

TABLE 27

CUMULATIVE RECREATIONAL AND FACILITY NEEDS

	Base Case					
Facility	1980	1982	1985	1990	1995	2000
Play Lots	78	75	88	93	105	123
Neighborhood Parks	20	19	22	23	26	31
Softball	65	62		77	88	102
Basketball	98	94	1;:	1 16	132	153
Swimming Pools	8	7	9	9	11	12
Skating Rinks	39	37	44	46	53	61
Community Centers	8	7	9	9	11	12

0 Swimming Pools. While the Anchorage area falls considerably short of achieving the established standard for number of pools per population, it is unlikely that the number built would reflect the standard within the 20 year projection period. The most efficient means of constructing a pool is within the design of a larger complex, such as a school or recreation center. Recreation centers with high admission costs to the consumer have a relatively limited clientele; junior and senior high schools and other public facilities will never existin numbers sufficient to facilitate achieving the “pool standard”.

- Skating Rinks. The Anchorage area currently exceeds' the recommended level of ice skating rinks. However, the existence of only two indoor rinks, now used more than ten hours a day, severly limits the skating activities available to and demanded by the public. Clients of the indoor arena indicate that demand for facilities would support at least one and probably two additional indoor rinks.

- Community Centers. Although Anchorage maintains and uses five community centers, demands far exceed present service capabilities. Operation Breakthrough, a volunteer community study group has suggested the need for and proposed the construction of a large cultural/recreational/sports complex to serve the entire Anchorage area. If built as proposed, the center, although a single structure, would facilitate achievement of a service level equal to that implied in the standard.

Activities. Art activities and other culturally related events are governed by no specific standards. However, historically, such activities are very well attended. Citizen surveys and attitude polls reflect a high degree of interest in and desire for greater number and varities of both participatory and spectator events.

The Anchorage Historical and Fine Arts Museum, while seemingly used to its capacity during the summer tourist season (700± average daily attendance), has the potential to serve considerably greater numbers in the winter (200± average daily attendance). The museum served 100,000 people in 1977. Off-season services include weekly children's programs, guest lecturers, films, etc.

The demand for creation of community schools arises from the neighborhood level when an identified group is ready to support a program with volunteer service. There are currently 16 community schools serving approximately 16,717 (1978) men, women, and children of the Anchorage area (Municipality of Anchorage, 1977).

Parkland. Utilizing the recommended standard of devoting approximately 25 percent of a city or planned area to park, wilderness, or open space, the Anchorage area currently exceeds the recommended total as displayed in table 28.

TABLE 28

AVAILABLE PARKLAND ACRES COMPARED TO

RECOMMENDED STANDARD ACREAGE

	Square Kilometers	Square Miles
Total Anchorage Area	4,403	1,700
Suitable Habitation Area	622	240
Actual Parkland Available	3,274	1,264
Recommended Standard	1,101	425

available as parkland, wilderness, and open space

If open space and wilderness areas are excluded, however, there are approximately 45.3 square kilometers (sq. km) (17.5 square miles [sq. mi.]) of usable parkland in the above area. Achieving the additional 84.2 sq. km (32.5 sq. mi.) of parkland needed to meet the established standard may not be feasible due to the nature and location of available land and the long-range need/projections for development of that land. Local decisions regarding the highest and best use of available lands may preclude attainment of the

national standard in this area. Public sentiment and spiraling cost may require an increasing proportion of local budgets to be spent on parkland development, maintenance, and the acquisition of equipment as opposed to acquisition of additional land.

Utilities.

Water. Per capita water consumption has been calculated by the Corps of Engineers for Anchorage Consumers at 594 liters per capita per day (lpcpd) (157 gallons per capita per day [gpcpd]). This standard is offered to assess water need for-the non-OCS base case through the forecast period.

TABLE 29

WATER DEMAND - MILLION LITERS PER DAY

NON-OCS BASE CASE

Year	ml d	mgd
1980	116.6	30.8
1982	111.3	29.4
1985	130.6	34.5
1990	137.8	36.4
1995	156.7	41.4
2000	182.1	48.1

The Corps of Engineers have proposed several long-range plans that would meet this level of water demand in a timely manner. The reports, entitled Metropolitan Anchorage Urban Studies, prepared by the Corps, were adapted by the Municipality of Anchorage and will be utilized to determine the best solution to long-range water supply. A more thorough discussion of the proposals are contained in the baseline section of this report.

Sewer. Sewer line extensions and expansion of sewage treatment plants are, in part, based on population projections generated by the Municipal Planning Department. The Planning Department is projecting a tentative population forecast of 353,184 by the year 1995 for utility planning purposes. Plans are geared toward a high rate of growth in order to avoid the costly problem of paralleling sewer lines.

Using the per capita wastewater generation standard, as explained in the overview of infrastructure standards of 477 liters per capita per day (lpcpd) (126 gallons per capita per day [gpcpd]), table 30 displays the cumulative wastewater generation through the year 2000 for the non-OCS base case.

TABLE 30

WASTEWATER GENERATION - MILLION LITERS PER DAY
NON-OCS BASE CASE

Year	mld	mgd
1980	93.5	24.7
1982	89.3	23.6
1985	104.8	27.7
1990	110.5	29.2
1995	125.7	33.2
2000	146.1	38.6

Population forecasts under the non-OCS base case are considerably less than the projections used in the planning process. If plans can be implemented in a timely manner, collection and treatment should not be negatively impacted.

Electricity. The section on the Overview of Infrastructure Standards provides an explanation of the Power Market Study for the railbelt region of Alaska. A comparison of projections is presented here in order to identify any major weaknesses over the period under study. Table 31 displays these figures.

TABLE 31

POWER MARKET STUDY PROJECTIONS AND

ST. GEORGE LEASE SALE PROJECTIONS

	Power Market Population Projections		Required MW's[a]		St. George Ba
Year	High Scenerio	Low Scenario	High Scenario	Low Scenario	Population Projection
1980	200,232	193,752	502	425	196,154
1985	259,200	211,329	810	527	219,954
19!30	329,751	242,352	1,227	664	231,686
1 995	404,352	285,930	1,742	842	263,489
2000	527,553	343,764	2,576	1,069	306,259

[a]MW = megawatts

In all benchmarked years, the high and low growth scenarios proposed under the Power Market Study exceed those projected under the non-OCS Base Case for the St. George Lease Sale. Actual impact from growth under the projections without the planned lease sale would be accommodated if planning is, infact, gaged to the projections under the Power Market Study. In addition, if the Susitna Project is built, much of the power needs for the entire railbelt area would be met through the 1990's.

Telephone. Table 32 displays projected telephones over the period under study for the non-OCS case. The standard in use is .48 main stations per person as currently exists in the Anchorage area.

TABLE 32

MAIN STATION FORECAST

Year	Main Stations
1980	94,154
1982	89,789
1985	105,578
1990	111,209
1995	126,475
2000	147,004

Not all of the Municipality of Anchorage receives telephone service from the Anchorage Telephone Utility (ATU). The Chuqiak/Eagle River area is presently served by Matanuska Telephone and Elmendorf AFB also provides for their own communication; however, ATU has recently petitioned the Alaska Public Utilities Commission to acquire service to the Air Force. The above table considers the entire communications network for the Anchorage area regardless of the service provider.

The Anchorage Telephone Utility has demonstrated the capability of coping with massive growth during a short-time frame as a result of the oil pipeline. The utility should be able to accommodate future expansion as a result of natural population increases as well as proposed OCS activity with adequate planning. Economically, as growth occurs and population density increases, there should be a positive effect on the utilities financial position. One line extension to serve many people will produce a better return in revenues than an extension serving very few when keeping the cost of equipment and line extensions constant. Although population projections under the non-OCS base case will require adequate planning, the increase could potentially have a positive economic impact. No other impacts resulting from population growth were identified.

Solid Waste. Table 33 displays solid waste generation for the non-OCS base case through the forecast period. The projections are based on the per capita waste generation as anticipated by the Department of Public Works. The forecast reflects civilian population only.

TABLE 33

DAILY SOLID WASTE GENERATION

	Per Capita Per Day		Non-OCS Base Case	
	kgms[a]	lbs[b]	Metric Tons	U.S. Tons
1980	2.20	4.84	391	431
1982	2.20	4.85	372	410
1985	2.20	4.86	445	491
1990	2.25	4.96	481	530
1995	2.29	5.04	561	619
2000	2.35	5.19	678	748

[a] kgms = kilograms
[b] lbs = pounds

With the introduction of new processing techniques such as the Municipal shredding facility and assuming a new landfill site is targeted for the Anchorage bowl prior to 1985, these projections will pose no impact on the management of solid waste. Daily solid waste generations will increase by 73.5 percent over the forecast period.

Housing

Table 34 projects the civilian housing stock requirements based on the ratio outlined in the overview of infrastructure standards section. The demand for new housing varies during the study period. The pattern shows a strong drop in demand in the early 1980's with a sharp recovery in the

mid-1980's. Requirements for new units slacken in the late 1980's, but strengthen again in the 1990's. The base case could be handled by the construction industry and provide a fairly steady demand (excepting 1980-82) for new units during the study period. It should be noted that present estimates of housing stock exceed the projected demand through 1983 suggesting an existing surplus of units, primarily in multi-family units, but also including mobile homes.

TABLE 34

HOUSING STOCK Projections

	Non-OCS Base Case			
Year	Single Family	Multi-Family	Mobile Home	Total
1980	32,444	27,091	7,744	67,279
1982	31,333	25,819	7,289	64,441
1985	36,350	31,580	8,406	76,336
1990	38,488	35,401	8,680	82,569
1995	43,327	42,158	9,513	94,998
2000	49,914	51,345	10,648	111,907

Health Services

The following projections of need are provided in relation to the existence of the St. George lease sale non-OCS case.

Acute Care Bed Need. Applying the Hill-Burton formula for acute care need, figures in table 35 were derived by using a civilian, non-native population figure, a 1978 use rate of 600 (based upon number of inpatient days experienced), and an 80 percent occupancy rate.

TABLE 35

PROJECTED ACUTE CARE BED NEED

Year	Bed Need
1980	325
1982	307
1985	371
1990	394
1995	456
2000	539

[a]Based upon civilian, non-native population; derived by deducting 28,000 military and dependents and 5.2% of total population from total population figures provided

There are currently 404 beds licensed and approximately 840 beds available if one includes all military and native hospital beds. Adequate acute beds exist to serve the general public through at least 1990, when applying the Hill-Burton formula to the non-OCS case. This projection will remain even more secure as 1) additional noninstitutional care alternatives emerge (neighborhood clinics, additional long, intermediate and custodial care providers, etc.), 2) the local population grows older, 3) those currently seeking medical care outside Alaska recognize the scope and availability of the existing system, and 4) the facility occupancy rates extend beyond 85 percent of the facilities' available beds.

Ratio of Physicians to Population. In 1977 the primary care physician to population ratio was .385 per 1,000 in the population. Any level above .4 primary care physicians per 1,000 population no longer qualifies as a medically underserved area. Optimum ratio for the nation is one physician per 800 population. Based upon those ratios, the number of Anchorage area primary care physicians would have to increase as indicated below:

TABLE 36

PROJECTED PRIMARY CARE PHYSICIAN NEEDS

Year	Physician Needs
1980	245
1982	234
1985	275
1990	290
1995	329
2000	383

These increases might be slightly offset by the following factors:

- 1) the number of non-Anchorage recipients of health care,
- 2) the number of transient seasonal residents utilizing primary care physicians,
- 3) the number of existing physicians who leave Anchorage.

Special Service Needs. While no attempt has been made to project the number of alcoholics and alcohol abusers over the next 21 years, one can assume that the level of abusers will remain proportionately the same. Increased program efforts (including increasing amount of targeted state and federal dollars) may be effective in relieving the “street inebriates” problem and may also contribute to the decline of alcohol related crimes. However, the predominant causes for alcohol abuse will likely remain, e.g. remoteness, long dark winter syndrome, unemployment, cultural incomparability, etc.

As the number of long-term, intermediate and residential care units grow (offering lower cost care than acute care facilities), the proportion of acute beds available for true acute care will increase.

Such a focus will help hospitals justify need for and subsequent acquisition of modern equipment and service units. For example, recent efforts were successful by both civilian non-native hospitals to justify the addition of a head and full body computerized axial tomography (C.A.T.) scanner. The result will be the emergence of the sophistication of the Anchorage health system.

Social Services

There are no nationally accepted nor locally adopted quantifiable standards for levels of social services delivery. Therefore, a discussion of impacts on the system relative to the base case can only indicate trends based upon appropriate assumptions. The following analysis assumes a degree of stability in local socioeconomic characteristics. Given no major new high impact project occurring within the state, service demand ought to increase at a rate consistent with current growth levels. The ability of federal, state, and local government to serve greater portions of the population in need will depend predominantly on efficiencies of management and increased legislative interest, resulting in significant higher dollar appropriations.

The greatest impact on available social services will come as a result of two factors: 1) the continuing transiency of the population and resultant population turnover and 2) the increasing influx into Anchorage of natives and other residents from elsewhere in the state. Examining past trends since the pipeline, it appears that approximately 40 percent of the Anchorage population turns over every three and one-half years. Pipeline and seasonal workers complete their jobs, remain in Anchorage seeking additional

employment, raising the unemployment rate, drawing unemployment insurance, and ultimately either take work or depart the state. As they leave, they are replaced with equal numbers of the same type of worker.

As Anchorage grows and lifestyles throughout the state's smaller cities and villages change, increasing numbers of native Alaskans will seek residence in Anchorage. Generally nonskilled and minimally educated people may seek employment, income, and housing assistance raising the level of need for those services.

Based upon population trends since the wind-down of the oil pipeline, the Anchorage population growth should stabilize at about 3.5 to four percent per year. At that rate, the normal increases in social services funding by local, state, and federal sources should consistently maintain the current level of services. One may anticipate, however, proportionally greater number of state dollars being allocated for social services as agencies and interest groups become more effective lobbyists.

Major impacts of the existing level of growth will occur in demands for unemployment assistance, child care assistance and day care services, and low income housing. In addition, as the health care system becomes more sophisticated, the need for closely related social services such as rehabilitation, counseling, and other socio-psychological assistance will be needed. Table 37 illustrates projected increased levels of service for areas of need based upon the annual population growth rate required in the non-OCS base case.

TABLE 37

CUMULATIVE GROWTH IN SELECTED SOCIAL SERVICES AREAS[a]

Service	Non-OCS Base Case					
	1980	1982	1985	1990	1995	2000
Day Care Spaces	3,472	3,311	3,893	4,101	4,664	5,421
Low Income Housing	4,884	4,678	5,542	5,994	6,897.	8,124

[a] Assumes that the target population will remain constant; 17.7 percent of the total population for children ages 0-9 years.

Day Care Spaces. There are currently spaces within day care centers and homes for 2,553 children. The target group for such services is all children from age 0 to 9 years or 30,975 children. This, the current service per population ratio, is 8.2 percent. While not officially documented, school, public health, and community personnel claim that a significant number of children are alone before and after school when parents are at work. Projections listed above are based on the assumption that a more realistic projection of numbers of children needing partial or total day care would be to increase the service ratio to ten percent of the target population. Projected increases in day care needs for the base case will demand significant additions in the service delivery system.

Low Income Housing. The need for the low income housing currently exceeds the supply of adequate units. In 1979, 14,802 households were considered eligible for some form of housing assistance under section 8 guidelines. This constitutes about 22 percent of the total housing units in Anchorage. Current service levels address the needs of less than 10 percent of the target group. Optimally, housing assistance should be available to serve at least 33 percent of the target group (1978 Housing Assistance Plan)

It appears that projections of actual units necessary to serve one-third of the target population go beyond the financial and developmental means available for support such as acquisition and construction. Increasing numbers of dollars available for actual rent subsidies and other housing assistance payments may be a more realistic means of achieving some level of service to 33 percent of the target population.

Unemployment. Projected unemployment has been calculated assuming that the effect of gasline development will have similar effects as the previous oil pipeline development. The average unemployment rate for the previous five years was 6.8 percent, ranging from a low of 5.5 percent and a high of 8.3 percent. Projections are based on the correspondence of an average annual employment rate increase of four percent with an average annual unemployment rate of 6.8 percent. For every .1 percent variance in employment rates, the unemployment rate will change .05 percent in the opposite direction. Rates have in the past and will again respond consistently to development activities, unemployment declining dramatically in 1984 and 1985, and rising thereafter as activity terminates, and stabilizing through the 1990's. Heavy surges in unemployment rates in 1987, 1988, and 1989 reflect a combination of the high rate of in-migration of workers who move into the area, hoping to take advantage of gasline development jobs, and the addition of pipeline workers to the work force at the wind-down and termination of development.

TABLE 38

VARIANCE IN EMPLOYMENT AND UNEMPLOYMENT RATES

Year	Employment Rate Increase	Unemployment Rate
1981	0.8	8.4
1982	3.1	7.3
1983	5.8	5.9
1984	10.6	3.5
1985	10.1	3.7
1986	3.7	7.0
1987	-0.2	8.9
1988	0.01	8.7
1989	1.6	8.0
1990	3.0	7.3
1991	4.1	6.8
1992	3.9	6.9
1993	3.5	7.1
1994	3.0	7.3
1995	3.0	7.3
1996	3.6	7.0
1997	4.1	6.8
1998	3.9	6.9
1999	3.3	7.2
2000	3.4	7.1

Transportation

The population projections for the non-OCS base case are lower than the estimates used for transportation planning in the 1977 AMATS Long Range Element, falling over 100,000 below AMATS forecasts by 1995. This would suggest that goals set by the plan would meet the transportation needs of the population estimates of the base case. The weakness lies primarily in that the Anchorage Metropolitan Area Transportation Study (AMATS) plan will very likely not be fully implemented. Also, since the transportation plan is designed to meet present and future needs, the lag time required to complete various segments will mean that the needs will always exceed the system's capacity.

The greatest concern must be that if any major portion of the long- - range plan fails to be developed, the impacts on the system could be severe. In addition, the high transit estimates are not tied to a strong progress of implementation. If anything, the plan is a good effort to provide for reasonable good auto access but would reduce the viability of a strong transit system.

Government Expenditures and Financial Capacity

Applying the per capita expenditures as outlined in the section on standards, table 39 projects total general government and education expenditures in 1980 dollars. This is an overall 186 percent increase during the forecast period without considering increases due to inflation. While revenues are not projected due to expected major shifts in sources during the coming years, the increases in expenditures suggest a substantial shift from local to state sources of revenue.

TABLE 39

REAL DOLLAR EXPENDITURES

NON-OCS BASE CASE
(1980 millions of dollars)

Year	Expenditures For General Government	Expenditures For Education	Total Expenditures
1980	$109.4[a]	$103.7[a]	$213.1
1982	126.3	124.7	251.0
1985	164.7	144.4	309.1
1990	202.3	190.4	392.7
1995	253.2	232.8	486.0
2000	321.0	289.4	610.4

[a]Actual Expenditures

SUMMARY OF IMPACTS

The following matrix displays the services likely to be impacted through the period under study. Where quantifiable standards exist to assess service needs, the actual figures generated are listed in each matrix. When qualitative standards were the only means of determining impact for a particular service, the conditional qualifiers are discussed in the respective baseline and standards sections in Technical Report 48, Volumes I and II and subsequent update in the first two sections of this report.

NON-OCS BASE CASE

CUMULATIVE RATIO OF SERVICE REQUIREMENTS TO BASE CASE PROJECTIONS

	1980	1982	1985	1990	1995	2000
	196,154	187,061	219,954	231,686	253,489	306,259
Education: Primary/Secondary-No. of Teachers	2,050	1,852	1,960	2,317	2,635	3,063
No. of Classrooms	1,516	1,375	1,482	1,756	1,973	2,265
Postsecondary-No. of Credits - UAA	24,241	27,122	43,992	59,084	82,998	110,250
No. of Credits - ACC	50,779	52,749	60,675	62,183	69,113	78,454
Public Safety: Law Enforcement Manpower	356	338	404	427	491	577
Fire & Rescue Operations	237	227	269	291	334	394
Paramedics	40	39	46	50	57	67
Leisure: Play Lots	78	75	88	93	108	123
Neighborhood Parks	20	19	22	23	26	31
Softball Diamonds	65	62	73	77	88	102
Basketball Courts	98	94	110	116	132	153
Swimming Pools	8	7	9	9	11	12
Skating Rinks	39	37	44	46	53	61
Community Centers	8	7	9	9	11	12
Utilities: Water - (Million Gallons Per Day)	30.8	29.9	34.5	36.4	41.9	48.1
Sewer - (Million Gallons Per Day)	24.7	23.6	27.1	29.2	33.2	38.6
Electricity[a]						
Telephone	94,154	89,789	105,578	111,209	126,475	147,004
Solid Waste - (Tons per day)	431	410	491	530	619	748
Housing Units	67,279	64,441	76,336	82,569	94,998	111,907
Health: Bed Need	325	307	371	394	456	539
Primary Care Physicians	245	234	275	290	329	383
Social Services: Day Care Space	3,472	3,311	5,542	3,893	4,664	5,421
Unemployment Rates		7.3	3.7	7.3	7.3	7.1
Low Income Housing Units	4,884	4,678	5,542	5,994	6,897	8,124
Transportation[a]						
Financial Capacity and Capital Requirements - 1980 Millions of Dollars	213.1	251.0	309.1	392.	486.(	610.4

[a]See Section on Overview of Infrastructure Standards

Impact Assessment of St. George Basin OCS Scenarios

INTRODUCTION

The purpose of this section is to assess impact on specific indicators in the Anchorage community commensurate with OCS petroleum development in the St. George Basin.

Anchorage has experienced the impacts of large scale development. The community has a cyclical history of service and infrastructure expansion and plateau in response to economic boom and doldrums. The construction of the trans-Alaska pipeline created an historically high impact on the community and a tremendous expansion of the service infrastructure. The result is an Anchorage in a position to more easily absorb continued growth than was the case in the pre-pipeline years. The pipeline years also revealed the weaknesses in a number of key services including transportation, housing, and public safety which were stretched to tenuous lengths. The potential for future impact remains for these services and others, including education, recreation, health, social services, and financial capacity depending on the magnitude and timing of growth. However, the capacity of the community infrastructure will, for the most part, be able to expand proportionately to meet the incremental effects of each of the St. George Basin OCS scenarios.

Of the two scenarios developed to assess impact from the St. George Basin lease sale, only one displays impacts of significant levels to affect the service infrastructure. The forecasts of population, employment and income (measured as change from the base case) are shown in tables 40 through 43.

This section focuses on a detailed service impact analysis on the non-OCS base case - mean scenario.

No analysis is provided for the non-OCS base case - low scenario. The low scenario peaks in 1986 at 365 additional population and drops to 34 by the year 2000. The impact of this is not only negligible, it is non-existent. This is a .16 percent increase over the base in 1986, which is effectively a static situation.

In presenting quantitative data to describe the incremental service demand required by the base case - mean scenario, five dates were used rather than the twenty separate years the scenario occurs over. This is done to simplify the presentation without distorting the events which occur. In addition, the annual cumulative demand is a poor and unreliable predictive tool. While the model produces annualized predictions and annual change can be calculated using standards established, key dates would better provide an understanding of service demand by not focusing on the more speculative annual data.

The benchmark dates used are 1980, 1985, 1990, 1995, and 2000. The base case - mean scenario begins in 1983, peaks in 1989 - 1990, and then slowly loses strength to a low in 2000. The greatest impact occurs in 1989 with 4.1 percent increase in population and 1990 with 3.8 percent. By 2000, the increase of the OCS scenario over the base case is only 1.3 percent. The dates selected provide the scenario with the key benchmarks required for a full description of the incremental and cumulative demand that are discussed in the remainder of this section.

TABLE 40

SCENARIO GROWTH OF ANCHORAGE POPULATION - 1980 - 2000

Year	Mean Scenario	Low Scenario
1980	0	0
1981	0	0
1982	0	
1983	365	17:
1984	714	273
1985	1,382	360
1986	1,936	365
1987	4,759	256
1988	6,578	113
1989	8,847	079
1990	9,184	063
1991	8,120	055
1992	7,522	050
1993	7,420	046
1994	7,374	043
1995	7,362	041
1996	7,363	041
1997	7,611	039
1998	7,937	037
1999	8,028	035
2000	8,034	034

[a]MAP Regional Model for St. George Basin Scenario Projections

TABLE 41

SCENARIO GROWTH OF ANCHORAGE EMPLOYMENT - 1980-2000[a]

Year	Mean Scenario	Low Scenario
1980	0	0
1981	0	0
1982	0	
1983	217	10:
1984	450	168
1985	892	221
1986	1,240	221
1987	3,095	147
1988	4,312	050
1989	5,614	022
1990	5,535	013
1991	4,455	010
1992	3,767	008
1993	3,541	008
1994	3,454	008
1995	3,412	008
1996	3,386	008
1997	3,524	008
1998	3,725	008
1999	3,778	008
2000	3,767	008

[a]MAP Regional Model for St. George Basin Scenario Projections

TABLE 42

ANCHORAGE EMPLOYMEW INDICATORS

SCENARIO PROJECTIONS 1980 - 2000[a]

Year	Support Sector Employment		Government Employment		Basic Sector Employment	
	Mean Scenario	Low Scenario	Mean Scenario	Low Scenario	Mean Scenario	Low Scenario
1980	0	0	0	0	0	0
1981	0	0	0	0	0	0
1982	0	0	0	0	0	0
1983	102	043	006	004	096	048
1984	240	087	01 Y	010	166	063
1985	510	122	036	015	301	074
1 986	783	126	071	017	3.25	067
1987	1,601	081	071	015	1,258	045
1988	2,602	037	208	009	1,286	003
1989	3,274	015	388	004	1,679	001
1990	3,275	008	488	003	1,516	001
1991	2,764	006	520	002	975	001
1992	2,148	005	470	002	980	001
1 993	1,923	005	424	002	1,034	001
1994	1,872	005	421	002	1,006	001
1995	1,861	005	423	002	976	001
1996	1,867	005	425	002	947	001
1997	1,929	005	431	002	1,013	001
1998	2,034	005	448	002	1,087	001
1999	2,096	005	463	002	1,063	001
2000	2,118	005	467	001	1,029	001

[a]MAP Regional Model for St. George Basin Scenario Projections

TABLE 43

ANCHORAGE INCOME INDICATORS

SCENARIO PROJECTIONS 1980-2000[a]

Year	Real Personal Income[b]		Per Capita Personal Income[c]	
	Mean Scenario	Low Scenario	Mean Scenario	Low Scenario
1980	0	0	0	0
1981	0	0	0	0
1982	0	0	0	0
1983	6,796	2,973	12,953	4,977
1984	16,234	5,333	32,512	8,207
1985	36,711	7,371	75,363	9,746
1986	46,562	6,965	81,664	7,461
1987	137,956	4,431	306,176	3,535
1988	177,931	1,226	360,434	-1,762
1989	215,235	625	361,902	-2,320
1990	200,895	441	257,176	-2,230
1991	144,737	386	74,656	-1,996
1992	122,906	381	11,406	-1,711
1993	121,957	371	2,977	-1,523
1994	121,074	371	-5,555	-1,328
1995	121,219	379	-12,508	-1,191
1996	122,191	441	-19,074	-988
1997	130,586	395	-15,625	-1,055
1998	140,687	402	-10,012	-906
1999	143,332	395	-14,316	-852
2000	144,148	426	-20,012	-719

aMAp Regional Model for St. George Basin Scenario projections

bMillions of 1980 Dollars

c1980 Dollars

RESULTS OF ANALYSIS

The following requirements for community facilities and services in the case of this OCS scenario relate only to additional needs above and beyond the non-OCS base case. That is, they are facilities and services which will be required solely because of the added increase in population derived from OCS activities.

Education

Primary and Secondary. The ratios described in the overview of infrastructure standards were altered to reflect a constant 18 percent student - population ratio. This is due to the transient nature of of the scenario's population. Table 44 displays the projected student population through the year 2000, and the number of teachers and classrooms necessary to accommodate the population projections for the mean scenario/non-OCS base case. It should be noted that the scenario produces a peak increment in 1990 which constitutes 3.4 percent of the total projected requirement. The incremental change due to the scenario is *not* sufficient to suggest a serious impact on the capability of the system. It is estimated that about 66 permanent teachers and 50 classrooms, and 17 temporary teachers and 12 classrooms will be required to meet the increment of the mean scenario. However, it is felt that a part of the need could be met by the flexibilities of the base case through temporary additions or increased efficiencies in the system. Normal planning for growth and orderly development of the system should be sufficient to cope with the projected mean case. Even though the

temporary increase would eventually be used by the increasing permanent population, it may be unwarranted to plan for those additional facilities and manpower at that time, and pay for the operation and maintenance costs earlier than a permanent demand warrants

TABLE 44

ADDITIONAL TEACHER AND CLASSROOM NEEDS

NON-OCS BASE - MEAN SCENARIO
(Cumulative)

Year	Base Case Projected Student Population	Base Case Total Number of: Teachers	Classrooms	Additional Projected Student Population	Mean Scenario Required Number of: Teachers	Classrooms	Total Required: Teachers	Classrooms
1980	40,996	2,050	1,516	0	0	0	2,050	1,516
1985	39,592	1,983	1,482	249	12	9	1,992	1,491
1990	46,337	2,317	1,756	1,653	83	62	2,400	1,818
1995	52,698	2,635	1,973	1,325	66	50	2,701	2,023
2000	61,252	3,063	2,265	1,446	72	53	3,135	2,318

Public Postsecondary and Career/Vocational Training. Table 45 projects the additional public postsecondary student credit hours expected to occur under the mean scenario/non-OCS base case. The overall effect is modest and peaks at 3.8 percent of the total projection in 1990 dropping to 2.6 percent by 2000. The postsecondary system is sufficiently flexible that the scenario would not require additional resources over those suggested in the non-OCS base case. No standards were developed for private college or career/vocational education.

TABLE 45

ADDITIONAL STUDENT CREDIT HOURS IN PUBLIC POSTSECONDARY EDUCATION

NON-OCS BASE - MEAN SCENARIO

Year	Non-OCS Base Total Credits[a]	Additional Projected Credits	Total Projected Credits
1980	75,020	0	75,020
1985	104,667	590	105,257
1990	121,267	4,807	126,074
1995	152,111	4,250	157,061
2000	188,714	4,950	193,664

[a]Total sutdent enrollment data are not given because adding of institutional enrollment would not give an unduplicated total count.

Public Safety

Law Enforcement. Utilizing the standard of one law enforcement officer per 500 population, table 46 displays manpower requirements for law enforcement personnel over the period under study.

TABLE 46

LAW ENFORCEMENT MANPOWER REQUIREMENTS

NON-OCS BASE - MEAN SCENARIO

Year	Base Case	Mean Scenario	Total Manpower Requirements
1980	356	0	356
1985	404	3	407
1990	427	19	446
1995	491	15	506
2000	577	16	593

The. total manpower requirements yeild a force size of 593 by the year 2000, a 67 percent increase over the forecast period. Examination of the affect of the mean scenario over the base case reveals a very nominal increase in force size (4.4 percent in 1990 and 2.8 percent in 2000). If base case manpower requirements are met in a timely manner, the addition of the mean sceanrio should pose no real noticeable impacts.

Fire. Table 47 displays manpower requirements for Fire and Rescue Operations and Paramedic personnel through the forecast period. The standards in use are as follows:

- .60 Paramedics per 1,000 households
- 3.52 Fire and Rescue Operations personnel per 1,000 households

Only the emergency field divisions are considered in the projections.

TABLE 47

CUMULATIVE MANPOWER REQUIREMENTS

FIRE DEPARTMENT PERSONNEL

BASE CASE AND MEAN SCENARIO

	Non-OCS Base Case				
Manpower	1980	1985	1990	1995	2000
Fire & Rescue Operations	237	269	291	334	394
Paramedics	40	46	50	57	67

TABLE 47, Continued

	Mean Scenario				
Manpower	1980	1985	1990	1995	2000
Fire & Rescue Operations	0	1	12	10	11
Paramedics	0	0	2	2	2

	Total Manpower Requirements				
Manpower	1980	1985	1990	1995	2000
Fire & Rescue Operations	237	270	303	344	405
Paramedics	40	46	52	59	69

Over the forecast period, the incremental affect of the mean scenario over the base case for the Fire and Rescue Operations personnel peaks in 1990 with a 4.9 percent increase in force size and then tapers off to a 2.8 percent increase by the year 2000. Percent increase for paramedics closely approximates those for Fire and Rescue Operations personnel. If manpower needs are satisfied for the base case projections, the incremental affect of the mean scenario is so nominal that manpower requirements could either be met with real increases in manpower or by the achievement of greater efficiency with existing personnel.

Leisure

The following projections are offered as recreational facilities requirements for the mean scenario plus the non-OCS base case through the forecast period.

Recreation Facility Needs. The following table recaps the recreation facilities requirements for the non-OCS base case, and displays the incremental and total cumulative affect of the mean scenario and the and the mean scenario plus the base case.

TABLE 48

CUMULATIVE RECREATIONAL FACILITY NEEDS

	Non-OCS Base Case				
Facility	1980	1985	1990	1995	2000
Playlots	78	88	93	105	123
Neighborhood Parks	20	22	23	26	31
Softball	65	73	77		102
Basketball	98	110	116	1;;	153
Swimming Pools	8	9	9	11	12
Skating Rinks	39	44	46	53	61
Community Centers	8	9	9	11	12

	Mean Scenario				
Facility	1980	1985	1990	1995	2000
Playlots	0	1	3	3	3
Neighborhood Parks	0	0	1	1	0
Softball	0	1	3	2	3
Basketball	0	1	4	3	4
Swimming Pools	0	0	1	0	1
Skating Rinks	0	0	2	1	2
Community Centers	0	0	1	0	1

	Total Facilities Needs				
Facility	1980	1985	1990	1995	2000
Playlots	78	89	96	108	126
Neighborhood Parks	20	22	24	27	31
Softball	65	74	80	90	105
Basketball	98	111	120	135	157
Swimming Pools	8	9	10	11	13
Skating Rinks	39	44	48	54	63
Community Centers	8	9	10	11	13

The need for facilities, based on the incremental affect of the mean scenario, appears to peak at the same level in 1990 and again in 2000. Since adding facilities of this nature can be quite costly, it would be unwise to increase the inventory until the permanent base population warrants the additions in the year 2000. Adding facilities at a slower rate of growth between 1990 and 2000 would help to avoid creating facilitie with costly operations and maintenance until standards permanently dictate such additions.

The overall impact of the mean scenario can be considered quite nominal over the base case. Only very minimal additions are required prior to 1985. By 2000, the scenario produces an incremental effect of three play lots, three softball fields, four baseball diamonds, one swimming pool , two skating rinks and one community center over the base case. The direct impact of the addition of the above mentioned facilities is actually better measured by the amount of capital necessary to complete construction or acquisition as well as maintenance costs. Play lots, parks and softball fields cost relatively little to develop but scarce suitable real estate forces land acquisition to run high. Because of high construction and maintenance costs, there are no *new* swimming pools planned for the public sector. Efforts to meet the need for pools will have to be born by the private sector. An area within Ben Boeke (indoor) ice arena has been dedicated, layed out and plumbed for a third indoor rink. Construction is currently forstalled pending sufficient building capital to complete the needed facility.

Utilities

Water. Table 49 indicates water need for the non-OCS base case, the mean scenario, and the total demand for water under this OCS development. The figures are based on per capita consumption as discussed in the overview of infrastructure standards.

TABLE 49

WATER CONSUMPTION - MILLION LITERS PER DAY

BASE CASE - MEAN SCENARIO

Year	Base Case		Mean Scenario		Total	
	MLD[a]	MGD[b]	MLD	MGD	MLD	MGD
1980	116.6	30.8	0	0	116.6	30.8
1985	130.6	34.5	0.3	0.2	131.3	34.7
1990	137.8	36.4	5.3	1.4	143.1	37.8
1995	156.7	41.4	4.5	1.2	160.9	42.5
2000	182.1	48.1	4.9	1.3	187.0	49.4

[a]MLD - Million Liters Per Day

[b]MGD - Million Gallons Per Day

Either the development of Eagle River or Eklutna diversion as the major water resource for the Anchorage area would accommodate the effect of this scenario if the project can be implemented in a time-frame proposed by the Army Corps of Engineers, For additional information on water resources, refer to Volume I, Socioeconomic and Physical Base-line.

Sewer. The per capita wastewater generation figure in use is 477 liters per capita per day (126 gallons per capita per day). Table 50 displays the non-OCS base case wastewater generation, the mean scenario, and the total wastewater generation dictating service requirements for the period under study.

TABLE 50

WASTEWATER Generation - MILLION LITERS PER DAY

NON-OCS BASE - MEAN SCENARIO

Year	Base, Case		Mean Scenario		Total	
	MLD	MGD[c]	MLD[b]	MGD	MLD	MGD
1980	93.5	24.7	0	0	93.5	24.7
1985	104.8	27.7	0.8	0.2	105.6	27.9
1990	110.5	29.2	4.5	1.2	114.7	30.3
1995	125.7	33.2	3.4	0.9	129.1	34.1
2000	146.1	38.6	3.8	1.0	149.9	39.6

[a]These figures do not reflect the additional 20 percent infiltration/inflow problem as discussed in the baseline analysis

[b]MLD - Million Liters Per Day

[c]MGD - Million Gallons Per Day

If plans *for* expansion are implemented in a timely manner, the Municipality should be geared to handle approximately 39.6 million gallons per day of wastewater generation (does not include the 20 percent infiltration/inflow problem) based on the Municipal planning population projection of 353,184 by the year 1995. Plans for expansion of the system will have to be stepped up prior to 1995 to accommodate the effect of this scenario. In addition, if time delays are encountered

in completing construction/installation of planned facilities, the overall effectiveness of the system would be of major concern.

Electricity. The section on the Overview of Infrastructure Standards provides an explanation of the Power Market Study for the railbelt region of Alaska. A comparison of projections is presented here in order to identify any major weaknesses over the forecast period. Table 51 displays these figures.

TABLE 51

POWER MARKET STUDY PROJECTIONS AND

ST. GEORGE LEASE SALE PROJECTIONS

Year	Power Market Population Projections		Required Megawatts		St. George Base Case Plus Mean Scenario Population Projections
	High Scenario	Low Scenario	High Scenario	Low Scenario	
1980	200,232	193,752	502	425	1s6,154
1985	259,200	211,329	810	527	221,336
1990	329,751	242,352	1,227	664	240,870
1995	404,352	285,930	1,742	842	270,851
2000	527,553	343,764	2,576	1,069	314,293

In all benchmark years, the high and low growth scenarios proposed under the Power Market Study exceed those projected under the non-OCS base case plus the mean scenario for the St. George Lease Sale. Actual impact from growth under the projections without the planned lease sale and with the incremental affects of the mean scenario would be accommodated provided that planning is, in fact, gauged to the projections under the Power Market Study. In addition, if the Susitna Project is built, as discussed in the baseline analysis, much of the power needs for the entire railbelt region would be met through the 1990's.

Telephone. Table 52 displays projected main stations over the forecast period for the non-OCS base case and the mean scenario. The standard in use is .48 main stations per person as currently exists in the Anchorage area.

TABLE 52

MAIN STATION FORECAST

BASE CASE AND PIEAN SCENARIO

Year	Base Case	Mean Scenario	Total
1980	94,154	0	94,154
1985	105,578	663	106,241
1990	111,209	4,409	115,618
1995	126,475	3,533	130,008
2000	147,004	3,856	150,860

When examining the mean scenario, the greatest demand for increasing services occurs between 1985 and 1990. However, this demand is nominal with respect to the overall total projections and service providers should have no problems in meeting the increased need. After 1990, demand for service tapers off to below the 1990 level.

Solid Waste. Table 53 displays the incremental effects of the mean scenario on solid waste generation through the forecast period. The figures are based on an increasing factor of per capita solid waste generation as projected by the Department of Public Works.

TABLE 53

DAILY SOLID WASTE GENERATION

BASE CASE AND MEAN SCENARIO

	Per Capita Per Day		Base Case		Mean Scenario		Total	
Year	kgms[a]	lbs[b]	Metric Ton	U.S. Ton	Metric Ton	U.S. Ton	Metric Ton	U.S. Ton
1980	2.20	4.84	391	431	0	0	391	431
1985	2.20	4.86	445	491	2.7	3	448	494
1990	2.25	4.96	481	530	21.0	23	502	553
1995	2.29	5.04	561	619	16.3	18	578	637
2000	2.35	5.19	678	748	19.0	21	697	769

[a]kgms - kilograms

[b]lbs - pounds

With the introduction of new processing techniques commensurate with reducing fill and assuming the site targeted for the new santiary landfill is obtained as discussed in the baseline report, the mean scenario will pose no impact on the management of solid waste.

Housing

Table 54 shows the incremental effects of the mean scenario on the housing demand of the base case. The overall increase is very modest, occurs between 1985 and 1990 and is strongest during the slack economic period of the base case following the construction of the gas pipeline. The timeliness of the demand may act as a minor stimulant to the market and provide a buffer for moderating economic trends in the base case. However, part of the increment could be absorbed by increasing household size and reducing the vacancy rate. While it is possible that the peak demand can be met in the short term without adding to the housing stock as projected, the construction of about 3,000

units will be necessary, in the long-term. Since this is about one season for the industry spread over at least five years, the only impact should be a beneficial one in that it provides for economic activity during a period projected to be slow for the residential construction industry.

TABLE 54

CUMULATIVE HOUSING DEMAND

BASE CASE - MEAN SCENARIO

	Base Case			
Year	Single Family	Multi-Family	Mobile Home	Total
1980	32,444	27,091	7,744	67,279
1985	36,350	31,580	8,406	76,336
1990	38,488	35,401	8,680	82,569
1995	43,327	42,158	9,513	94,998
2000	49,914	51,345	10,648	111,907

	Mean Scenario			
Year	Single Family	Multi-Family	Mobile Home	Total
1980	0	0	0	0
1985	241	206	56	503
1990	1,607	1,449	362	3,418
1995	1,264	1,206	277	2,747
2000	1,354	1,367	289	3,010

	Total Projected Housing			
Year	Single Family	Multi-Family	Mobile Home	Total
1980	32,444	27,091	7,744	67,279
1985	36,591	31,786	8,462	76,839
1990	40,095	36,850	9,042	85,987
1995	44,591	43,364	9,790	97,745
2000	51,268	52,712	10,937	114,917

Health

Acute Care Bed Need. Utilizing the standards as described in the overview of infrastructure standards, the requirements of the non-OCS base case and mean scenario are such 'that the need for increased numbers of licensed acute care beds will occur between 1985 and 1990.' Several considerations must be taken into account prior to recommending the construction of a third acute care facility, however. First, current occupancy rates at both existing civilian, non-native facilities are not consistently at maximum levels in all specialty areas. As the composition of the local population changes, reallocation of beds by specialty may help meet demand. In addition, expansion/construction of existing facilities is more cost-effective than constructing a third, small hospital. Second, the development of increased reliance on outpatient services, surgicenters, home health care and support services, and other alternatives to institutional care may serve to shorten aver-age lengths of stay, and subsequently, free acute care beds for greater acute and emergent needs. Third, research has demonstrated that maximum cost efficiencies occur within acute care facilities with 200 to 300 beds.

Therefore, based upon the elements discussed above, construction of a third (minimum 200-bed) hospital would not appear to be cost effective until 1995.

TABLE 55

ACUTE CARE BED NEED[a]

BASE CASE - MEAN SCENARIO

Year	Non-OCS Base Bed Needs	Mean Scenario Bed Needs	Total Needs
1980	325	0	325
1985	371	3	374
1990	394	18	412
1995	456	14	470
2000	539	16	555

[a]Projections are based on civilian, non-native population deducting 28,000 as a constant military population and 5.2 percent of the population representing the native group.

Primary Care Physicians. Using the standards discussed in the overview of infrastructure standards, the mean scenario, non-OCS base case reflects a need for primary care physicians in excess of the current local supply in 1980. The need increases slightly through 1985 and more rapidly through 1990 then dropping again in the year 2000.

While the task of adding the incrementsl effect of the mean scenario above the requirements of the non-OCS base case every three to five years may not be difficult or unreasonable, the addition of over 150+ doctors to the system to attain the appropriate level of medical manpower is somewhat unlikely. Increased manpower needs will be met partially through the expansion of other health personnel, e.g. physician's assistar nurse practitioners, paramedics, and other allied health personnel.

TABLE 56

PRIMARY CARE PHYSICIAN NEEDS

NON-OCS BASE - MEAN SCENARIO

Year	Non-OCS Base Physician Needs	Mean Scenario Physician Needs	Total Needs
1980	245	0	245
1985	275	2	277
1990	290	11	301
1995	329	10	339
2000	383	10	393

Social Services

Day Care. Table 57 projects the number of day care spaces required in the non-OCS base case based upon the ratio described in the overview of infrastructure standards section. Demand for day care space under the mean scenario will require the approximate equivalent of 28 licensed day care homes over the requirements of the base case. Because the proportion of childbearing age residents will remain high and the economic demands of living in Alaska necessitate a second income, one can assume that demands for child care services described in the projections reflect true demands for services.

Low Income Housing. Table 57 depicts the requirements for low income housing assistance to meet population projections under the mean scenario applied to the base case. Using the service to population ratio described in the overview of infrastructure standards, the demand for either low income housing units or housing assistance payments will rise steadily through the year 2000. It may be more practical to

focus assistance efforts on increasing rent and payment subsidy programs as opposed to costly construction projects. Considering the high cost of construction and the relatively high vacancy rate in multi-family dwellings, direct cash subsidies may have a more positive and long lasting effect on the local economy *in* addition to the benefits of free choice of the recipient.

TABLE 57

DAY CARE SPACES AND LOW INCOME HOUSING NEEDS

NON-OCS BASE - MEAN SCENARIO

	Non-OCS Base Case				
Service	1980	1985	1990	1995	2000
Day Care Spaces	3,472	3,893	4,101	4,664	5,421
Low Income Housing	4,884	5,542	5,994	6,897	8,124

	Mean Scenario				
Service	1980	1985	1990	1995	2000
Day Care Spaces	0	25	162	130	142
Low Income Housing	0	36	249	199	219

	Total Projected Needs				
Service	1980	1985	1990	1995	2000
Day Care Spaces	3,472	3,918	4,263	4,794	5,563
Low Income Housing	4,884	5,578	6,243	7,096	8,343

Employment/Unemployment. Using the standards and methods illustrated in the overview of infrastructure standards, table 58 displays the average rate of growth of persons employed and the corresponding percent of the projected population which will be unemployed. As one indication of potential demand for social services, i.e. employment insurance, food stamps, and other additional public assistance, average unemployment rates become relatively critical to a description of impact of population growth.

TABLE 58

AVERAGE EMPLOYMENT RATE OF GROWTH COMPARED TO

AVERAGE UNEMPLOYMENT RATE

NON-OCS BASE - MEAN SCENARIO

	Non-OCS Base		Base With Mean Scenario	
Year	Avg. Empl Rate of Growth	Avg Unempl Rate	Avg. Empl Rate of Growth	Avg Unempl Rate
1981	0.8	8.4	0.8	8.4
1982	3.1	7.3	3.1	7.3
1983	5.8	5.9	6.1	5.8
1984	10.6	3.5	10.8	3.4
1985	10.1	3.7	10.5	3.5
1986	3.7	7.0	4.0	6.9
1987	-0.2	8.9	1.4	8.1
1988	0.01	8.7	1.0	8.2
1989	1.6	8.0	2.6	7.5
1990	3.0	7.3	2.8	7.4
1991	4.1	6.8	3.1	7.3
1992	3.9	6.9	3.3	7.2
1993	3.5	7.1	3.2	7.3
1994	3.0	7.3	2.8	7.4
1995	3.0	7.3	2.9	7.4
1996	3.6	7.0	3.5	7.1
1997	4.1	6.8	4.1	6.8
1998	3.9	6.9	3.9	6.9
1999	3.3	7.2	3.3	7.2
2000	3.4	7.1	3.3	7.2

The seven-year interval ending in 1988 represents a period of erratic employment activity due to the peak and wind-down of pipeline development activities. The rate of unemployment varies from a low of 3.4 percent in 1984 at peak production, to a high of 8.2 percent in 1988 upon cessatio of major construction efforts. This high post-development rate probably reflects the tendency of pipeline workers to remain available for other potential and lucrative work, as well as a significant number of those who in-migrated too late to secure work and who are staying and seeking other job opportunities,

Unemployment rates begin dropping off in 1989 and stabilize between 7.1 and 7.5 percent with a low point occurring in 1997 and 1998 of 6.8 and 6.9 percent. This generally reflects a normalizing trend following the impact of the gas pipeline.

Comparison of the average unemployment rate described in the mean scenario to that of the non-OCS base indicates relatively insignificant differences between the two. With the exception of 1990 and 1996, the requirements of the mean scenario positively impact the Anchorage economy over the non-OCS base case.

Transportation

Planning for long-range transportation needs per 1977 population estimates is geared for a population of 372,081 (includes military living on bases) through 1995. This figure is higher than projections for the St. George

lease Sale with the St. George projections falling over 100,000 less than the AMAT's projections by 1995. This would suggest that the goals set by the plan would meet the transportation needs of the population estimates of both the base case and mean scenario. The weakness lies in the implementation of the plans. If the road and transit long-range plans are not carried out, the general population growth could accentuate an already congested transportation system. There is a strong possibility that long-range plans of the system will not be implemented in as expeditious a fashion as necessary. The scenario, however, would only nominally affect the system over base case projections due to small incremental growth rates.

Government Expenditures and Financial Capacity

Additional local government experditures due to the mean scenario are shown in table 59. The projection produces a 3.6 percent increase in 1990 expenditures and 2.4 percent in 2000. This is less than the difference in approved budget and fund expenditures in the Municipal government. In addition, a rise in economic activity due to growth should produce revenues similar to the expenditures projected both at the local and state level . It is unlikely that any additional problems in provision of expenditures in Anchorage will occur beyond the non-OCS base case.

TABLE 59

ADDITIONAL REAL GENERAL GOVERNMENT AND EDUCATION EXPENDITURES

NON-OCS BASE - MEAN SCENARIO
(1980 Millions of Dollars)

Year	Non-OCS Base Case		Mean Scenario		Total	
	General Govt	Education	General Govt	Education	General Govt	Education
1980	109.4	103.7	.0	.0	109.4	103.7
1985	164.7	144.4	1.0	.9	165.7	145.3
1990	202.3	190.4	8.0	6.8	210.3	197.2
1995	253.2	232.8	7.1	5.9	260.3	238.7
2000	321.0	289.4	8.4	6.8	329.4	296.2

SUMMARY OF IMPACTS

The following matrix displays the services likely to be impacted due to the St. George Lease Sale OCS Scenario. When quantifiable standards exist to assess service needs, the actual figures generated are listed in the matrix. When qualitative standards were the only means of determining impact for a particular service, the conditional qualifiers are discussed in the respective sections in the overview of infrastructure standards and the update to Volume I, Socioeconomic and Physical Baseline, Technical Report 48. The incremental effect of the mean scenario was analyzed thoroughly in this section and its summary of impacts is shown in the following matrix. In general, no real significant effects on the service infrastructure were identified with the addition of the mean scenario over the non-OCS base case.

MEAN SCENARIO

CUMULATIVE RATIO OF SERVICE REQUIREMENTS TO MEAN SCENARIO PROJECTIONS

	1980	1985	1990	1995	2000
	0	714	9,184	7,362	8,034
Education: Primary/Secondary- No. of Teachers	0	12	83	66	72
No. of Classrooms	0	9	62	50	53
Postsecondary- No. of Credits	0	590	9,807	4,250	4,950
Public Safety: Law Enforcement Manpower	0	3	19	15	16
Fire & Rescue Operations	0	1	12	10	11
Paramedics	0	0	2	2	2
Leisure: Play Lots	0	1	3	3	3
Neighborhood Parks	0	0	1	1	0
Softball Diamonds	0	1	3	2	3
Basketball Courts	0	1	4	3	4
Swimming Pools	0	0	1	0	1
Skating Rinks	0	0	2	1	2
Community Centers	0	0	1	0	1
Utilities: Water - (Million Gallons Per Day)	0	0.2	1.9	1.2	1.3
Sewer - (Million Gallons Per Day)	0	0.2	1.2	0.9	1.0
Electricity[a]					
Telephone	0	663	4,909	3,533	3,856
Solid Waste (Tons per day)	0	8	823	18	21
Housing Units	0	503	3,418	2,747	3,010
Health: Bed Need	0	8	18	14	16
Primary Care Physicians	0	2	11	10	10
Social Services: Day Care Space	0	25	162	130	142
Unemployment Rates		3.5	7.4	7.4	7.2
Low Income Housing Units	0	36	249	199	219
Transportation[a]					
Financial Capacity and Capital Requirements - General Government(1980 millions of dolla	0	1.0	8.0	7.1	8.4
Education (1980 millions of dollars)	0	.9	6.8	5.9	6.8

[a]See Section on Overview of Infrastructure Standards

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