SUSITNA
HYDROELECTRIC PROJECT

FEDERAL ENERGY REGULATORY COMMISSION
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SOCIOECONOMIC IMPACT PROJECTIONS SUMMARY REPORT: COMPARISON OF CAR AND AIR TRANSPORTATION SCENARIOS

NK ORTH & ASSOCIATES, INC.
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RZA-EBASCO
TNA JOINT VENTURE

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SUSITNA HYDROELECTRIC PROJECT

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Report by
Frank Orth & Associates, Inc.

Under Contract to
Harza-Ebasco Susitna Joint Venture

Prepared for
Alaska Power Authority

Final Report
October 1984

NOTICE

ANY QUESTIONS OR COMMENTS CONCERNING THIS REPORT SHOULD BE DIRECTED TO THE ALASKA POWER AUTHORITY SUSITNA PROJECT OFFICE

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1.0 INTRODUCTION

1.0 INTRODUCTION

1.1 PURPOSE

This report provides a summary and comparison of socioeconomic impact projections of the Susitna Hydroelectric Project under alternative worker transportation scenarios for the communities that are expected to be significantly affected by the Project. These projections were developed under the auspices of the Social Sciences Program to support the needs of the Alaska Power Authority. This report is part of a monitoring framework that provides updated and more accurate information about the future for project planning efforts, state agency review, and the public involvement process.

The comparison of impact projections is designed to convey information regarding the effect that an air transportation program can have on the socioeconomic impacts of the Project. The information in this report will complement the March 1984 "Socioeconomic Impact Projections Summary Report"; [1/] in that report, projections for "Car" and "Bus" transportation scenarios, using updated information on baseline conditions, were compared with the projections included in the Susitna Hydroelectric Project Application to the Federal Energy Regulatory Commission.

1.2 DESCRIPTION OF THE TRANSPORTATION SCENARIOS

In this report, the term transportation program is used to designate the provision by the Alaska Power Authority of organized transportation to the work site for construction workers.

Transportation programs are often initiated for major projects in order to assist the project in competing for skilled workers and in cutting

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1/ Frank Orth & Associates, Inc., "Socioeconomic Impact Projections Summary Report: Update Projections of the Socioeconomic Impacts of the Susitna Hydroelectric Project", Prepared for Alaska Power Authority Under Contract to Harza-Ebasco Joint Venture, Document No. 1451, Anchorage, AK: March 1984.

costs. In addition, a transportation program can be designed to alter socioeconomic impacts by discouraging non-local workers from moving into communities near the Susitna Project site and/or by making it easier (or less expensive) for workers living outside daily commuting distance of the Project to travel to the site without relocating into the Local Impact Area. The effectiveness of a transportation program in minimizing socioeconomic impacts of a project can be dependent upon a number of policy issues, including the mode of transport, the number and distribution of the locations at which workers can embark, the cost of the transportation program to the worker, the travel allowance that is provided and the availability of private vehicle access to the site.

The scenarios summarized in this report provide some insight into the effect that two of these policy variables (the location of air departure and the availability of private vehicle access to the site) can have on the effectiveness of an air transportation program. For each community or area of interest, socioeconomic impact projections for five alternative transportation program scenarios are summarized and compared: 1) Car access; 2) Air From Fairbanks; 3) Air From Anchorage; 4) Air From Anchorage and Fairbanks; and 5) Car or Air Access. All scenarios assume that a work camp and permanent village will be located at the Project site and that workers will be housed at these facilities during scheduled work shifts.

The following additional assumptions are included in the scenarios:

1. Car. Under this scenario, the Project will not provide any organized transportation to the site, and construction workers would be expected to travel to the site using personal vehicles.

   Each worker is expected to make the decision on whether and where to relocate based upon 1) the amount of time it takes to travel to the site from various communities, and 2) the worker's preferences regarding community characteristics, such as the availability of housing, public facilities and services, and commercial services. The average travel times to the construction site from each community, under this scenario, are shown in Table 1.

TABLE 1

TRAVEL TIME TO CONSTRUCTION SITE UNDER ALTERNATIVE SCENARIOS
FOR SELECTED COMMUNITIES IN THE RAILBELT

Community Of Origin	Average Travel Time By Scenario (In Hours)				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks/ Anchorage	Air or Car Car Access
Mat-Su Borough:					
Palmer	6.4	9.8	1.8	1.8	1.8
Wasilla	6.0	9.4	1.8	1.8	1.8
Houston	5.7	9.1	2.2	2.2	2.2
Trapper Creek	4.2	7.6	3.6	3.6	3.6
Talkeetna	5.0	8.4	3.6	3.6	3.6
Yukon-Koyukuk:					
Cantwell	1.9	5.2	6.0	5.2	1.9
Healy	2.8	4.2	7.0	4.2	2.8
Nenana	4.2	2.9	8.4	2.9	2.9
Anchorage	7.1	10.5	0.8	0.8	0.8
Fairbanks-N. Star	5.5	1.5	9.7	1.5	1.5

NOTE: All travel times are year-round averages of time spent under both fair weather and winter conditions. The time spent in road travel, air travel and rail travel are included, as appropriate.

Under the "Car" scenario, the closer a community is to the work site by road, the more attractive the community will be for relocation, from the point of view of travel time. Thus, communities in the Mat-Su Borough and the southern portion of the Yukon-Koyukuk census division are projected to receive the largest proportion of in-migration resulting from the project.

2. Air From Fairbanks. It is assumed, under this scenario, that all laborers and semi-skilled/skilled workers in the construction phase of the project will be flown to the site from Fairbanks by project-arranged air transportation. Construction workers who do not live in Fairbanks would need to travel there first in order to obtain access to the site. Administrative/engineering workers would be able to fly to the site from either Anchorage or Fairbanks. No personal vehicles would be allowed on the access road or at the work site during Project construction with the exception of residents who lived in local impact area communities prior to Project construction. In this scenario, it is assumed that no workers from Fairbanks will relocate to other communities.

   As shown in Table 1, the travel times from Cantwell, Anchorage, all Mat-Su Borough communities and Healy would be higher under the "Air From Fairbanks" scenario than under the "Car" scenario. Travel times for Fairbanks and Anchorage would be lower than they would be under the "Car" scenario.

   As a result, in-migration into Fairbanks would be higher under this scenario than under the "Car" scenario, and in-migration into the Mat-Su Borough communities and Cantwell would be lower than under the "Car" scenario.

3. Air From Anchorage. It is assumed, under this scenario, that all construction workers will be flown to the site from Anchorage by project-arranged air transportation. Construction workers who do not live in Anchorage would need to travel there first in order to obtain access to the site. No personal vehicles will be allowed on the access road or at the work site

during Project construction with the exception of residents who lived in local impact area communities prior to Project construction. Because of the ease of transport from Anchorage under this scenario, it is assumed that no workers from Anchorage will relocate to other communities as a result of obtaining work on the Project.

As shown in Table 1, the travel times from Anchorage and all Mat-Su Borough communities would be lower under the "Air From Anchorage" scenario than under the "Car" scenario. In addition, the table shows that whereas the communities in the northern part of the Mat-Su Borough (Trapper Creek and Talkeetna) had shorter travel times than the southern communities (Palmer, Wasilla, and Houston) under the "Car" scenario, these communities would have relatively longer travel times than the southern communities under the "Air From Anchorage" scenario. Travel times for Fairbanks and the Yukon-Koyukuk communities would be higher under this scenario.

As a result, in-migration into Anchorage will be dramatically higher under this scenario than under the "Car" scenario, in-migration into Trapper Creek, Talkeetna and the Yukon-Koyukuk census division communities will be significantly lower under this scenario than under the "Car" scenario, and in-migration into the southern part of the Mat-Su Borough will be higher under this scenario.

4. Air From Anchorage and Fairbanks. Under this scenario, it is assumed that project-arranged air transportation to the work site will be available to construction workers from both Anchorage and Fairbanks. Construction workers would be able to leave from either city and are assumed to leave from the city that results in the shortest travel times from their places of residence. No personal vehicles will be allowed on the access road or at the work site during Project construction with the exception of residents who lived in local impact area communities prior to Project construction. Because of the ease of transport from Anchorage and Fairbanks under this scenario, it is assumed

that no workers from Anchorage or Fairbanks will relocate to other communities as a result of obtaining work on the Project.

As can be seen in Table 1, the travel times from the Mat-Su Borough communities and Anchorage are lower when the workers use air service from Anchorage; thus, workers living in these communities are assumed to fly from Anchorage under this scenario. Workers from the Yukon-Koyukuk communities and Fairbanks-North Star Borough are assumed to fly from Fairbanks.

In-migration to all Mat-Su Borough and Yukon-Koyukuk communities would be significantly lower under this scenario than under the "Car" scenario and in-migration into both Anchorage and Fairbanks would be higher than under the "Car" scenario.

5. Car Or Air. Under this scenario, it is assumed that construction workers will be allowed to travel to the site using either project-arranged air transportation (from either Anchorage or Fairbanks) or personal vehicles, and that workers will utilize the mode of travel that provides the shortest travel time. Because of the ease of transport from Anchorage and Fairbanks under this scenario, it is assumed that no workers from Anchorage or Fairbanks will relocate to other communities as a result of obtaining work on the Project.

Workers living in Anchorage and in Mat-Su Borough communities are assumed to fly from Anchorage under this scenario. Workers from the Cantwell and Healy area are assumed to drive to the site. Workers living in the area of Nenana and the Fairbanks-North Star Borough are assumed to fly from Fairbanks.

This scenario would result in in-migration patterns very similar to the "Air From Anchorage and Fairbanks" scenario. In-migration into all Mat-Su Borough and Yukon-Koyukuk communities would be significantly lower than under the "Car" scenario and in-migration into both Anchorage and Fairbanks would be higher than under the "Car" scenario.

1.3 STRUCTURE OF THE REPORT

Each of the following chapters of this report provide information on the socioeconomic impacts of the Project, under the various scenarios, for a specific area of interest. The following areas of interest are included: 1) Matanuska-Susitna Borough; 2) Trapper Creek; 3) Talkeetna; 4) Cantwell; 5) Anchorage; and 6) Fairbanks. [1/] For each area of interest, impacts of the Project on population, employment, housing, public facilities and services, and the fiscal conditions of local jurisdictions are compared, as appropriate. The final section of the report provides a brief summary of the alternatives.

1/ These were the major communities for which socioeconomic impacts of the Susitna Hydroelectric Project were discussed in Alaska Power Authority, "Application for License for the Susitna Hydroelectric Project", Exhibit E, Chapter 5, Anchorage, AK: February 1983.

MATANUSKA-SUSITNA BOROUGH

2.0 MATANUSKA-SUSITNA BOROUGH (OFF-SITE) SUMMARY OF SOCIOECONOMIC IMPACT PROJECTIONS

2.0 MATANUSKA-SUSITNA BOROUGH (OFF-SITE)
SUMMARY OF SOCIOECONOMIC IMPACT PROJECTIONS

2.1 INTRODUCTION

This chapter summarizes and compares the projected impacts of the Susitna Hydroelectric Project on the Matanuska-Susitna Borough. The following tables present the baseline, with-project, and impact projections for each of the five transportation scenarios.

Table 2 presents the projections of cumulative population influx related to the Project during the project construction period (1985 to 2002) for each of the five scenarios. Table 3 shows the employment, population, and housing demand forecasts for the peak construction year of 1990. Tables 4 through 6 contain projections of the impacts on public facilities and services and on the budgets of the Matanuska-Borough and the Matanuska-Susitna Borough School District in 1990.

2.2 KEY DIFFERENCES

1. All four of the air transportation scenarios would result in a lower level of population influx into the Mat-Su Borough than would occur with only personal vehicle access to the site (the "Car" scenario). This occurs because the relative difference between the travel time from the Mat-Su Borough and other areas of the state is reduced by the availability of air transport. This change in relative travel times reduces the incentive for workers to relocate to the Mat-Su Borough.

2. The projections indicate that an air transportation program could reduce the peak (1990) population influx into the Mat-Su Borough, of 1,393 under the "Car" scenario, by between 38 percent and 80 percent depending on the transportation program used.

   In the year 2002, the remaining project-related population under the air scenarios was projected to range from 175 to 700 people. These

figures are between 35 percent and 84 percent lower than the remaining project-related population of 1,079 projected under the "Car" scenario.

3. The "Air From Anchorage" and "Air From Fairbanks" scenarios result in peak cumulative population influx projections of 775 and 869, respectively as compared to a peak population influx of 1,393 people under the "Car" scenario.

   The scenarios in which workers are allowed to fly from either Anchorage or Fairbanks -- the "Air From Fairbanks and Anchorage" and the "Car or Air" scenarios -- provided the lowest projections of population influx into the Mat-Su Borough (258-261 people by the year 1990). These scenarios result in the lowest in-migration projections because the workers from both Anchorage and Fairbanks will have no incentive to relocate, and the majority of workers on the project are expected to come from these two cities.

   The close results of the "Air From Fairbanks and Anchorage" and the "Car or Air" scenarios also indicates that the allowance of personal vehicle access may not make a significant difference in the mitigation of socioeconomic impacts.

4. The air transportation scenarios would result in larger percentages of in-migrant workers who move out of the Mat-Su Borough during the two periods of declining construction work forces (1990-1995 and 1999-2002) than the "Car" scenario. However, because a smaller number of in-migrant workers are projected to move into the borough initially as a result of use of an air transportation program, these scenarios show a smaller boom-bust effect than the "Car" scenario.

   The reason for the difference in the percent of in-migrant workers who move out after 1990 and 1999 is related to the facts that (1) workers from out-of-state are expected to have less of a tendency to remain in the Local Impact Area after project completion than workers who originate from Alaska; and (2) under the various air transportation scenarios, many workers who originate in Anchorage or

Fairbanks have no incentive to relocate; thus, workers from out-of-state would represent a larger percentage of the total pool of relocating workers. This will result in larger overall percentages of workers who move out of the Local Impact Area after project completion than would be the case in the Car Scenario.

5. The use of an air transportation program would also reduce the peak level of employment, by place of residence, from approximately 1,000 workers under the "Car" scenario to between 450 and 754 under the various air scenarios.

   This decrease in projected employment (by place of residence) is related to the reduction in the number of non-local workers who will move into the Mat-Su Borough and the corresponding number of secondary jobs created. It does not indicate any reduction in direct job opportunities on the Project for current borough residents.

6. Projections of project-related requirements for housing, schools, police protection, recreation facilities, hospital requirements, and solid waste disposal are lower under the four air transportation scenarios than under the "Car" scenario, in approximately the same ratio as the projections of population influx.

7. Under all scenarios, the projected requirements for most facilities and services (with the exception of community parks and landfills) will exceed the existing and planned capacity of these facilities.

   It should be noted, however, that the requirements for these public facilities would exceed existing/planned capacity even if the Project were not constructed. In most areas of the Mat-Su Borough, the population influx related to the Project will only add slightly to the substantial increases in need for public facilities and services that will result from the population growth under the Baseline (without-Project).

8. An air transportation program would reduce possible adverse impacts on the Mat-Su Borough General Fund. The "Air From Fairbanks or Anchorage" and the "Car or Air" scenarios would decrease the project-related deficit more than any of the other scenarios.

9. By reducing the Project-related school enrollment in the Mat-Su Borough, the use of an air transportation program would increase the small budget surpluses that are projected for the Mat-Su Borough School District. [1/] The "Air From Fairbanks or Anchorage" and the "Car or Air" scenarios would increase the Project-related surplus more than any of the other scenarios (as shown in Table 6).

10. The slight positive impacts of the Project on the Service Area Fund would be decreased by the use of an air transportation program (see Table 6).

1/ In recent years, the Mat-Su Borough school district budget has shown very small budget surpluses while at the same time enrollment has risen. While this indicates that the budget surpluses have increased with enrollment, it also indicates that the education expenditures per pupil have been declining. In the Susitna socioeconomic impact model, the historical trend of slight budget surpluses has been assumed to continue in the future, but it should be noted that the accompanying decline in per capita expenditures indicates this is not necessarily a beneficial trend.

TABLE 2

PROJECTIONS OF CUMULATIVE POPULATION INFLUX INTO THE MATANUSKA-SUSITNA BOROUGH (OFF-SITE) UNDER THE CAR AND FOUR AIR TRANSPORTATION SCENARIOS, 1985-2002

Year	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
1985	396	242	288	131	125
1986	519	361	405	159	144
1987	651	417	406	152	144
1988	941	570	547	198	182
1989	1,085	659	628	211	208
1990	1,393	869	775	261	258
1991	1,362	851	745	258	247
1992	1,275	800	694	230	230
1993	1,167	741	641	201	192
1994	1,128	727	613	197	197
1995	1,099	710	592	190	183
1996	1,127	726	612	196	196
1997	1,183	752	643	209	203
1998	1,213	764	660	222	209
1999	1,220	768	663	222	212
2000	1,199	761	656	214	205
2001	1,125	727	610	195	192
2002	1,079	700	563	179	175

Source: Frank Orth & Associates, Inc., 1984.

TABLE 3

MATANUSKA-SUSITNA BOROUGH (OFF-SITE)
ECONOMIC/DEMOGRAPHIC IMPACTS
WATANA PEAK CONSTRUCTION YEAR, 1990

Socioeconomic Variable	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
Employment (Manpower) [1/]					
Baseline	7,857	7,857	7,857	7,857	7,857
With-Project	8,856	8,611	8,573	8,313	8,307
Impact of Project	999	754	716	456	450
Population (People)					
Baseline	47,246	47,246	47,246	47,246	47,246
With-Project	48,639	48,115	48,021	47,507	47,504
Impact of Project	1,393	869	775	261	258
Households (Occupied Units)					
Baseline	15,375	15,375	15,375	15,375	15,375
With-Project	15,791	15,635	15,607	15,454	15,453
Impact of Project	416	260	232	79	78

[1/] Employment by place of residence.

Source: Frank Orth & Associates, Inc., 1984.

TABLE 4

MATANUSKA-SUSITNA BOROUGH (OFF-SITE)
FACILITIES/SERVICES IMPACTS
WATANA PEAK CONSTRUCTION YEAR, 1990

Socioeconomic Variable	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
Solid Waste Disposal (Cumulative Acres)					
Baseline	49.1	49.1	49.1	49.1	49.1
With-Project	49.8	49.5	49.5	49.2	49.2
Impact of Project	0.7	0.5	0.4	0.2	0.2
Capacity 1/	212.0	212.0	212.0	212.0	212.0
Project-Related Increase (%) 2/	1.4%	0.9%	0.9%	0.3%	0.3%
Percent Capacity Utilization 3/	23.5%	23.3%	23.3%	23.2%	23.2%
Police Protection (Manpower Requirements)					
Baseline	52.4	52.4	52.4	52.4	52.4
With-Project	54.1	53.4	53.3	52.7	52.7
Impact of Project	1.7	1.0	0.9	0.3	0.3
Number of Police 1/	29.0	29.0	29.0	29.0	29.0
Project-Related Increase (%) 2/	3.2%	1.9%	1.7%	0.6%	0.6%
Percent Inc. Over Existing Staff 3/	186.6%	184.1%	183.8%	181.8%	181.8%
Recreation Facilities (Acres of Community Parks)					
Baseline	73.8	73.8	73.8	73.8	73.8
With-Project	75.4	75.0	74.9	74.1	74.1
Impact of Project	1.6	1.2	1.1	0.3	0.3
Capacity 1/	96.5	96.5	96.5	96.5	96.5
Project-Related Increase (%) 2/	2.2%	1.6%	1.5%	0.5%	0.5%
Percent Capacity Utilization 3/	78.1%	77.7%	77.6%	76.8%	76.8%
Hospital Requirements (Number of Beds)					
Baseline	60.5	60.5	60.5	60.5	60.5
With-Project	62.3	61.6	61.5	60.8	60.8
Impact of Project	1.8	1.1	1.0	0.3	0.3
Capacity 1/	30.0	30.0	30.0	30.0	30.0
Project-Related Increase (%) 2/	1.4%	1.8%	1.6%	0.6%	0.6%
Percent Capacity Utilization 3/	207.7%	205.3%	204.9%	202.7%	202.7%

1/ Includes existing and planned capacity, December 1983.

2/ Calculated by dividing the impact number by the baseline number.

3/ Calculated by dividing the with-project number by the capacity number.

Note: Sums may not equal totals due to independent rounding.

Source: Frank Orth & Associates, Inc., 1984.

TABLE 5

MATANUSKA-SUSITNA BOROUGH (OFF-SITE)
FACILITIES/SERVICES IMPACTS
WATANA PEAK CONSTRUCTION YEAR, 1990

Socioeconomic Variable	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
Primary School Children					
Baseline	5,911	5,911	5,911	5,911	5,911
With-Project	6,117	6,038	6,025	5,949	5,949
Impact of Project	206	127	114	38	38
Capacity 1/	4,835	4,835	4,835	4,835	4,835
Project-Related Increase (%) 2/	3.5%	2.1%	1.9%	0.6%	0.6%
Percent Capacity Utilization 3/	126.5%	124.9%	124.6%	123.0%	123.0%
Secondary School Children					
Baseline	5,036	5,036	5,036	5,036	5,036
With-Project	5,211	5,145	5,132	5,068	5,068
Impact of Project	175	109	96	32	32
Capacity 1/	4,080	4,080	4,080	4,080	4,080
Project-Related Increase (%) 2/	3.5%	2.2%	1.9%	0.6%	0.6%
Percent Capacity Utilization 3/	127.7%	126.1%	125.7%	124.2%	124.2%
Total School Enrollment					
Baseline	10,947	10,947	10,947	10,947	10,947
With-Project	11,328	11,183	11,157	11,007	11,007
Impact of Project	381	236	210	60	60
Capacity 1/	8,915	8,915	8,915	8,915	8,915
Project-Related Increase (%) 2/	3.5%	2.2%	1.9%	0.5%	0.5%
Percent Capacity Utilization 3/	127.0%	125.4%	125.1%	123.5%	123.5%

1/ Includes existing and planned capacity, December 1983.

2/ Calculated by dividing the impact number by the baseline number.

3/ Calculated by dividing the with-project number by the capacity number.

Note: Sums may not equal totals due to independent rounding.

Source: Frank Orth & Associates, Inc., 1984.

TABLE 6

MATANUSKA-SUSITNA BOROUGH (OFF-SITE)
FISCAL IMPACTS
WATANA PEAK CONSTRUCTION YEAR, 1990

Socioeconomic Variable	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
General Fund (000 dollars)					
Baseline Revenues	39,068	39,068	39,068	39,068	39,068
With-Project Revenues	40,220	39,787	39,709	39,284	39,284
Impact on Revenues	1,151	718	640	215	215
Baseline Expenditures	42,873	42,873	42,873	42,873	42,873
With-Project Expenditures	44,138	43,662	43,576	43,110	43,110
Impact on Expenditures	1,265	788	702	238	238
Net Fiscal Balance (Baseline)	- 3,805	-3,805	-3,805	-3,805	-3,805
Net Fiscal Balance (W-project)	- 3,918	-3,875	-3,867	-3,826	-3,826
Project Impact	- 113	-70	-62	-21	-21
Service Area Fund (000 dollars)					
Baseline Revenues	5,186	5,186	5,186	5,186	5,186
With-Project Revenues	5,229	5,213	5,211	5,194	5,194
Impact on Revenues	44	27	24	8	8
Baseline Expenditures	5,025	5,025	5,025	5,025	5,025
With-Project Expenditures	5,064	5,049	5,047	5,032	5,032
Impact on Expenditures	39	24	22	7	7
Net Fiscal Balance (Baseline)	161	161	161	161	161
Net Fiscal Balance (W-project)	165	164	164	162	162
Project Impact	4	3	3	1	1
School District Budget (000 dollars)					
Baseline Revenues	57,972	57,972	57,972	57,972	57,972
With-Project Revenues	62,523	61,826	61,508	60,426	60,426
Impact on Revenues	4,552	3,854	3,534	2,452	2,452
Baseline Expenditures	56,804	56,804	56,804	56,804	56,804
With-Project Expenditures	60,608	59,850	59,502	58,319	58,319
Impact on Expenditures	3,804	3,046	2,698	1,515	1,515
Net Fiscal Balance (Baseline)	1,168	1,168	1,168	1,168	1,168
Net Fiscal Balance (W-project)	1,915	1,976	2,006	2,107	2,107
Project Impact	747	808	838	939	939

Note: Sums may not equal totals due to independent rounding.

Source: Frank Orth & Associates, Inc., 1984.

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3.0 COMMUNITY OF TALKEETNA SUMMARY OF SOCIOECONOMIC IMPACT PROJECTIONS

3.0 COMMUNITY OF TALKEETNA
SUMMARY OF SOCIOECONOMIC IMPACT PROJECTIONS

3.1 INTRODUCTION

This chapter summarizes and compares the projected impacts of the Susitna Hydroelectric Project on the Community of Talkeetna. The following tables present the baseline, with-project, and impact projections for each of the five transportation scenarios.

Table 7 presents the projections of cumulative population influx related to the Project during the Project construction period (1985 to 2002) for each of the five scenarios. Table 8 shows the employment, population, and housing demand forecasts for the peak construction year of 1990. Table 9 summarizes the impacts on school enrollment in 1990.

3.2 KEY DIFFERENCES

1. All four of the air transportation scenarios would result in a lower level of population influx into Talkeetna than would occur with only personal vehicle access to the site (the "Car" scenario). This occurs because the relative difference between the travel times to the construction site from Talkeetna and from other areas of the state is reduced by the availability of air transport. This change in relative travel times reduces the incentive for workers to relocate to Talkeetna.

2. The projections indicate that an air transportation program could reduce the peak (1990) population influx into Talkeetna (195 people under the "Car" scenario) by 45 percent if air transport from Fairbanks is provided, and by up to 93 percent if air transport from Anchorage and car access are also available.

   The scenarios which include air transport from both Anchorage and Fairbanks result in the lowest in-migration projections for Talkeetna

because the workers from both Anchorage and Fairbanks will have no incentive to relocate and the majority of workers on the Project are expected to come from these two cities.

In the year 2002, the remaining project-related population under the air scenarios was projected to range from 7 to 83 people. These figures are between 56 percent and 95 percent lower than the remaining project-related population of 147 projected under the "Car" scenario.

3. The use of an air transportation program would also reduce the peak level of project-related employment, by place of residence, from approximately 95 workers under the "Car" scenario to between 8 and 55 under the various air scenarios.

   This decrease in projected employment (by place of residence) is related to the reduction in the number of non-local workers who will move into Talkeetna and the corresponding number of secondary jobs created. It does not indicate any reduction in direct job opportunities on the Project for current Talkeetna residents.

4. As a result of the lower population influx projections, the project-related increase in housing demand in Talkeetna would also be lower under each of the transportation scenarios than under the "Car" scenario.

5. The 1990 project-related increase in enrollment at the Talkeetna elementary school could be reduced from an estimated 29 students under the "Car" scenario to 16 students under the "Air From Fairbanks" and to only 2 students under the "Air From Anchorage and Fairbanks" and the "Car or Air" scenarios.

   This decline in elementary school enrollment could reduce the capacity utilization of the school from 86 percent under the "Car" scenario to between 59 percent and 73 percent under the various air transportation scenarios. This will result in a corresponding decline in Project-related school revenues and operating costs.

6. The 1990 project-related increase in secondary school children living in Talkeetna could be reduced from an estimated 25 students under the "Car" scenario to 14 students under the "Air From Fairbanks" and to only 2 students under the "Air From Anchorage and Fairbanks" and the "Car or Air" scenarios. This will result in a corresponding decline in Project-related revenues and school operating costs.

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TABLE 7

PROJECTIONS OF CUMULATIVE POPULATION INFLUX INTO THE COMMUNITY OF TALKEETNA UNDER THE CAR AND FOUR AIR TRANSPORTATION SCENARIOS, 1985-2002

Year	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
1985	52	31	14	7	7
1986	80	45	21	7	7
1987	98	52	17	7	7
1988	132	69	27	7	13
1989	152	86	31	13	13
1990	195	107	34	13	13
1991	190	107	31	13	13
1992	180	100	31	13	13
1993	162	93	31	10	10
1994	155	90	27	10	10
1995	148	87	27	7	7
1996	155	90	27	10	10
1997	162	93	31	10	10
1998	165	93	31	13	10
1999	164	93	31	13	10
2000	164	93	31	13	10
2001	151	90	27	10	10
2002	147	83	24	7	7

Source: Frank Orth & Associates, Inc., 1984.

TABLE 8

COMMUNITY OF TALKEETNA
ECONOMIC/DEMOGRAPHIC IMPACTS
WATANA PEAK CONSTRUCTION YEAR, 1990

Socioeconomic Variable	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
Employment (Manpower) [1]					
Baseline	[2]	[2]	[2]	[2]	[2]
With-Project	[2]	[2]	[2]	[2]	[2]
Impact of Project	95	55	19	8	8
Population (People)					
Baseline	457	457	457	457	457
With-Project	652	564	491	470	470
Impact of Project	195	107	34	13	13
Households (Occupied Units)					
Baseline	149	149	149	149	149
With-Project	208	181	159	153	153
Impact of Project	59	32	10	4	4

[1] Employment by place of residence.

[2] Baseline employment at the community level was not projected.

Source: Frank Orth & Associates, Inc., 1984.

TABLE 9

COMMUNITY OF TALKEETNA
FACILITIES/SERVICES IMPACTS
WATANA PEAK CONSTRUCTION YEAR, 1990

Socioeconomic Variable	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
Primary School Children [1]					
Baseline	57	57	57	57	57
With-Project	86	73	62	59	59
Impact of Project	29	16	5	2	2
Capacity [2]	100	100	100	100	100
Project-Related Increase (%) [3]	50.9%	28.1%	8.8%	3.5%	3.5%
Percent Capacity Utilization [4]	86.0%	73.0%	62.0%	59.0%	59.0%
Secondary School Children [5]					
Baseline	49	49	49	49	49
With-Project	74	63	54	51	51
Impact of Project	25	14	5	2	2
Project-Related Increase (%) [3]	51.0%	28.6%	10.2%	4.1%	4.1%
Total School Enrollment					
Baseline	106	106	106	106	106
With-Project	160	136	116	110	110
Impact of Project	54	30	10	4	4
Project-Related Increase (%) [3]	50.9%	28.3%	9.4%	3.8%	3.8%

[1] The Talkeetna elementary school serves an area wider than the townsite area of Talkeetna. For this reason, enrollment may be understated by including only the schoolchildren living in Talkeetna.

[2] Includes existing and planned capacity, December 1983.

[3] Calculated by dividing the impact number by the baseline number.

[4] Calculated by dividing the with-project number by the capacity number.

[5] There are no secondary schools located in Talkeetna.

Note: Sums may not equal totals due to independent rounding.

Source: Frank Orth & Associates, Inc., 1984.

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4.0 COMMUNITY OF TRAPPER CREEK SUMMARY OF SOCIOECONOMIC IMPACT PROJECTIONS

4.0 COMMUNITY OF TRAPPER CREEK
SUMMARY OF SOCIOECONOMIC IMPACT PROJECTIONS

4.1 INTRODUCTION

This chapter summarizes and compares the projected impacts of the Susitna Hydroelectric Project on the Community of Trapper Creek. The following tables present the baseline, with-project, and impact projections for each of the five transportation scenarios.

Table 10 presents the projections of cumulative population influx related to the Project during the project construction period (1985 to 2002) for each of the five scenarios. Table 11 shows the employment, population, and housing demand forecasts for the peak construction year of 1990. Table 12 summarizes the impacts on school enrollment in 1990.

4.2 KEY DIFFERENCES

1. All four of the air transportation scenarios would result in a lower level of population influx into Trapper Creek than would occur with only personal vehicle access to the site (the "Car" scenario). This occurs because the relative difference between the travel times to the construction site from Trapper Creek and from other areas of the state is reduced by the availability of air transport. This change in relative travel times reduces the incentive for workers to relocate to Trapper Creek.

2. The projections indicate that an air transportation program could reduce the peak (1990) population influx into Trapper Creek (285 people under the "Car" scenario) by 50 percent if air transport from Fairbanks is provided, and by up to 95 percent if air transport from Anchorage and car access are also available.

   In the year 2002, the remaining project-related population under the air scenarios was projected to range from 10 to 107 people, depending

upon the scenario used. As with the 1990 projections, these figures are between approximately 50 percent and 95 percent lower than the remaining project-related population of 211 projected under the "Car" scenario.

Under the "Air From Fairbanks" scenario, the relative difference in travel times for Trapper Creek and communities to the north of Trapper Creek will be altered but it will take less time to travel to the construction site from Trapper Creek than from Anchorage, Palmer, and other areas to the south. Thus, under this scenario, in-migration to Trapper Creek will be reduced but not completely prevented. Under the scenarios which provide air transport from Anchorage, however, communities to the south of Trapper Creek will also be more attractive to relocation than Trapper Creek, from a travel time point of view. For this reason, these scenarios result in very small levels of in-migration into Trapper Creek.

3. The use of an air transportation program would also reduce the peak level of project-related employment, by place of residence, from approximately 110 workers under the "Car" scenario to between 6 and 55 under the various air scenarios.

   This decrease in projected employment (by place of residence) is related to the reduction in the number of non-local workers who would move into Trapper Creek and the number of secondary jobs created. It does not indicate any reduction in direct job opportunities on the Project for current Trapper Creek residents.

4. As a result of the lower population influx projections, the project-related increase in housing demand in Trapper Creek would also be lower under each of the transportation scenarios than under the "Car" scenario.

5. The 1990 project-related increase in enrollment at the Trapper Creek elementary school could be reduced from an estimated 41 students under the "Car" scenario to 21 students under the "Air From Fairbanks" and to only 2 students under the "Air From Anchorage and

Fairbanks" and the "Car or Air" scenarios.

Under the "Car" scenario, the projected enrollment at the Trapper Creek elementary school would be equal to 156 percent of the school's present capacity, thus indicating the need for additional classroom space or double-shifting of students. Under the "Air From Anchorage", "Air From Fairbanks or Anchorage" and "Car or Air" scenarios, the project-related elementary school enrollment could be reduced to the point that the present school capacity would be sufficient, thus avoiding the capital expense of adding new classrooms or the inconvenience of double-shifting.

6. The 1990 project-related increase in secondary school children living in Trapper Creek could be reduced from an estimated 35 students under the "Car" scenario to 17 students under the "Air From Fairbanks" and to only 2 students under the "Air From Anchorage and Fairbanks" and the "Car or Air" scenarios.

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TABLE 10

PROJECTIONS OF CUMULATIVE POPULATION INFLUX
INTO THE COMMUNITY OF TRAPPER CREEK UNDER THE CAR
AND FOUR AIR TRANSPORTATION SCENARIOS,
1985-2002

Year	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
1985	78	35	10	7	7
1986	107	58	20	10	10
1987	130	65	20	10	10
1988	193	95	23	10	10
1989	217	108	33	10	10
1990	285	142	40	13	13
1991	278	135	40	13	13
1992	260	129	33	10	10
1993	233	114	30	10	10
1994	222	114	30	10	10
1995	219	108	30	10	10
1996	222	114	30	10	10
1997	235	114	30	10	10
1998	241	117	30	10	10
1999	241	117	30	10	10
2000	237	117	30	10	10
2001	220	113	30	10	10
2002	211	107	27	10	10

Source: Frank Orth & Associates, Inc., 1984.

TABLE 11

COMMUNITY OF TRAPPER CREEK
ECONOMIC/DEMOGRAPHIC IMPACTS
WATANA PEAK CONSTRUCTION YEAR, 1990

Socioeconomic Variable	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
Employment (Manpower) 1/					
Baseline	2/	2/	2/	2/	2/
With-Project	2/	2/	2/	2/	2/
Impact of Project	110	55	15	6	6
Population (People)					
Baseline	299	299	299	299	299
With-Project	584	441	339	312	312
Impact of Project	285	142	40	13	13
Households (Occupied Units)					
Baseline	97	97	97	97	97
With-Project	183	140	109	101	101
Impact of Project	86	43	12	4	4

1/ Employment by place of residence.

2/ Baseline employment at the community level was not projected.

Source: Frank Orth & Associates, Inc., 1984.

TABLE 12

COMMUNITY OF TRAPPER CREEK
FACILITIES/SERVICES IMPACTS
WATANA PEAK CONSTRUCTION YEAR, 1990

Socioeconomic Variable	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
Primary School Children [1]					
Baseline	37	37	37	37	37
With-Project	78	58	43	39	39
Impact of Project	41	21	6	2	2
Capacity [2]	50	50	50	50	50
Project-Related Increase (%) [3]	110.8%	56.7%	16.2%	5.4%	5.4%
Percent Capacity Utilization [4]	156.0%	116.0%	86.0%	78.0%	78.0%
Secondary School Children [5]					
Baseline	32	32	32	32	32
With-Project	67	49	37	34	34
Impact of Project	35	17	5	2	2
Project-Related Increase (%) [3]	109.3%	53.1%	15.6%	6.2%	6.2%
Total School Enrollment					
Baseline	69	69	69	69	69
With-Project	145	107	80	73	73
Impact of Project	76	38	11	4	4
Project-Related Increase (%) [3]	110.1%	55.0%	15.9%	5.8%	5.8%

[1] The Trapper Creek elementary school serves an area wider than the community of Trapper Creek. For this reason, enrollment may be understated by including only the schoolchildren living in Trapper Creek.

[2] Includes existing and planned capacity, December 1983.

[3] Calculated by dividing the impact number by the baseline number.

[4] Calculated by dividing the with-project number by the capacity number.

[5] There are no secondary schools located in Trapper Creek.

Note: Sums may not equal totals due to independent rounding.

Source: Frank Orth & Associates, Inc., 1984.

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5.0 COMMUNITY OF CANTWELL SUMMARY OF SOCIOECONOMIC IMPACT PROJECTIONS

5.0 COMMUNITY OF CANTWELL
SUMMARY OF SOCIOECONOMIC IMPACT PROJECTIONS

5.1 INTRODUCTION

This chapter summarizes and compares the projected impacts of the Susitna Hydroelectric Project on the Community of Cantwell. The following tables present the baseline, with-project, and impact projections for each of the five transportation scenarios.

Table 13 presents the projections of cumulative population influx related to the Project during the project construction period (1985 to 2002) for each of the five scenarios. Table 14 shows the employment, population, and housing demand forecasts for the peak construction year of 1990. Table 15 summarizes the impacts on school enrollment in 1990.

5.2 KEY DIFFERENCES

1. All four of the air transportation scenarios would result in a much lower level of population influx into Cantwell than would occur with only personal vehicle access to the site (the "Car" scenario). This occurs because the relative difference between the travel times to the construction site from Cantwell and from other areas of the state is reduced by the availability of air transport. This change in relative travel times reduces the incentive for workers to relocate to Cantwell.

2. The projections indicate that an air transportation program could reduce the peak (1990) population influx into Cantwell (797 people under the "Car" scenario) by 79 percent if air transport from Fairbanks is provided, and by up to 99 percent if air transport from Anchorage is also available. In the case of Cantwell, project-related population growth would be lowest under the "Air From Fairbanks or Anchorage" scenario.

In the year 2002, the remaining project-related population under the air scenarios was projected to range from 3 to 131 people, depending upon the scenario used. As with the 1990 projections, these figures are between approximately 21 percent and 99 percent lower than the remaining project-related population of 619 projected under the "Car" scenario.

As indicated above, the differences among the scenarios relate to relative travel times to the construction site. Under the "Car" scenario, Cantwell accounts for the lowest travel time to the site of all the communities in the Railbelt, and thus is the community receiving the largest amount of population influx. Under the "Air From Fairbanks" scenario, all communities to the north have lower travel times, and under the scenarios in which air transport from Anchorage is available, most communities to the south have lower travel times as well.

3. The use of an air transportation program would also reduce the peak level of project-related employment, by place of residence, from approximately 253 workers under the "Car" scenario to between 1 and 52 under the various air scenarios.

   This decrease in projected employment (by place of residence) is related to the reduction in the number of non-local workers who would move into Cantwell and the number of secondary jobs created. It does not indicate a reduction in direct job opportunities on the Project for current Cantwell residents.

4. As a result of the lower population influx projections, the project-related increase in housing demand in Cantwell would also be lower under each of the transportation scenarios than under the "Car" scenario.

5. The 1990 project-related increase in enrollment at the Cantwell school could be reduced from an estimated 217 students under the "Car" scenario to 44 students under the "Air From Fairbanks" and to only 1 student under the "Air From Anchorage and Fairbanks" and the "Car or Air" scenarios.

Under the "Car" scenario, the projected enrollment at the Cantwell school would be equal to 428 percent of the school's present capacity, thus indicating the need for an additional school. Under the "Air From Anchorage", "Air From Fairbanks or Anchorage" and "Car or Air" scenarios, the project-related elementary school enrollment could be reduced to the point that the present school capacity would be sufficient, thus avoiding the capital expense of building a new school.

6. Police requirements at the Cantwell post will be only slightly lower under the various air scenarios than the requirements under the "Car" scenario. The project-related requirements for police at the Cantwell State Trooper post were calculated by adding the requirements related to project personnel living in Cantwell and the requirements of the work camps and family village. The work camps/village are expected to affect the Cantwell post because it will be the closest post to the work sites, by road.

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TABLE 13

PROJECTIONS OF CUMULATIVE POPULATION INFLUX INTO THE COMMUNITY OF CANTWELL UNDER THE CAR AND FOUR AIR TRANSPORTATION SCENARIOS, 1985-2002

Year	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
1985	368	71	7	4	16
1986	488	109	7	4	20
1987	372	81	6	2	12
1988	535	104	6	2	16
1989	618	119	7	7	19
1990	797	164	12	7	19
1991	780	159	12	7	19
1992	733	149	9	7	19
1993	666	137	7	3	14
1994	640	133	7	3	14
1995	627	130	7	3	14
1996	641	133	7	3	14
1997	671	137	7	3	14
1998	692	143	7	3	14
1999	701	143	7	3	16
2000	692	140	7	3	16
2001	649	134	7	3	14
2002	619	131	7	3	10

Source: Frank Orth & Associates, Inc., 1984.

TABLE 14

COMMUNITY OF CANTWELL
ECONOMIC/DEMOGRAPHIC IMPACTS
WATANA PEAK CONSTRUCTION YEAR, 1990

Socioeconomic Variable	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
Employment (Manpower) [1]					
Baseline	[2]	[2]	[2]	[2]	[2]
With-Project	[2]	[2]	[2]	[2]	[2]
Impact of Project	253	52	2	1	6
Population (People)					
Baseline	222	222	222	222	222
With-Project	1,019	386	234	229	241
Impact of Project	797	164	12	7	19
Households (Occupied Units)					
Baseline	88	88	88	88	88
With-Project	329	138	92	90	94
Impact of Project	241	50	4	2	6

[1] Employment by place of residence.

[2] Baseline employment at the community level was not projected.

Source: Frank Orth & Associates, Inc., 1984.

TABLE 15

COMMUNITY OF CANTWELL
FACILITIES/SERVICES IMPACTS
WATANA PEAK CONSTRUCTION YEAR, 1990

Socioeconomic Variable	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
School Children [1]					
Baseline	40	40	40	40	40
With-Project	257	84	42	41	41
Impact of Project	217	44	2	1	1
Capacity [2]	60	60	60	60	60
Project-Related Increase (%) [3]	542.5%	110.0%	5.0%	2.5%	2.5%
Percent Capacity Utilization [4]	428.3%	140.0%	70.0%	68.3%	68.3%
Police [5]					
Baseline	1	1	1	1	1
With-Project	6	5	5	5	5
Impact of Project	5	4	4	4	4
No. of Police Personnel	1	1	1	1	1
Project-Related Increase (%) [3]	500.0%	500.0%	500.0%	500.0%	500.0%
Percent Inc. Over Existing Staff [5]	600.0%	600.0%	600.0%	600.0%	600.0%

[1] Cantwell has only one school, containing grades K-12.

[2] Includes existing and planned capacity, December 1983.

[3] Calculated by dividing the impact number by the baseline number.

[4] Calculated by dividing the with-project number by the capacity number.

[5] The Project-related requirements for police at the Cantwell State Trooper post were calculated by adding the requirements related to project personnel living in Cantwell and the requirements of the work camps and family village. The work camps/village are expected to affect the Cantwell post because it will be the closest post to the work sites, by road.

Note: Sums may not equal totals due to independent rounding.

Source: Frank Orth & Associates, Inc., 1984.

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6.0 MUNICIPALITY OF ANCHORAGE SUMMARY OF SOCIOECONOMIC IMPACT PROJECTIONS

6.0 MUNICIPALITY OF ANCHORAGE
SUMMARY OF SOCIOECONOMIC IMPACT PROJECTIONS

6.1 INTRODUCTION

This chapter summarizes and compares the projected impacts of the Susitna Hydroelectric Project on the Muncipality of Anchorage. The following tables present the baseline, with-project, and impact projections for each of the five transportation scenarios.

Table 16 presents the projections of cumulative population influx related to the Project during the project construction period (1985 to 2002) for each of the five scenarios. Table 17 shows the employment, population, and housing demand forecasts for the peak construction year of 1990.

6.2 KEY DIFFERENCES

1. All four of the air transportation scenarios would result in a higher level of population influx into Anchorage than would occur with only personal vehicle access to the site (the "Car" scenario).

   A higher level of population influx is expected to occur under the scenarios that include air transport from Anchorage because the relative difference between the travel time from Anchorage and other areas of the state is reduced by the availability of air transport. This change in relative travel times increases the incentive for workers from Anchorage to remain and for workers from other areas to relocate into Anchorage. This in turn results in a larger amount of secondary in-migration as well.

   Under the "Air From Fairbanks" scenario, it was assumed that administrative/engineering workers currently living in Anchorage would be able to fly from Anchorage to the site. This is expected to result in less relocation by these employees to the work site or the Local Impact Area. This in turn results in a larger amount of secondary in-migration as well.

2. The projections indicate that an air transportation program could increase the peak (1990) population influx into Anchorage due to the project (180 people under the "Car" scenario) by 89 percent if air transport from Fairbanks is provided, and by up to 1088 percent if air transport from Anchorage is available.

   In the case of Anchorage, project-related population growth would be highest under the "Air From Anchorage" scenario, in which Anchorage has the lowest travel time to the site of all the communities in the Railbelt. Although the cumulative project-related population growth under this scenario would be equal to 2,139 people in 1990, it would represent only a 0.9 percent increase over the city's baseline population for that year.

3. In the year 2002, the remaining project-related population under the air scenarios was projected to range from 1,721 to 2,140 people, depending upon the scenario used. These figures are between approximately 3 percent and 28 percent higher than the remaining project-related population of 1,673 projected under the "Car" scenario.

   The patterns of population change in Anchorage differ substantially under the various scenarios. Under the "Car" and "Air From Fairbanks" scenarios, population growth in the first eight years is relatively small, and increases substantially during the 1992-1995 period; the increase during the 1992-1995 period is related to 1) the moving back to Anchorage of some workers who had previously moved from Anchorage to communities in the Local Impact Area and 2) the gradual increase of the secondary work force, as the Anchorage economy matures. In the scenarios in which air transportation from Anchorage is provided, project-related population growth in Anchorage is greatest during the Watana build-up period (1985-1990). This is because 1) there is more initial relocation to Anchorage under these scenarios and 2) these scenarios assume that no Anchorage workers will relocate to the Local Impact Area. In addition, this means that there would be no workers moving back to Anchorage from local impact area communities as construction on the Watana portion of the Project winds down.

4. The use of an air transportation program would also result in an increase in the peak level of project-related employment in Anchorage, by place of residence, from approximately 2,502 workers under the "Car" scenario to between 2,608 and 3,765 under the various air scenarios.

   This increase in projected employment (by place of residence) is related to the reduction in the number of Anchorage workers who would move out of Anchorage and the related increase in secondary employment.

5. As a result of the higher population influx projections, the project-related increase in housing demand in Anchorage would also be higher under each of the transportation scenarios than under the "Car" scenario.

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TABLE 16

PROJECTIONS OF CUMULATIVE POPULATION INFLUX
INTO THE MUNICIPALITY OF ANCHORAGE UNDER THE CAR
AND FOUR AIR TRANSPORTATION SCENARIOS,
1985-2002

Year	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
1985	142	239	674	660	649
1986	153	201	851	835	824
1987	-179	-106	1,111	1,094	1,088
1988	9	91	1,524	1,507	1,496
1989	92	139	1,710	1,686	1,678
1990	180	340	2,139	2,111	2,097
1991	197	353	2,093	2,063	2,056
1992	331	447	1,950	1,926	1,916
1993	840	936	1,959	1,936	1,926
1994	1,264	1,360	2,121	2,104	2,101
1995	1,366	1,465	2,061	2,047	2,040
1996	1,263	1,356	2,124	2,106	2,100
1997	1,222	1,298	2,258	2,238	2,228
1998	1,194	1,244	2,331	2,308	2,301
1999	1,180	1,236	2,349	2,329	2,319
2000	1,200	1,243	2,314	2,294	2,287
2001	1,284	1,354	2,186	2,169	2,159
2002	1,673	1,721	2,140	2,122	2,116

Source: Frank Orth & Associates, Inc., 1984.

TABLE 17

MUNICIPALITY OF ANCHORAGE
ECONOMIC/DEMOGRAPHIC IMPACTS
WATANA PEAK CONSTRUCTION YEAR, 1990

Socioeconomic Variable	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
Employment (Manpower) 1/					
Baseline	129,493	129,493	129,493	129,493	129,493
With-Project	131,995	132,101	133,258	133,240	133,233
Impact of Project	2,502	2,608	3,765	3,747	3,740
Population (People)					
Baseline	223,196	223,196	223,196	223,196	223,196
With-Project	223,376	223,536	225,335	225,307	225,293
Impact of Project	180	340	2,139	2,111	2,097
Households (Occupied Units)					
Baseline	79,232	79,232	79,232	79,232	79,232
With-Project	79,295	79,352	79,982	79,972	79,968
Impact of Project	63	120	750	740	736

1/ Employment by place of residence.

Source: Frank Orth & Associates, Inc., 1984.

MUNICIPALITY OF FAIRBANKS

7.0 MUNICIPALITY OF FAIRBANKS SUMMARY OF SOCIOECONOMIC IMPACT PROJECTIONS

7.0 MUNICIPALITY OF FAIRBANKS
SUMMARY OF SOCIOECONOMIC IMPACT PROJECTIONS

7.1 INTRODUCTION

This chapter summarizes and compares the projected impacts of the Susitna Hydroelectric Project on the Muncipality of Fairbanks. The following tables present the baseline, with-project, and impact projections for each of the five transportation scenarios.

Table 18 presents the projections of cumulative population influx related to the Project during the project construction period (1985 to 2002) for each of the five scenarios. Table 19 shows the employment, population, and housing demand forecasts for the peak construction year of 1990.

7.2 KEY DIFFERENCES

1. Under the "Car" scenario, Fairbanks is expected to experience a net decline in project-related population by 1990 of 196 people. Under the "Air From Anchorage" scenario, this population efflux would be decreased. Under the other three air transportation scenarios, Fairbanks would experience net growth in project-related population of between 198 and 411 people by 1990. This occurs because, with the provision of air transport from Fairbanks, workers from Fairbanks have little incentive to relocate closer to the construction site, and because the travel time from Fairbanks is low enough to attract in-migration from other areas.

   By the year 2002, the net population influx as a result of the Project would be positive under all of the scenarios. The net population influx in 2002 would be greatest under the "Air From Fairbanks" scenario (255 people) and lowest under the "Air From Anchorage" scenario (83 people).

2. Project-related employment in Fairbanks, by place of residence, would

be highest under the "Air From Fairbanks" scenario and lowest under the "Air From Anchorage" scenario.

3. The project-related demand for housing would parallel the population trends. Demand for housing will decline, as a result of the Project, under the "Car" and the "Air From Anchorage" scenarios. The demand for housing would increase as a result of the other scenarios.

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TABLE 18

PROJECTIONS OF CUMULATIVE POPULATION INFLUX
INTO THE MUNICIPALITY OF FAIRBANKS UNDER THE CAR
AND FOUR AIR TRANSPORTATION SCENARIOS,
1985-2002

Year	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
1985	-48	191	-9	70	67
1986	-79	221	-32	85	81
1987	-178	210	-108	99	99
1988	-240	282	-142	130	130
1989	-268	321	-164	154	150
1990	-196	411	-155	202	198
1991	-163	402	-140	200	196
1992	-160	365	-114	186	186
1993	-37	305	-19	160	155
1994	53	292	21	152	151
1995	93	268	49	143	143
1996	59	282	19	152	152
1997	28	303	-24	163	158
1998	-28	327	-57	171	170
1999	-31	330	-68	175	171
2000	-6	327	-60	172	171
2001	76	284	-4	157	154
2002	181	255	83	143	139

Source: Frank Orth & Associates, Inc., 1984.

TABLE 19

MUNICIPALITY OF FAIRBANKS
ECONOMIC/DEMOGRAPHIC IMPACTS
WATANA PEAK CONSTRUCTION YEAR, 1990

Socioeconomic Variable	Transportation Program				
	Car	Air From Fairbanks	Air From Anchorage	Air From Fairbanks or Anchorage	Choice of Car or Air
Employment (Manpower) [1]					
Baseline	[2]	[2]	[2]	[2]	[2]
With-Project	[2]	[2]	[2]	[2]	[2]
Impact of Project	800 [3]	1,195 [3]	727 [3]	1,099 [3]	1,098 [3]
Population (People)					
Baseline	36,266	36,265	36,265	36,265	36,265
With-Project	36,070	36,676	36,110	36,467	36,463
Impact of Project	-196	411	-155	202	198
Households (Occupied Units)					
Baseline	13,537	13,537	13,537	13,537	13,537
With-Project	13,505	13,673	13,479	13,609	13,608
Impact of Project	-32	136	-58	72	71

[1] Employment by place of residence.

[2] Baseline employment at the community level was not projected.

[3] Project-related employment in the Muncipality is assumed to be equal to Project-related employment in the Fairbanks-North Star Borough.

Source: Frank Orth & Associates, Inc., 1984.

8.0 SUMMARY OF TRANSPORTATION POLICY EFFECTS

8.0 SUMMARY OF TRANSPORTATION POLICY EFFECTS

8.1 INTRODUCTION

This chapter summarizes and compares the projected impacts of the Susitna Hydroelectric Project on all communities from changes in the transportation policy. Table 20 presents the projections of population impact related to the Project during the peak construction period (1990) for each of the five transportation scenarios. The percent values shown in the table represent the relative size of the population impact to the baseline population for each area.

8.2 KEY DIFFERENCES

The table clearly shows the benefits of establishing an air transportation policy for the majority of workers. In general, the smallest local impact area communities have lower population impacts from the Project if some form of air transportation policy is put into effect. The only exceptions to this statement are for Nenana and McKinley Park under the "Air From Fairbanks" Scenario. In these two communities, the loss of relocating project workers from Fairbanks is more than offset by relocating Anchorage workers.

Anchorage and Fairbanks would experience greater relative impacts from the implementation of an air transportation policy, however, the significance of the impacts in each case never exceed 3 percent for Fairbanks or 1 percent for Anchorage.

The "Air from Fairbanks and Anchorage" scenario demonstrates the best distribution of impacts in relative terms from employing an air transportation policy. Under this scenario, the relative impact on the Local Impact Area, excluding the workers who live at the work camp, can be reduced from 8 percent over baseline population to 4 percent over baseline population. In addition, no local impact area community experiences more than a 4 percent increase over baseline in 1990 with the exception of McKinley Park (10%). However, the large percent value for this community is a reflection of the small absolute baseline population of 40.

Table 20

Transportation Scenario Impact Summary
Population Impact by Community and Percent of Impact Over Baseline Population
(1990)

Community	Car		Air From Fairbanks		Air From Anchorage		Air From Fairbanks of Anchorage		Choice of Car or Air	
Mat-Su Borough (Off-site)	1,393	3%	869	2%	775	2%	261	1%	258	1%
Talkeetna	195	43%	107	23%	34	7%	13	3%	13	3%
Trapper Creek	285	95%	142	48%	40	13%	13	4%	13	4%
Palmer	110	3%	76	2%	124	3%	37	1%	37	1%
Wasilla	132	3%	87	2%	133	3%	37	1%	37	1%
Houston	122	10%	77	7%	74	6%	21	2%	21	2%
Mat-Su Suburban	388	1%	268	1%	350	1%	130	0%	127	0%
Mat-Su Rural	161	4%	112	3%	20	0%	10	0%	10	0%
Anchorage	180	0%	340	0%	2,139	1%	2,111	1%	2,097	1%
Fairbanks	-196	-1%	411	3%	-155	0%	202	1%	198	1%
Cantwell	797	359%	164	74%	12	5%	7	3%	19	9%
Healy	289	68%	200	47%	7	2%	7	2%	10	2%
Nenana	140	23%	192	32%	10	2%	13	2%	13	2%
McKinley Park	282	688%	342	834%	4	10%	4	10%	7	17%
Fairbanks-North Star Borough	-196	0%	584	1%	-336	-1%	375	1%	371	1%
Village	1,229	-	1,229	-	1,229	-	1,229	-	1,229	-
Local Impact Area (ex. workers at work camp)	4,130	8%	2,996	6%	2,037	4%	1,521	4%	1,536	4%

Source: Frank Orth & Associates, Inc., 1984.