HB

70

Alaska Housing
FINANCE CORPORATION

520 East 34th Avenue
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HB 70 Sectional Analysis

An Act relating to housing assistance provided by the Alaska Housing Finance Corporation and to its rural housing programs, to the corporation's supplemental housing development grants to regional housing authorities, and to housing programs of regional housing authorities; permitting regional housing authorities to make, originate, and service loans for the purchase and development of residential housing; amending definitions relating to various housing programs; and providing for an effective date.

Section 1
This section will allow regional housing authorities to originate and service loans in small communities of the state for the purpose of the purchase or development of residential housing.

Also, in areas not meeting the definition of a small community, a regional housing authority may borrow funds from the corporation and make those funds available to borrowers who cannot obtain financing through traditional mortgage sources. These borrowers would generally be persons of low-income whose financing needs are not currently met through existing conventional loan programs.

Section 2
Under the allowable uses of the supplemental housing development grant fund, infrastructure development for water and sewer could include both on-site and off-site facilities. For example, if a regional housing authority is constructing a water or sewer line to the site of a project, the cost of providing hook-ups for other homes located along the line could be included as part of the project cost paid by these grant funds.

Section 3
This language simply attempts to clarify the existing statute -- it does not make any substantive change.

Section 4
The Alaska Housing Finance Corporation is required to establish a priority system for the allocation of supplemental housing development grant funds used to pay for off-site water and sewer facilities established by Section 2.

Section 5
This section exempts projects under the Building Material Loan Program from energy standards provided under AS 18.56.096(c).

While the Alaska Housing Finance Corporation will support and encourage all projects to adhere to

energy standards, the costs of the inspections and energy ratings for these standards can represent an extraordinary percentage of the small loans under this program. These loans are intended and designed to help people in rural Alaska finish or improve their homes, use local materials in the construction of homes, or install wells or septic systems.

Section 6
This section exempts projects constructed under the Building Material Loan Program from construction standards provided under AS 18.56.300.

Again, AHFC will support and encourage all projects to adhere to good building standards. However, the inspections that would be required to insure these standards are met would represent an extraordinary percentage of the amount of the small loans under this program.

Section 7
Section 7 amends statute regarding the rural assistance loan program to allow for the refinancing of rural mortgages in the same manner as AHFC's mortgage programs allow for refinancing of urban loans. Current statute simply does not provide for refinancing as an option under rural loans. Rural residents of Alaska have not had the opportunity to benefit from the lower interest rates by refinancing their loans, as have most other individuals in Alaska and elsewhere in the United States. Under the Housing Assistance Loan Fund, a borrower would be required to do substantial improvements to their home as the only way to receive a new loan at a lower interest rate. This provision would allow for a refinance in which the borrower would not have to increase the loan amount to benefit from current low interest rates provided the borrower's refinance loan meets established eligibility criteria.

Additionally, Section 7 allows a rural assistance loan to be used to pay for the cost of third-party labor for a building materials loan. In other words, the loan could be taken out to not only cover the cost of the material for the improvements, but could also be used to cover the labor costs for the improvements. To restrict loan proceeds to materials only may serve to promote unqualified borrower's installation of materials, equipment, utilities, or appliances rather than installation by qualified professionals.

Section 8
This would allow AHFC to make loans for rural non-owner occupied housing, to the extent feasible, to someone who already has an AHFC loan for an existing owner-occupied residence

The language in Section 8 would not change any current practice since AHFC already interprets this statute to allow a qualified borrower to have more than one non-owner occupied loan. Section 8 would clarify the statute to more clearly make this type of loan available.

Section 9
This expands the Building Material Loan Program to allow for small ($20,000 or less) unsecured loans for borrowers who have either restrictive deed lands or have no title to their HUD Mutual Help home. These borrowers have financing needs for repairs and/or improvements to their homes, but are unable to pledge their home as collateral or have native restricted deed land that is cost prohibitive in obtaining required BIA approval for encumbering the property.

Section 10
This is a conforming change to coordinate this statute with the change being made in Section 12.

Section 11
This is a conforming change to coordinate this statute with the change being made in Section 12.

Section 12
The definition of non-owner occupied housing would be clarified as rental housing. The definition of a multi-family rental house is changed from an eight to a sixteen dwelling unit. Please note that the existing statute allows AHFC to modify this definition if AHFC determines there is special needs and qualified tenants that shows going beyond an eight unit project is warranted. Borrowers can save costs on projects with up the sixteen units by avoiding having to do a special determination as required by the current statute.

Section 13
Current statute limits the term "housing" to either single-family and owner-occupied duplexes. Section 13 would bring this term into compliance with industry standards that view the term "housing" as owner-occupied housing with up to four units. This is the standard that is used by the VA, FHA, Fannie Mae, Freddie Mac, and AHFC conventional urban loans.

This section would also increase the population base for communities eligible to participate in the rural loan program from 5,500 to 6,500 for communities not connected to Anchorage or Fairbanks by road or rail OR from 1,400 to 1,600 for communities on the road system. Currently, the population of Bethel is approaching 5,300 with a continuing pattern of growth. By increasing the population allowance, communities such as Bethel will remain eligible to participate in our rural loan program. Alternative financing is generally not available from national secondary market sources.

Section 14
This section allows the corporation to implement any necessary changes in regulation as a result of this legislation.

Section 15
An immediate effective date is provided

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January 28, 1997

The Honorable Ivan M. Ivan
Alaska House of Representatives
State Capitol Building
Juneau, Alaska 99801

Subject: Request Hearing for HB 70

Dear Representative Ivan:

This letter is to request your consideration, as Chairman, for scheduling HB 70 for a hearing before the House Community & Regional Affairs Committee. This legislation relates to housing assistance and rural housing programs provided by the Alaska Housing Finance Corporation.

The impetus for this legislation is the need to improve housing conditions in rural parts of Alaska. Both the Board of Directors and the staff here at AHFC are aware of the conditions and situations in the remote parts of our state, and we have prioritized the improvement of housing in rural Alaska at the top of our agenda. Studies conducted in 1988 and 1991 clearly documented that rural households, on average, face overcrowded conditions in dwellings of poor physical condition. While AHFC has strived to meet this situation by requesting capital budget appropriations under our Weatherization and Supplemental Housing Development programs, we would also like to provide opportunities by developing our lending programs. This legislation will help us in this regard.

We look forward to working with you and the Community & Regional Affairs Committee on this legislation at your convenience. Please do not hesitate to contact me if you or your staff have any questions or comments you would like to discuss.

Sincerely,

Daniel R. Fauske, CEO/Executive Director
Alaska Housing Finance Corporation

c: Governor's Office, Legislative Affairs

STATE OF ALASKA
1996 LEGISLATIVE SESSION

FISCAL NOTE

NO. 1

Bill Version: HB 70
(H) Publish Date: 1/15/97

Revision Date:
Dept. Affected: Revenue
Title: Rural Mortgage Program
BRU: AHFC
Component: AHFC Operations, Rural Housing
Sponsor: Rules Committee
Requestor: Governor
COMPONENT SERIAL NO. 110, 1937

Expenditures/Revenues: (Thousands of Dollars)

OPERATING EXPENDITURES	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0
CAPITAL EXPENDITURES						
CHANGE IN REVENUES ( )						

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY97) cost $ 0.0

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

AHFC Operations: No affect on operating costs - language change only. For an analysis of the proposed legislation see the transmittal letter.

Prepared by: John Birney
Phone: 561-1900
Division: Alaska Housing Finance Corporation
Date: November 13, 1996
Approved by Commissioner: Wilson L. Condon
Date: November 13, 1996
Agency: Revenue

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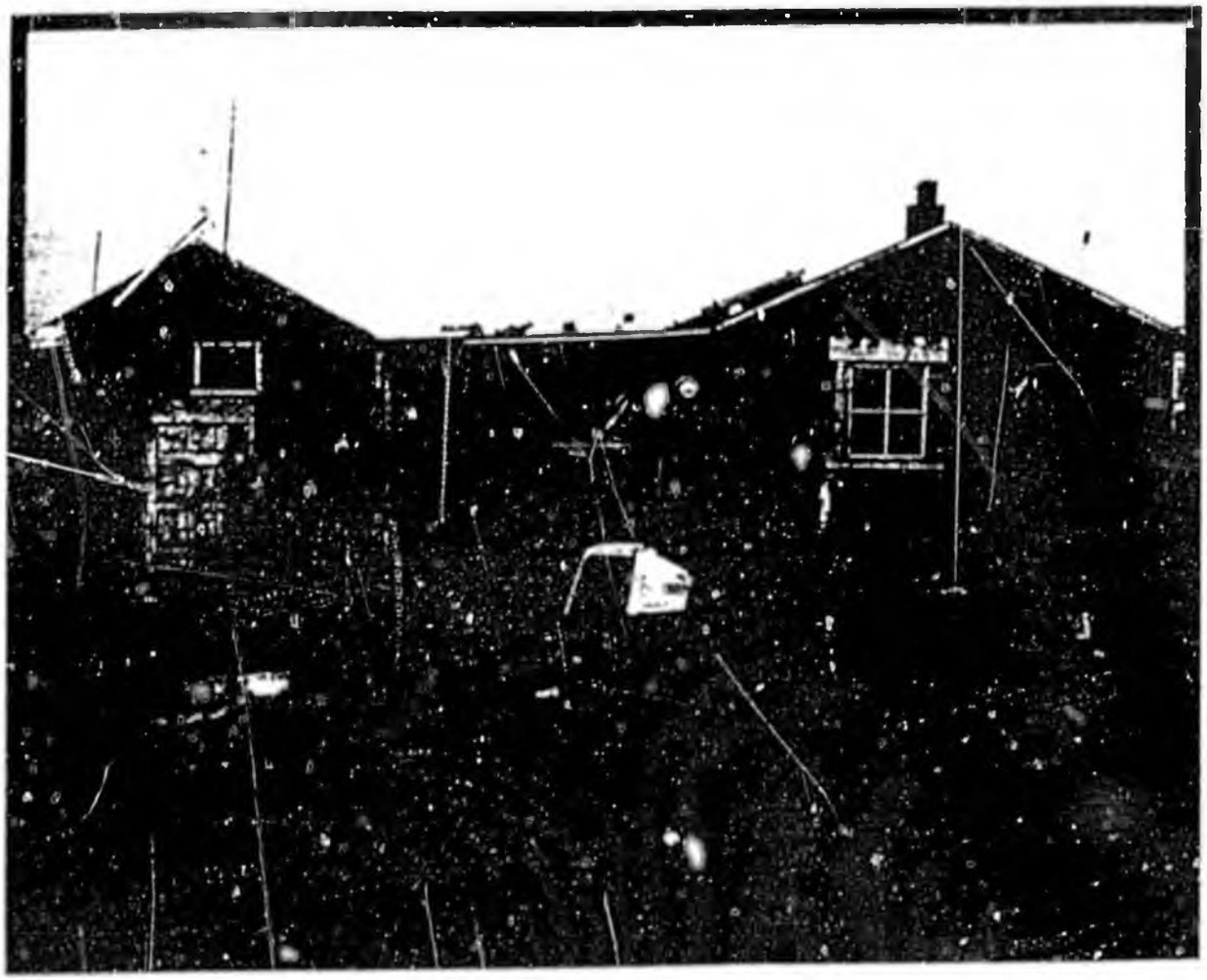
1988 Rural Housing Needs Assessment Study



DOYON Region - Photo by Rob Stapleton, Jr.

State of Alaska
Steve Cowper, Governor

Department of Community
Regional Affairs
d G. Hoffman, Commissioner

Submitted in fulfillment under contract 88-0137 to the
Alaska Department of Community and Regional Affairs

by

Rural Alaska Community Action Program (RurAL CAP)
ASK• Marketing/Information Search
Alaska Public Interest Research Group (AKPIRG)

March 1988

PREFACE

The 1987 Alaska State Legislature passed Senate Concurrent Resolution 21 requesting the Department of Community and Regional Affairs to conduct an assessment of rural housing conditions and of the need for rural housing. The Alaska Department of Community and Regional Affairs contracted with the Rural Alaska Community Action Program (RurAL CAP) to conduct a study of current conditions in rural housing and the need for additional rural housing.

Excluded under contract specifications, were: the Municipality of Anchorage, the City of Fairbanks, the City of Juneau, the City of Sitka, the City of Ketchikan and all military bases.

The study was conducted in two phases. In Phase I all the existing relevant information on housing conditions in Alaska was gathered and assessed. It was expected that a survey would need to be conducted to supplement and update existing data concerning rural housing.

In Phase II, a household-level survey was conducted. Housing authority directors, community planners and other key informants were also interviewed, and the information gathered was analysed to accurately assess the current conditions of rural housing stock and to project future housing needs.

This report contains the findings of the current housing conditions and needs in the rural Alaska.

March 14, 1988

-Rural Alaska Community Action Program (RurAL CAP)
-Alaska Public Interest Research Group (AKPIRG)
-ASK* Marketing/Information Search

EXECUTIVE SUMMARY

The key findings of the 1988 Rural Housing Needs Assessment Study include:

- HOUSEHOLD SIZE AND OVERCROWDING

  The average number of members per household in rural Alaska was 3.70. The average household size ranged from a low of 2.6 in Ahtna region to a high of 5.3 in NANA region. *In comparison, Anchorage households have an average size of 2.72.*

  The Arctic Slope region had the highest percentage, (18.7%), of households with three or more generations per house. Calista region was second with 16.4% and Bering Straits region had 15.4%. Cook Inlet had only 0.9% of households with three or more generations.

  Overcrowding conditions appeared to be the worst in the Calista and NANA regions. **29% of households in these regions had 100 or less square feet per resident..**

  The average house size ranged from 650 sq. ft. in Bering Straits region to 1,996 sq. ft. in Chugach region while the average was 1,162 sq.ft. *In comparison, Anchorage households have an average of 1,635 square feet per house.*

  Nearly **87% of the houses in NANA region had less than 300 square feet.** 81% of the houses in Calista region and 72% of the houses in Doyon region were less than 300 sq ft.

  The average square footage per resident ranged from 616 sq.ft. per resident in the Cook Inlet region to 137 sq.ft. per resident in the Bering Straits region. The survey average was 333 sq.ft. per resident. In comparison, Anchorage had an average of 600 sq.ft. per resident based on an average household size of 2.72 and 1,635 average sq.ft. per residence.

- PHYSICAL CONDITION OF DWELLINGS

  43% of the house foundations needed major repair in Bristol Bay region. 57% of the houses in Bristol Bay region and 43% of houses in Ahtna region needed major repair.

  The highest percentage of houses rated in need of replacement by region was Ahtna with 21%, followed by Doyon region, 17%, Aleut region, 10% and NANA region, 10%

  The **total 6,740 new houses needed** was determined by consolidating the total number of homes needing immediate replacement with the total number of households with three or more generations. **Doyon region alone accounted for 3,169** of the new houses needed.

Comments and observations from field interviewers included several inches of glaciation on walls and windows, snow-filled attics, badly damaged roofs and siding from high winds, and seriously heaved foundations. Without correction, foundation heaving negates most benefits from weatherization activities since windows and doors become warped or separated from the house frame.

SIGNIFICANCE OF FINDINGS AND ESTIMATED COST OF CORRECTIVE ACTION

Although conditions vary widely, the inescapable conclusion apparent from the survey results is that housing in rural Alaska has dramatically poor housing conditions in terms of space per resident and state of repair. **Crowded multi-generational families occupying dwellings in run-down condition is far too prevalent.**

Based on the current costs for rural housing of $116,000 per new house as described in this report, **$781,813,000 will be needed to build the estimated 6,740 houses.**

If 6,740 houses were built to provide new housing for homes needing immediate replacement and new houses for the displaced third or fourth generations, **overcrowded conditions in rural Alaska would still be a problem.**

In order to address crowded conditions not due to multi-generational households three enhancement levels were examined:

Replace/add to houses with 200 sq. ft. or less per resident
Replace/add to houses with 250 sq. ft. or less per resident
Replace/add to houses with 300 sq. ft. or less per resident

Two solutions were considered: a 320 sq.ft. addition at a cost of $15,000 or, if the addition did not alleviate the conditions, a new house at a cost of $116,000. This $15,000 figure is based on the average cost of a BIA housing addition under the HIP program.

It was estimated that a total of approximately **19,188 houses had 200 sq. ft. or less per resident**; 15,088 of these would require an addition while 4,100 need new houses. Based on current costs and excluding homes needing replacement, $491,717,000 would be required to alleviate overcrowding at the 200 sq.ft. level. At the 250 sq.ft. level, $692,243,000 would be required, and at the 300 sq.ft. level, $882,521,000 would be required.

The combined cost of providing new housing for homes needing replacement: third and fourth generations needing a home; and additions or new homes to alleviate overcrowding at 250 sq.ft. or less per resident was **$1,474,056,000.**

- NEED FOR A COORDINATED, COMPUTERIZED HOUSING INFORMATION SYSTEM

In the course of acquiring data for this study, the foundation for an excellent statewide population and demographic computer database was laid. It was also determined that there is a definite need and interest to establish a central computer database with dial-in access for weatherization contractors.

Although the State of Alaska Weatherization Office collects summary data from all weatherization contractors, they do not maintain a computerized database. The result is that there is no way to analyse statewide data or to create reports as needed.

We are aware that there have been discussions with the Department of Energy to which the DCRA Weatherization program submits reports. *It is important that any planning for a coordinated, computerized data collection and reporting system include the capture of essential community demographic and housing data.* This information is valuable for planning and monitoring of key social and economic trends statewide. Coordination with the AK Department of Fish and Game's subsistence database must also be included.

Major benefits obtained from this will lower administration costs, improved reporting, forecasting support, improved coordination of information between agencies.

- POTENTIAL FOR SMALL-SCALE MANUFACTURING AND LOCAL JOBS

From the period of 1 . through to and including 1988, the Weatherization program repres a significant ongoing residential construction program in Alaska, s ted to include *over $9.1 million in materials alone*. When we consi this plus the added economic contribution of a major rural housing program which can be valued at approximately $1.2 billion to add to the existing housing stock and remedy deficient dwellings, the *potential* exists to aid the development of Alaskan-based wood products, thermal window and insulation manufacturing. With adequate market planning, local industries could leverage off the in-state market for export.

We suggest that an economic feasibility study be commissioned to examine the various aspects of this.

RESULTS AND SUMMARIES TABLES

The following table shows a profile of housing regions addressed by this study. Specifically excluded were: the Municipality of Anchorage, the City of Fairbanks, the City of Juneau, the City of Sitka, the City of Ketchikan and all military bases. Population was divided by survey household size data to estimate the total number of households per region. The number of households is used in several of the following tables.

REGIONAL PROFILES

	1985 Population	Percent of Population	Number of Communities	Number of Households
Ahtna	3,034	1.4%	18	1,167
Aleut	3,783	1.8%	13	1,401
Arctic Slope	5,389	2.5%	7	1,225
Bering Sts	7,770	3.6%	19	1,646
Bristol Bay	7,033	3.3%	30	2,164
Calista	18,473	8.6%	49	4,078
Chugach	8,916	4.1%	8	2,630
Cook Inlet	73,142	34.0%	36	24,060
Doyon	47,849	22.3%	61	15,688
Koniag	11,221	5.2%	7	3,134
NANA	5,790	2.7%	11	1,129
Sealaska	22,479	10.5%	53	6,075
TOTAL	214,879	100.0%	314	64,397

The three most heavily populated regions are Cook Inlet, Doyon, and Sealaska. The three regions with the most communities, excluding the five above-mentioned cities, are Doyon, Sealaska, and Calista. Bristol Bay, Calista, and Sealaska regions have large numbers of communities with small percentages of the total population. This suggests a wider distribution of fewer homes per community which may have implications on fixed costs such as transportation.

LIVING SPACE

The following table illustrates the average amount of living space per resident. It was derived from the survey results. This information should be contrasted with Anchorage which has an average square footage of approximately 1,635 square feet for family residences. *With an average household size of 2.72, Anchorage households have an average of 600 square feet per resident. (Source: MOA Property Appraisal Office)*

AVERAGE SQUARE FEET PER RESIDENT

Region	Avg SqFt Per House	Avg # Res/HH	Average SqFt/Res
Bering Sts	650	4.7	137
NANA	731	5.3	138
Calista	661	4.5	146
Doyon	686	3.1	223
Koniag	982	3.6	271
Arctic Slope	1,229	4.4	281
Ahtna	808	2.6	312
Bristol Bay	1,303	3.3	401
Sealaska	1,509	3.7	408
Aleut	1,411	2.7	517
Chugach	1,996	3.4	589
Cook Inlet	1,885	3.1	616
TOTAL	1,162	3.7	333
Anchorage	1,635	2.72	600

The average square footage per resident was smallest for the Bering Straits, NANA, and Calista regions. In the Bering Straits region, the average resident lived in 137 square feet of space; in Calista, the average resident lived in 138 square feet of space; and in NANA, the average person lived in 146 square feet of space. Six regions of the twelve (Bering Straits, NANA, Calista, Doyon, Koniag, and Arctic Slope) have an average square footage per resident less than 300. Only Cook Inlet region had an average greater than Anchorage.

GENERATIONS PER HOUSEHOLD

The following table shows the estimated number of family generations per household by region. An example of a three generation family would be grandmother, mother, daughter. A household with mother, mother's sister, and daughter would be considered a two-generation and not a three-generation family. This is another important way of considering the available living space and housing needs and may have an effect on housing programs in terms of whether three or four generation households prefer new homes or additions to their homes. This report presents housing needs based on an assumption that 100% of these three and four generation households require additional housing for each added generation. This may or may not be the real world case. Any alternative proportion of need in this category can be readily calculated as the reader may require.

NUMBER OF GENERATIONS PER HOUSEHOLD

	Avg # Res/HH	Avg # Gener/HH	% HH with 3 or more Generations	# HH with * 3 or more Generations
Arctic Slope	4.4	2.1	18.7%	229
Calista	4.5	1.9	16.4%	669
NANA	5.3	1.9	15.4%	174
Bering Sts	4.7	1.9	10.6%	174
Ahtna	2.6	1.5	8.4%	98
Koniag	3.6	1.8	7.5%	235
Sealaska	3.7	1.8	6.5%	395
Bristol Bay	3.3	1.7	6.3%	136
Chugach	3.4	1.7	5.3%	139
Aleut	2.7	1.5	3.4%	48
Doyon	3.1	1.7	3.2%	502
Cook Inlet	3.1	1.7	9%	217
TOTAL	3.7	1.8		3,016

The average number of generations per household was highest in Arctic Slope, Berings Straits, Calista, and NANA. Arctic Slope had the highest percent of households with three or more generations at 18.7%. Over 16% of Calista households had three or more generations followed by NANA at 15.4% and Bering Straits at 10.6%. The total number of households with three or more generations was over 3,000 or 5% of the total households.

*See Regional Profile for total number of households per region

NEW HOUSING STOCK REQUIRED BASED ON OVERCROWDING

One key indication of housing need is the amount of living space available per household resident. The following table summarizes the average or mean square footage per house. This was calculated using community-level population data from the Alaska state demographer's office and survey data acquired for this study. Population was divided by survey household size data to estimate the total number of households per region. Likewise, survey square footage data was applied to estimate average square feet per house by each region.

Living space would have been preferred over total square footage, but square footage was the only obtainable number.

Household Size:

Region	1985 Total Population	Number of Households	Average Sq. Feet Per House	#Res/HH Rank 1-highest	Avg. No. Residents per Household
Bering Sts	7,770	1,646	650	2	4.73
Calista	18,473	4,078	661	3	4.53
Doyon	47,849	15,688	686	9	3.07
NANA	5,790	1,129	731	1	5.30
Ahtna	3,034	1,167	808	12	2.59
Koniag	11,221	3,134	982	6	3.62
Arctic Slope	5,389	1,225	1,229	4	4.37
Bristol Bay	7,033	2,164	1,303	8	3.25
Aleut	3,783	1,401	1,411	11	2.73
Sealaska	22,479	6,075	1,509	5	3.70
Cook Inlet	73,142	24,060	1,885	10	3.06
Chugach	8,916	2,630	1,996	7	3.39
TOTAL	214,879	64,397	1,162		3.73

In the areas covered by this study, the average square footage per house ranged from 650 to 1,996, and the average number of household residents ranged from 2.59 to 5.30. However, the regions differed in rank for average number of household residents and average square footage per house.

The Doyon region had the smallest square footage per house, yet ranked third in residents per household. Bering Straits, Calista, Doyon and NANA ranked the lowest four in average square footage per house, but Bering Straits, Calista, and NANA were the regions with the three highest residents per household. This would imply that Calista, Bering Straits, and NANA have large households living in small houses. For example, in NANA the average house had 5.3 people occupying 731 square feet of space.

COMPARISON OF LIVING SPACE

The following tables provide a breakdown by square footage per resident in percent of households. In the table below, for example, Ahtna has an estimated 1,167 households; 11% of Ahtna households have less than 100 square feet per resident; 22% of Ahtna households have less than 150 square feet; etc.

SQUARE FOOTAGE PER RESIDENT COMPARISONS
(Percent of Households)

Region	Estimated Total # House-holds	% HH less than -100 sf/res	% HH less than -150 sf/res	% HH less than -200 sf/res	% HH less than -250 sf/res	% HH less than -300 sf/res	% HH greater than -300 sf/res
Ahtna	1,167	11%	22%	36%	36%	49%	51%
Aleut	1,401	5%	7%	14%	20%	26%	74%
Arctic Slope	1,225	8%	18%	38%	48%	58%	43%
Bering Sts	1,646	0%	67%	67%	67%	67%	33%
Bristol Bay	2,164	0%	5%	21%	39%	47%	53%
Calista	4,078	28%	49%	68%	80%	81%	20%
Chugach	2,630	0%	10%	23%	30%	45%	55%
Cook Inlet	24,060	1%	2%	5%	10%	12%	88%
Doyon	15,688	13%	32%	51%	60%	72%	28%
Koniag	3,134	2%	14%	34%	44%	59%	41%
NANA	1,129	29%	52%	75%	83%	87%	14%
Sealaska	6,075	5%	13%	26%	35%	41%	59%
TOTAL	64,397						

In Calista and NANA, about 30% of the households had 100 or fewer square feet per resident which is equivalent to a 10 x 10 foot room. More than one-third of the residents in seven regions (Ahtna, Arctic Slope, Bering Straits, Calista, Doyon, Koniag, and NANA) were living in 200 square feet or less, which is equivalent to a 10 x 20 foot room. 48% or more of the residents in five regions (Arctic Slope, Bering Straits, Calista, Doyon, and NANA) were living in 250 square feet or less, which is equivalent to a 10 x 25 foot room. 80% of the residents in the Calista and NANA regions, were living in 250 square feet or less.

NUMBER OF HOUSEHOLDS

This next table provides the same information as the previous one reported by the estimated number of households rather than percentages.

SQUARE FOOTAGE PER RESIDENT COMPARISONS
(Number of Households)

Region	Estimated Total # House-holds	# HH less than -100 sf/res	# HH less than -150 sf/res	# HH less than -200 sf/res	# HH less than -250 sf/res	# HH less than -300 sf/res	# HH greater than -300 sf/res
Ahtna	1,167	127	254	425	425	573	594
Aleut	1,401	67	94	189	283	364	1,037
Arctic Slope	1,225	100	218	470	587	704	521
Bering Sts	1,646	0	1,098	1,098	1,098	1,098	548
Bristol Bay	2,164	115	457	835	1,026	1,026	1,138
Calista	4,078	1,146	2,006	2,773	3,250	3,283	795
Chugach	2,630	5	263	605	789	1,184	1,447
Cook Inlet	24,060	192	553	1,275	2,358	2,887	21,173
Doyon	15,688	2,024	5,083	8,017	9,366	11,280	4,408
Koniag	3,134	53	426	1,062	1,382	1,858	1,276
NANA	1,129	330	589	847	940	977	152
Sealaska	6,075	298	796	1,392	2,138	2,491	3,584
TOTAL	64,397	4,458	11,838	19,188	23,642	27,724	36,673

The total number of households with 200 sq.ft. per resident or less was 19,188. Doyon alone accounted for over 8,000 of those households or 42%. Over 23,000 households had 250 sq.ft. per resident or less, which represents an increase of about 4,500 homes from 200 sq.ft. or less.

HOUSING PHYSICAL CONDITION BASED ON INSULATION

In the following table, percentages of houses with attics and walls of different R-values are listed by region. R-values refer to the level of insulation. One inch of batt insulation is approximately equal to R-3. For example, R-38 is equivalent to 12 inches of batt, and R-19 is equivalent to 6 inches of batting.

Insulation Levels in Percentages:

	Attic					Walls		Can't Maint
	R<R11	R<R19	R<R22	R<R30	R<R38	R<R11	R<R19	70 deg F
Ahtna	15%	51%	78%	80%	96%	22%	69%	56%
Aleut	23%	36%	50%	65%	76%	23%	65%	16%
Arctic Slope	0%	6%	19%	36%	56%	1%	18%	37%
Bering Sts	14%	29%	89%	94%	97%	11%	41%	67%
Bristol Bay	14%	39%	76%	78%	90%	19%	52%	22%
Calista	3%	34%	68%	77%	77%	11%	78%	41%
Chugach	16%	26%	47%	56%	71%	20%	52%	15%
Cook Inlet	7%	22%	52%	71%	77%	10%	62%	12%
Doyon	4%	18%	47%	74%	79%	11%	65%	40%
Koniag	2%	11%	17%	18%	20%	3%	63%	27%
NANA	25%	25%	50%	50%	50%	1%	26%	72%
Sealaska	12%	55%	93%	95%	97%	15%	81%	41%
TOTAL	9%	29%	58%	69%	76%	12%	57%	36%

According to the 1986 Energy Conservation Standard For New Residential Buildings published by the State DCRA Office of Energy Programs, the minimum prescribed insulation requirement for ceilings is R-38, except in Arctic Slope where the ceiling requirement is R-52. The minimum prescribed insulation requirements for walls are R-21 in Sealaska; R-18 in Aleut, Chugach, Cook Inlet, and Koniag; R-25 in Ahtna, Bristol Bay, Calista, and Doyon; R-30 in Bering Straits and NANA; and R-35 in Arctic Slope.

Houses with attic R-values less than R-38 range from 71% to 97% in nine of the regions, and more than half of the houses in two more regions. Houses with wall R-values less than R-19 range from 41% to 81% in all but two region.

(The heating sources per region do not sum to 100% because many households used more than one heating source.)

Heating Sources in Percents:

	Wood Stove	Oil Pot	Oil Furnace	Natural Propane	Natural Gas	Electric	Other
Ahtna	77%	17%	41%	1%	0%	1%	1%
Aleut	33%	8%	59%	2%	0%	15%	26%
Arctic Slope	27%	12%	55%	1%	0%*	0%	33%
Bering Sts	83%	40%	19%	50%	0%	12%	2%
Bristol Bay	21%	54%	41%	10%	0%	8%	11%
Calista	56%	72%	15%	13%	0%	9%	1%
Chugach	69%	26%	43%	0%	0%	3%	1%
Cook Inlet	54%	0%	16%	5%	25%	32%	3%
Doyon	92%	8%	10%	0%	0%	0%	0%
Koniag	66%	36%	42%	1%	0%	0%	15%
NANA	70%	30%	32%	0%	0%	0%	22%
Sealaska	65%	23%	47%	1%	0%	1%	1%

* Note: Arctic Slope region includes Barrow/Brower ville which primarily uses natural gas as a heating source. This is not reflected in the table because Barrow was not surveyed.

The primary heating source in Ahtna, Chugach, Cook Inlet, Doyon, Koniag, NANA, and Sealaska was wood stoves. The primary heating source in Aleut and Arctic Slope was oil furnaces, and oil pot burners in Bristol Bay and Calista regions.

The following table indicates condition based on current survey assessment. For example, in Ahtna, 65% of the windows were like new; 12% of the plumbing required major repairs; and 35% of the windows required replacement.

Physical Condition of Housing Structures in Percentages:

	Like New/Minor Repair					Major Repair			Replace				
	Win	Dor	Plb	Fnd	Hm	Plb	Fnd	Hm	Win	Dor	Plb	Fnd	Hm
Ahtna	65%	62%	32%	57%	37%	12%	10%	43%	35%	38%	57%	33%	21%
Aleut	72%	72%	79%	79%	76%	12%	14%	14%	28%	28%	9%	7%	10%
Arctic Slope	53%	58%	78%	66%	59%	6%	20%	36%	47%	42%	16%	14%	5%
Bering Sts	45%	59%	28%	90%	100%	0%	0%	0%	55%	42%	72%	10%	0%
Bristol Bay	54%	56%	54%	51%	37%	22%	43%	57%	46%	44%	24%	7%	7%
Calista	67%	74%	5%	59%	71%	0%	27%	26%	33%	26%	95%	15%	3%
Chugach	80%	84%	89%	89%	79%	9%	9%	16%	20%	16%	3%	2%	5%
Cook Inlet	91%	94%	95%	99%	94%	1%	1%	6%	9%	6%	3%	0%	0%
Doyon	54%	58%	29%	60%	54%	3%	13%	30%	46%	42%	69%	27%	17%
Koniag	85%	87%	90%	93%	91%	8%	5%	8%	15%	13%	3%	2%	1%
NANA	53%	53%	52%	53%	53%	37%	37%	37%	47%	47%	12%	10%	10%
Sealaska	91%	88%	91%	84%	75%	8%	16%	24%	9%	12%	1%	1%	1%
TOTAL	70%	74%	61%	77%	73%	7%	14%	21%	30%	26%	32%	10%	6%

Trained interviewers rated the windows (Win), doors (Dor), plumbing (Plb), foundation (Fnd), and overall home condition (Hm) for every house as needing minor repair, major repair, or replacement.

Since weatherization contractors normally repair windows first, the window conditions of houses was an important factor. 33% to 55% of the windows in Ahtna, Arctic Slope, Berings Straits, Bristol Bay, Calista, Doyon, and NANA needed to be replaced. 38% to 47% of the doors needed to be replaced in Ahtna, Arctic Slope, Bering Straits, Bristol Bay, Doyon, and NANA. 95% of the plumbing in houses in Calista needed to be replaced. 72% in Bering Straits, 69% in Doyon, and 57% in Ahtna. 40% to 50% of the foundations needed major repair or replacement in Ahtna, Bristol Bay, Calista, Doyon, and NANA. 21% of Ahtna's houses were rated as needing replacement and 17% of Doyon's houses. 57% of houses in Bristol Bay needed major repair, 43% in Ahtna, 37% in NANA, and 36% in Arctic Slope.

HEALTH AND SAFETY RESULTS FROM STUDY SURVEY

Homes Meeting Selected Fire Codes:

	% Without Egress Window	% Without Smoke Detector
Ahtna	62%	64%
Aleut	53%	9%
Arctic Slope	35%	18%
Bering Sts	52%	28%
Bristol Bay	38%	10%
Calista	41%	51%
Chugach	14%	18%
Cook Inlet	31%	19%
Doyon	53%	32%
Koniag	6%	20%
NANA	49%	25%
Se.laska	26%	31%
SURVEY-WIDE TOTAL	38%	28%

(An egress window is defined as a sufficiently large enough window for residents to crawl through in case of fire or other emergencies according the Uniform Fire Code.)

50% or more of the homes in Ahtna, Aleut, Bering Straits, Doyon, and NANA (49%) did **not** have an egress window. A common problem with egress windows was that they freeze shut during the winter months.

Smoke detectors were **not** present in half of the homes in Calista and 64% of the homes in Ahtna. One-third or fewer of the homes in other regions did **not** have smoke detectors. Although a home may have a smoke detector, it is common practice for residents to remove the batteries to operate other equipment.

Utility Status:

	Without Running Water	Without Sewer System
Ahtna	61%	56%
Aleut	4%	5%
Arctic Slope	22%	98%
Bering Sts	78%	78%
Bristol Bay	30%	25%
Calista	98%	97%
Chugach	3%	3%
Cook Inlet	6%	6%
Doyon	70%	70%
Koniag	4%	3%
NANA	72%	73%
Sealaska	3%	4%
SURVEY-WIDE TOTAL	39%	44%

For the purposes of this study, "sewer system" was defined as flushable toilets, and "running water" was defined as suitable drinking water piped, hauled or pumped into the house. It is important to note that some communities have sewer systems, and no running water because the water is not drinkable.

REGIONAL HOUSING STOCK SUMMARY

Home Owner:

	% Self	% Relative	% Other
Ahtna	97%	3%	0%
Aleut	42%	4%	54%
Arctic Slope	77%	13%	10%
Bering Sts	77%	5%	18%
Bristol Bay	86%	7%	8%
Calista	87%	6%	6%
Chugach	82%	2%	17%
Cook Inlet	83%	1%	16%
Doyon	87%	1%	12%
Koniag	63%	36%	1%
NANA	80%	16%	4%
Sealaska	76%	5%	19%
TOTAL	78%	5%	17%

Other home owners include HUD, various state agencies, etc. 54% of the houses in Aleut were not owned by the resident or a relative. 63% to 97% of the houses in all regions were built by the resident. A relative of the resident built 36% of the houses in Koniag, 16% in NANA, and 13% in Arctic Slope.

Home Builder:

	% Self	% HUD	% BIA	% Contractor	% Other
Ahtna	39%	14%	19%	0%	29%
Aleut	26%	23%	0%	3%	47%
Arctic Slope	10%	3%	1%	7%	79%
Bering Sts	27%	10%	23%	0%	39%
Bristol Bay	32%	32%	0%	13%	22%
Calista	45%	9%	4%	1%	41%
Chugach	12%	30%	9%	8%	41%
Cook Inlet	32%	1%	0%	37%	30%
Doyon	46%	15%	11%	2%	20%
Koniag	25%	56%	13%	0%	5%
NANA	15%	49%	1%	11%	21%
Sealaska	29%	13%	6%	1%	51%
TOTAL	30%	19%	8%	8%	36%

Other possible builders are different state agencies and contractors outside of Alaska. 25% to 46% of the houses were built by the home owner in nine of the regions (Ahtna, Aleut, Bering Straits, Bristol Bay, Calista, Cook Inlet, Doyon, Koniag, and Sealaska). About 45% of the houses in Calista and Doyon were built by the home owner.

Power Source in Percent of Households:

	Electric Utility	Home Generator	Other	None
Ahtna	80%	3%	3%	14%
Aleut	96%	4%	0%	0%
Arctic Slope	100%	0%	0%	0%
Bering Sts	97%	2%	1%	1%
Bristol Bay	75%	24%	2%	0%
Calista	99%	1%	0%	1%
Chugach	100%	0%	0%	0%
Cook Inlet	98%	2%	0%	1%
Doyon	93%	1%	1%	6%
Koniag	99%	0%	0%	1%
NANA	100%	0%	0%	0%
Sealaska	95%	5%	0%	0%

14% of households in Ahtna and 6% in Doyon do not have a power source. 100% of the homes surveyed in Arctic Slope, Chugach, and NANA had an electric utility hookup. Almost one-fourth of the homes in Bristol Bay region used a home generator.

NEED BASED ON HOUSING STOCK CONDITION AND AGE

The following table shows the approximate age of existing housing stock based on project survey data broken down by region. For example, in the Ahtna region, approximately 16.9% of the houses were under 6 years old, while 41.5% were 11 to 20 years.

Age of Housing Stock:

	% Houses 0-5 Yrs	% Houses 6-10 Yrs	% Houses 11-20 Yrs	% Houses 21-30 Yrs	% Houses 31 or More
Ahtna	16.9%	4.6%	41.5%	6.2%	30.8%
Aleut	12.9%	38.8%	23.5%	15.3%	9.4%
Arctic Slope	23.9%	54.4%	14.1%	5.4%	1.1%
Bering Sts	9.2%	19.2%	53.3%	9.2%	9.2%
Bristol Bay	13.6%	18.6%	30.5%	10.2%	27.1%
Calista	19.4%	18.9%	38.3%	17.9%	5.6%
Chugach	19.8%	30.6%	20.7%	15.3%	13.5%
Cook Inlet	25.7%	22.8%	21.4%	19.4%	10.7%
Doyon	19.5%	20.8%	34.9%	8.7%	16.1%
Koniag	14.7%	23.2%	41.1%	16.8%	4.2%
NANA	10.1%	33.7%	42.7%	6.7%	6.7%
Sealaska	8.7%	12.7%	31.0%	14.3%	33.3%

The older houses tended to be found in Ahtna, Bristol Bay, and Sealaska: 27% to 33% of the houses were 31 years old or more. 47.6% of the houses in Sealaska were 21 years or older. More than half of the houses in the Aleut, Arctic Slope, and Chugach regions were newer houses, only 10 years old or less.

The following table shows the size of houses by square footage category and broken down by region. For example, 11% of Ahnta houses are 300 square feet or less and 68% (11+13+44-68%) are 750 square feet or less.

Square Footage of Houses in Percentages:

	300 or less	301 to 500	501 to 750	751 to 1000	1001 to 2000	2001 or more
Ahtna	11%	13%	44%	7%	18%	7%
Aleut	5%	14%	4%	14%	42%	21%
Arctic Slope	1%	10%	8%	26%	45%	10%
Bering Sts	0%	0%	0%	33%	33%	33%
Bristol Bay	2%	7%	14%	35%	23%	19%
Calista	9%	32%	27%	16%	15%	2%
Chugach	2%	6%	16%	27%	24%	26%
Cook Inlet	1%	4%	2%	8%	40%	45%
Doyon	13%	32%	17%	27%	7%	4%
Koniag	0%	3%	5%	56%	31%	5%
NANA	3%	17%	15%	63%	2%	1%
Sealaska	3%	6%	8%	21%	41%	21%
TOTAL	5%	14%	14%	26%	26%	16%

Ahtna and Doyon have the highest percent of houses only 300 sq.ft. or less. Almost half of Ahtna houses are 501 to 750 sq.ft., and over half of Koniag houses are 751 to 1000 square feet. 40% to 45% of Aleut, Arctic Slope, Cook Inlet, and Sealaska houses are 1001 to 2000 sq.ft.

NEW HOUSING STOCK NEEDED - SUMMARY

The following table consolidates major study findings by number of houses needing replacement, number with 3 or more generations per households, total estimated new housing needed, and approximate cost based on an average of $116,000 to build a new house in non-urban Alaska.

NEW HOUSING STOCK NEEDED TO REPLACE HOMES IN POOR CONDITION
AND
TO PROVIDE HOMES FOR THIRD AND FOURTH GENERATIONS

	Estimated Total # HH	# HH Rated Replace	# HH w/ 3+ Gener	TOTAL NEW HOUSING NEEDED	COST @ $116k per New House (000's)
Ahtna	1,167	245	98	343	$39.799
Aleut	1,401	140	48	188	$21.777
Arctic Slope	1,225	61	229	290	$33.678
Bering Sts	1,646	0	174	174	$20.239
Bristol Bay	2,164	151	136	288	$33.386
Calista	4,078	122	669	791	$91.771
Chugach	2,630	132	139	271	$31.423
Cook Inlet	24,060	0	217	217	$25.119
Doyon	15,688	2,667	502	3,169	$367.601
Koniag	3,134	31	235	266	$30.901
NANA	1,129	113	174	287	$33.265
Sealaska	6,075	61	395	456	$52.853
TOTAL	64,397	3,724	3,016	6,740	$781.813

The column headed "# HH Rated Replace" refers to the number of houses that were rated on the survey as needing replacement. "# HH w/3+ Gener" refers to the number of households with three or more generations. And "Total New Housing Needed" represents the sum of the previous two columns

The 6,740 total new houses needed represents all of those existing houses which must be replaced plus the number of houses needed to provide a third (or fourth) generation with their own house.

The total cost to build the 6,740 houses would be $781,813,000. The $116,000 cost per house was derived from the current average cost to build the average 1200 sq.ft. new house in rural Alaska:

$92,200	HUD current contribution
$18,440	State of Alaska current contribution
$ 5,000	Cost to achieve new Thermal and Lighting Standards

$115,640	Total Cost under current practices *

* Note: Additional costs can be incurred for water and sewer system hookups. PHS will currently cover these costs up to $25,000 (within and up to certain amounts authorized by Congress for Alaska).

These costs were based on a project of new homes being built, not a single house built in a single community.

There were households who had a home but were not living in it during the winter either because the home was not in suitable living condition or they could not afford to heat it. In the forty-four communities surveyed, there were 88 people (or 49 households) who were living with other households for these reasons. This represents 3.2% of the total households surveyed.

INTRODUCTION TO OVERCROWDING CONDITIONS AND ISSUES

According to the 1985 edition of Dwelling Construction Under The Uniform Building Code.

> *The UBC model codes for residential occupancies states a minimum residential room size of 120 sq.ft. per living room. 150 sq.ft. per living and sleeping room, 90 sq. ft. per bedroom, and 220 sq.ft. (plus 100 sq.ft. for each occupant over 2) per efficiency or bachelor apartment.*
>
> *The codes states for room dimensions that "...one room shall have not less than 120 square feet of floor area. Other inhabitable rooms...shall have an area of not less than 70 square feet."*

For the purposes of comparison, no assumptions were made about any one standard square footage per resident. Instead, three scenarios are presented to most accurately describe the current housing situation: 200 sq. ft. or less per resident; 250 sq. ft. or less per resident; and 300 sq. ft. or less per resident. Each of the following three tables portray one of these scenarios.

NEW HOUSING STOCK NEEDED TO REMEDY OVERCROWDING FOR HOUSEHOLDS WITH 200 OR FEWER SQ.FT. PER RESIDENT

	1	2	3	4	5	6	7
	Estimated Total # HH	# HH <200 sf/res	# HH add-on 320sf	COST @ $15k per Household (000'S)	# HH New Hm Needed	COST @ $116k per New House (000'S)	TOTAL COST (000'S)
Ahtna	1,167	425	376	$5,636	49	$5,719	$11,354
Aleut	1,401	189	182	$2,730	7	$811	$3,541
Arctic Slope	1,225	470	407	$6,098	63	$7,360	$13,458
Bering Sts	1,646	1,098	553	$8,301	545	$63,175	$71,475
Bristol Bay	2,164	835	808	$12,124	27	$3,100	$15,224
Calista	4,078	2,773	1,570	$23,543	1,203	$139,604	$163,147
Chugach	2,630	605	553	$8,295	52	$6,035	$14,330
Cook Inlet	24,060	1,275	1,215	$18,226	60	$6,951	$25,177
Doyon	15,588	8,017	6,606	$99,090	1,411	$163,675	$262,765
Koniag	3,134	1,062	957	$14,353	105	$12,196	$26,549
NANA	1,129	847	440	$6,594	407	$47,259	$53,853
Sealaska	6,075	1,592	1,422	$21,325	170	$19,760	$41,085
TOTAL	64,397	19,188	15,088	$226,314	4,100	$475,645	$701,959
						(LESS HOMES ALREADY REPLACED)....	$210,243
						TOTAL COST TO REMEDY OVERCROWDING....	$491,717

Column 1 shows the same housing estimates used in all tables. *Column 2* represents the number of households with 200 sq.ft. or less per resident. *Column 3* shows the number of households that would no longer have less than 200 sq.ft. per resident if a 320 sq.ft. addition were built onto the existing house. *Column* 4 is the total cost of building the additions at $15,000 per addition. The $15,000 cost is the current cost to build a 320 sq.ft. addition in rural Alaska based on the BIA Housing Improvement Program. *Column 5* shows the number of houses that would still have less than 200 sq.ft. per resident if 320 square feet were added. Since, in this case, the addition would not resolve the overcrowding for these households, a new house would be required.

Column 6 shows what the cost would be based on $116,000 per new house to accommodate the households identified in *column 5*. *Column 7* shows the total cost to remedy overcrowding in the 200 or less square footage per resident scenario: total cost combines the cost of additions *(column 4)* and the cost of new houses needed *(column 6)*.

The table shows a total cost for all regions equals $701,959,000.

New houses already accounted for by virtue of being rated "replace" were subtracted, leaving a net cost of $491,717,000.

Building a new house for the third (or fourth) generation may alleviate overcrowded conditions, depending on the number of people in a generation. In the best case scenario, 3,016 homes (from the generation table) would no longer have overcrowded conditions if one generation moved out, and the total cost would decrease by $349,856,000. This would have the greatest impact on the Arctic Slope, Calista, NANA, and Bering Straits regions.

The assumption was made that if adding 320 square feet to a house did not solve the overcrowded conditions, building a new and larger home for the household would solve the problem. Again, there is a possibility that large families will still have 200 sq.ft. or less per resident even if part of the family stays in the original house and part of the family moves into the new house. This overlap may cause the total cost to be understated.

NEW HOUSING STOCK NEEDED TO REMEDY OVERCROWDING FOR HOUSEHOLDS WITH 250 OR FEWER SQFT PER RESIDENT

	Estimated Total # HH	# HH <250 sf/res	# HH add-on 320sf	COST @ $15k per Household (000'S)	# HH New Hm Needed	COST @ $116k per New House (000'S)
Ahtna	1,167	425	333	$4,992	92	$10,698	$15,690
Aleut	1,401	283	265	$3,969	18	$2,134	$6,103
Arctic Slope	1,225	587	397	$5,952	190	$22,062	$28,014
Bering Sts	1,646	1,098	422	$6,324	676	$78,459	$84,783
Bristol Bay	2,164	1,026	943	$14,143	83	$9,640	$23,784
Calista	4,078	3,250	1,300	$19,500	1,950	$226,200	$245,700
Chugach	2,630	789	661	$9,918	128	$14,827	$24,745
Cook Inlet	24,060	2,358	2,193	$32,894	165	$19,147	$52,041
Doyon	15,688	9,366	6,425	$96,376	2,941	$341,147	$437,523
Koniag	3,134	1,382	1,078	$16,169	304	$35,269	$51,438
NANA	1,129	940	310	$4,653	630	$73,057	$77,710
Sealaska	6,075	2,138	1,747	$26,201	391	$45,385	$71,587
TOTAL	64,397	23,642	16,073	$241,092	7,569	$878,025	$1,119,117
					(LESS HOMES ALREADY REPLACED)...		$426,874
					TOTAL COST TO REMEDY OVERCROWDING		$692,243

NEW HOUSING STOCK NEEDED TO REMEDY OVERCROWDING FOR HOUSEHOLDS WITH 300 OR FEWER SQFT PER RESIDENT

	Estimated Total # HH	# HH <300 sf/res	# HH add-on 320sf	COST @ $15k per Household (000'S)	# HH New Hm Needed	COST @ $116k per New House (000'S)	
Ahtna	1,167	573	415	$6,231	158	$18,279	$24,510
Aleut	1,401	364	327	$4,903	37	$4,307	$9,210
Arctic Slope	1,225	704	390	$5,850	314	$36,422	$42,272
Bering Sts	1,646	1,098	307	$4,612	791	$91,705	$96,317
Bristol Bay	2,164	1,026	844	$12,666	182	$21,066	$33,732
Calista	4,078	3,283	1,008	$15,118	2,275	$263,914	$279,032
Chugach	2,630	1,184	868	$13,018	316	$36,671	$49,689
Cook Inlet	24,060	2,887	2,520	$37,805	367	$42,531	$80,337
Doyon	15,688	11,280	5,674	$85,108	5,606	$650,315	$735,422
Koniag	3,134	1,858	1,163	$17,447	695	$80,607	$98,054
NANA	1,129	977	231	$3,459	746	$86,586	$90,044
Sealaska	6,075	2,491	1,731	$25,969	760	$88,132	$114,100
TOTAL	64,397	27,725	15,479	$232,185	12,246	$1,420,534	$1,652,719
					(LESS HOMES ALREADY REPLACED)...		$770,198
					TOTAL COST TO REMEDY OVERCROWDING		$882,521

MAJOR REPAIRS NEEDED

In addition to the need for new housing, there are houses in rural Alaska which require major repair. The following discussion describes the rehabilitation standards and costs involved for major repairs on a home in rural Alaska. The discussion is followed by a table which described the general need for major housing repairs.

REHABILITATION STANDARDS

MAJOR REPAIRS NOT INCLUDING FOUNDATION WORK $15,000*:

Replace all exterior doors with Metal Insulated R-16 pre-hung doors.

Insulate attic spaces, when possible, to a minimum of R-38.

Replace all windows with Alaska Window Vinyl Cased double pane Heat Mirror or Low e windows.

Insulate all exterior wall to a minimum of R-19.

Insulate all floors to a minimum of R-38 whenever possible.

Replace existing heating system with a high-efficiency outside air source, thermostatically controlled oil stove, or a high efficiency wood stove where appropriate.

Conduct a before and after computerized blower door test and an infrared thermography test.

Upgrade all interior wiring to National Electrical Code standards.

Insure the integrity of the ceiling and wall vapor barriers by installing new interior vapor barriers and ceiling and wall material.

Cover exterior of the house with Tyvek wrap and reside with appropriate siding to reduce wind driven air and moisture infiltration.

Repair flooring and recover with tile or carpet as necessary.

Replace all appliances with high energy efficient appliances.

Repair all interior doors, window sills, cabinets, and plumbing, as appropriate.

Repair and replace roof as necessary.

MAJOR REPAIRS INCLUDING FOUNDATION WORK $25,000*:

All of the above plus foundation work.

Raise the house off the existing pad and rebuild the foundation pad with gravel and insulation to cure permafrost problems.

Repair and/or replace existing deck framing to cure center sag and edge sag of floor joists.

Install new longitudinal beams for house support.

Install new foundation pads and new vertical foundation support posts.

Level house and brace foundation.

* These are all inclusive costs based upon current material bid costs, current barge and air freight rates, and the known costs associated with the Alaska Legal Services v. HUD rehabilitation settlement cost of the "HUD 500" homes presently being rehabilitated.

HOUSES NEEDING MAJOR REPAIR

	Estimated Number of Households	# HH Rated Maj Rep	# HH w/ attic R<R38	# HH w/ walls R<R19	# HH Can't Maintain 70 deg F
Ahtna	1,167	502	1,125	799	657
Aleut	1,401	196	1,062	626	226
Arctic Slope	1,225	441	690	224	453
Bering Sts	1,646	0	1,588	667	1,101
Bristol Bay	2,164	1,233	1,943	1,123	480
Calista	4,078	1,060	3,136	3,177	1,680
Chugach	2,630	421	1,875	1,375	402
Cook Inlet	24,060	1,444	18,454	14,941	2,887
Doyon	15,688	4,706	12,409	10,150	6,322
Koniag	3,134	251	627	1,962	831
NANA	1,129	418	565	288	814
Sealaska	6,075	1,458	5,887	4,890	2,491
TOTAL	64,397	12,130	49,361	40,223	18,345

The second column shows the number of households rated as needing major repair; the third column indicates the number of households with an attic R-value less than R-38, which is equivalent to 12 inches of fiberglass insulation; the fourth column indicates the number of households with less than R-19 walls, which is equivalent to 3.5 inches of fiberglass insulation; and the fifth column shows the number of households that indicated inability to maintain 70 degrees Fahrenheit in the coldest weather.

Since the households in each column could overlap with one another, the columns can not be totaled. The total number of households that are listed in one or more of these columns represent 66.4% of the total number of households, or 42,737 houses. The average cost to complete major repairs on a house is $25,000 (as described under rehabilitation standards), which would make the total cost of repairing houses, $1,068,433,000.

POPULATION AND HOUSING PROJECTIONS

The population projections over the next five years are included in the following table. However, housing needs can not simply be determined from population projection totals. For example, the percentage of people in different age groups play an important role. Since the population was relatively young in the areas included in this study, it is likely that their population will increase at a rapid rate.

Other important factors are the housing characteristics and economies of the communities included in the study. Although major population centers were excluded from the study, the Kenai Peninsula and Matanuska-Susitna Borough were included. It is important to note however, these two areas are *atypical* of the remainder of rural Alaska. This is due to recent high out-migration cause by the current economic recession. Inclusion of the Kenai Peninsula Borough and the Matanuska-Susitna Borough make it appear that out-migration is the rule in rural Alaska when, in fact, it may be confined to the two above areas.

Although a detailed analysis of changes among age component groups could not be included in this study, it is recommended that such an examination be conducted to determine better which communities and areas have new generations growing up and those which may have teenagers, for example, who will be needing new housing soon.

POPULATION FORECASTS FOR ALASKA BY REGION

Population Forecasts by Region:

	POP80	POP85	POP86	POP87	POP88	POP89	POP90	POP91	POP92	POP93
Ahtna	3,211	3,034	2,980	3,093	3,141	3,127	3,121	3,137	3,160	3,206
Aleut	3,853	3,783	3,715	3,857	3,916	3,899	3,891	3,912	3,940	3,997
Arctic Slope	4,149	5,389	5,293	5,494	5,578	5,555	5,543	5,573	5,613	5,694
Bering Sts	6,504	7,770	7,631	7,922	8,043	8,009	7,992	8,035	8,093	8,209
Bristol Bay	5,710	7,033	6,907	7,170	7,280	7,249	7,234	7,272	7,326	7,431
Calista	15,638	18,473	18,143	18,834	19,122	19,041	19,000	19,102	19,242	19,518
Chugach	7,454	8,916	8,757	9,090	9,229	9,190	9,170	9,220	9,287	9,420
Cook Inlet	40,8[illegible]0	73,142	71,836	74,570	75,712	75,390	75,229	75,633	76,185	77,278
Doyon	33,[illegible]88	47,849	46,995	48,783	49,530	49,320	49,214	49,478	49,840	50,555
Koniag	[illegible],939	11,221	11,021	11,440	11,615	11,566	11,541	11,603	11,688	11,856
NANA	4,831	5,790	5,687	5,903	5,993	5,968	5,955	5,987	6,031	6,117
Sealaska	17,895	22,479	22,078	22,918	23,269	23,170	23,120	23,244	23,414	23,750
TOTAL	153,942	214,879	211,043	219,073	222,429	221,484	221,010	222,196	223,820	227,031
SURVEY TOTAL INCLUDED	153,942	214,879	211,043	219,073	222,429	221,484	221,010	222,196	223,820	227,031
EXCLUDED	247,909	324,721	336,557	318,727	312,571	315,516	318,490	322,804	327,180	332,969
STATEWIDE	401,851	539,600	547,600	537,800	535,000	537,000	539,500	545,000	551,000	560,000

DEMOGRAPHIC SUMMARY FROM STUDY SURVEY

Population by Age and Sex:

	1985 Popul	% Women	% Men	Total Women	Total Men	Med Age Women	Med Age Men
Ahtna	3,034	47%	53%	1,440	1,594	28.0	17.9
Aleut	3783	48%	52%	1,801	1,982	27.2	24.0
Arctic Slope	5389	50%	50%	2,668	2,721	21.9	20.7
Bering Sts	7770	49%	51%	3,784	3,986	15.1	20.1
Bristol Bay	7033	42%	58%	2,922	4,111	26.5	26.2
Calista	18473	46%	54%	8,553	9,920	18.6	21.0
Chugach	8916	52%	48%	4,649	4,267	21.4	29.1
Cook Inlet	73142	50%	50%	36,403	36,739	26.9	28.6
Doyon	47,849	49%	51%	23,494	24,355	27.4	28.9
Koniag	11,221	48%	52%	5,396	5,825	17.5	20.1
NANA	5,790	42%	58%	2,446	3,344	27.1	22.1
Sealaska	22,479	50%	50%	11,240	11,240	23.4	25.3
TOTAL	214,879			104,795	110,084		

The total 1985 population was provided by the Alaska State Demographer's Office. The other data in this table was obtained through this survey. Columns 2 and 3 show the breakdown in percent of women and men. Columns 4 and 5 show the total women and men per region. And columns 6 and 7 show the median age for women and men in the region.

The percent of women and men per region was fairly evenly split. The largest difference was found in Bristol Bay and NANA regions where women constituted 42% of the population and men 58%. There were about 5,300 more men than women in the included population.

The median age for women ranged between 15 and 28 years. The lowest three median ages for women were 15.1, 17.5 and 18.6 years in the Bering Straits, Koniag, and Calista regions, respectively. The median age for men ranged from 18 to 29 years. The lowest four median ages for men were 17.9 in Ahtna, 20.1 in Bering Straits and Koniag, and 20.7 in Arctic Slope.

Demographic summary (cont'd.)

Alaska Native Population:	
Calista	98.6%
Bering Sts	98.4%
Ahtna	90.1%
Arctic Slope	89.0%
Bristol Bay	88.9%
NANA	84.1%
Doyon	83.2%
Koniag	74.6%
Sealaska	58.2%
Chugach	50.8%
Aleut	50.0%
Cook Inlet	18.6%
TOTAL	70.4%

The two regions with the highest percent of Alaska Native population were Calista and Bering Straits with over 98%. Seven regions (Calista, Bering Straits, Ahtna, Arctic Slope, Bristol Bay, NANA, and Doyon) all had over 83% Alaska Native populations. Koniag was nearly three-quarters Alaska Native. Cook Inlet had the lowest percent of Alaska Natives with 18.6%.

1991 HOUSING NEEDS ASSESSMENT STUDY

Part One

State of Alaska
Walter J. Hickel, Governor

Department of Community
and Regional Affairs
Edgar Blatchford, Commissioner

Conducted by
ASK• Marketing and Research Group
June 1991

HIGHLIGHTS OF FINDINGS

o An update of 1988 survey data with U.S. Census and 1991 study results of housing need statewide found that at least 16,867 new housing units are required in order to replace units in poor condition and to alleviate overcrowding based on three or more generations living in one household.

o Estimated cost for constructing 16,867 units is $2.2 billion.

o Over and above new homes needed, construction of additions to another 18,000 existing, overcrowded houses mainly for rural, Native households would cost an estimated $280 million.

o A primary reason for the housing demand is population growth: Alaska experienced the nation's second highest growth rate (after Nevada) at 36.9% over the last ten years. Rural areas of the state grew the fastest with a 46% increase and the Native Alaskan population, statewide, expanded at a 37% rate, increasing their numbers by 21,595.

o Relatively few housing units have been constructed since the 1988 study, 1,444 urban housing permits were authorized and 874 predominantly rural units were constructed under public programs. Housing construction, in general, and multi-family housing construction, in particular, declined in the late 80's. Vacancy rates of less than 1% are common for urban areas.

o Housing need for Native households remains serious --up to 24% of Native respondents reported needing housing for one or more members. Very little progress in resolving housing problems for Native Alaskans has been made since the 1988 report as only 704 units have been built by HUD Indian Housing and the Bureau of Indian Affairs Housing programs.

o Based on the 1991 statewide survey data, of those households reporting needing housing for at least one person, 50% had incomes of less than $25,000 and 68% had incomes less than $35,000.

o In a special examination of village sanitation needs where most systems do not offer piped water and sewer services, costs for upgrades total $1.108 billion. Only about 60 villages out of all 220 rural, remote communities have conventional, piped water and sewer systems.

o More than 35% of Alaska Native respondents in the 1991 survey did not have piped water and sewer for flush toilets or working flush toilets. In the 1988 study which focused exclusively on rural areas, 39% of respondents did not have running water and 44% did not have (piped) sewer systems.

o The survey found that the upper limit rural residents were willing to pay for piped water and sewer was $55 per month; average cost per household to pay for operational and maintenance ranges between $100 and $125 per month for villages. Currently, many sanitation systems have inadequate operational and maintenance programs due to underfunding and most are bankrupt.

o Only 24% of the state's 514 Community Water Systems can boast of having no violations or regulatory orders for corrective action in the past year. Alaska's ranks last in its bacterial water test reporting compliance with the Federal Safe Water Act.

o Weatherization programs for low income households have improved 19,882 units since program initiation, but substantial numbers of eligible households remain --perhaps as many as 33,000 statewide.

o Housing condition, especially for rural areas and Native homes, remains poor with 50.9% of the rural respondents reporting wind coming in around doors and windows, one-third of rural and Native households with interior ice build-up, and 44% of Native households with foundation heaving. Urban housing conditions, by contrast, are dramatically better.

o Expenditures for home heating, particularly during the winter, remain high with the average expenditures for non-Native households at $146 per month and for Native households $192 per month, or roughly $1,500 per year. Substantial portions of Native and rural respondents had difficulty maintaining a comfortably warm temperature of 68 to 70 degrees during winter.

o The DCRA-sponsored Golovin housing project, where 13 HUD homes will be built to Alaska Home Craftsman Program energy standards, is planned to demonstrate that up to 70% of home heating costs can be saved through properly insulated and sealed homes.

o Both the housing and sanitation program funding levels in Alaska fall far short of the mark for meeting existing needs. Despite significant spending in some areas --notably one billion dollars for sanitation since 1980-- there remain serious and sometimes critical requirements to adequately house people and provide safe sources of drinking water and sanitary sewage disposal.

STATEWIDE HOUSING NEEDS ASSESSMENT
OVERVIEW

New Housing Required

This study, conducted for the Alaska Department of Community and Regional Affairs (DCRA) of housing needs in Alaska estimates that at least 16,867 new housing units are required to meet demand created by population growth and to alleviate overcrowding and deteriorated housing condition. Due to a combination of poor economic conditions and the lack of financial support from the public sector, there has been very little housing constructed in Alaska since 1988.

The estimate of 16,867 new housing units is a grand total of several separate calculations. The base is formed by a 1988 Rural Housing Needs Assessment estimate of 6,740 housing units needed, and updated with 1990 Census information, produces a new total of 8,006. Add to that 2,086 units required for Native housing in urban areas and another 3,076 units for non-Native 'urban' households with incomes under $25,000 needing housing, produces a total of 13,168 units.

A further increment of at least 4,573 housing units which were determined by the 1988 survey to be in poor condition or containing crowded households (with three and four generations present or having less than 200 square feet per person) is added to the total and updated with 1990 Census information.

Housing construction under state and federal programs for Native Alaskan and low income families, totalling 874 units since 1988, is subtracted from the total to give the actual statewide need figure of 16,867 units. A high range estimate of 27,864 is suggested by including 14,032 crowded households, identified in the 1988 study, instead of the more congested 4,573 households utilized in the low range calculation.

A detailed explanation of housing needed is discussed in the next section of this report "New Housing Stock Needed".

Cost Calculated At $2.2 Billion

The estimated cost of constructing the required new housing is $2.192 billion, based upon average cost of $130,000 for 1,200 square foot unit, an amount identified by the U.S. Department of Housing and Urban Development based on their Indian Housing Program experience. The cost elements are further broken down to allocate $110,000 as the federal contribution, matched with state funds of about $20,000 from the supplemental housing program in the Department of Community and Regional Affairs.

To construct 320 square feet additions for another 18,000 units, structurally eligible for improvements, it is estimated that another $280 million would be required. These units are presently overcrowded and represent square footage per person levels below 200 square feet. A more detailed explanation is provided in the section on overcrowding.

Most Need Is Low Income and Native Alaskan

The obligation for providing most of the $2.2 billion will likely fall on public resources as the total represents mainly low-income (non-Native) and Native Alaskan housing requirements. Nearly one third of all respondents in the 1991 study earned $25,000 or less annual household income; 39% of rural respondents and 65% of Native respondents were reported in that category as well.

Solving housing need for low income and Native households through private sector sources does not often occur in Alaska because of higher construction costs, remoteness of Alaska Native villages, and fluctuating local economies which involve considerable risk for developers and landlords.

Low income housing need has frequently been met through a combination of federal and state programs, under the Department of Housing and Urban Development (HUD) public housing and the Alaska State Housing Authority (ASHA) which supplies and manages low-income family and elderly housing throughout the state. Native Alaska housing has traditionally been provided by the federal government under its trust responsibility for Native Americans through both the HUD Indian Housing Program, through the regional housing authorities, and the Bureau of Indian Affairs. Housing can be either rental or owner-occupied.

Survey Measured Reported Need

The 1991 housing survey, conducted in February-March, 1991, consisted of in-depth telephone interviews conducted in over 200 communities. The questionnaire appears in Part Two under "General Findings on Housing Status, The 1991 Statewide Survey."

Of 1,200 households interviewed, 11.6% reported at least one person and more required other housing; about half of that number indicated that two or more

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persons were in need. Proportionally, housing need is greater in rural Alaska with close to 15% of respondents reporting need and Native households registering an even higher requirement at 24%. The table below, based on a question in the 1991 survey, demonstrates the distribution of need.

91 STUDY QUESTION: How many people in your household need other housing?

	ALL	URBAN	RURAL	NATIVE	NON-NATIVE
INDICATING NO ONE IN NEED:	88.4%	92.9	85.4	76.1	92.7
INDICATING ONE PERSON:	5.7	3.0	7.5	11.4	3.8
INDICATING TWO OR MORE:	5.9	4.1	7.1	12.5	3.5
TOTAL HH INDICATING NEED:	11.6	7.1	14.6	23.9	7.3

Source: ASK* Marketing and Research Group

In response to the question "Do any adults in your household have an interest in building or having a home built?" 35% of all respondents replied that there were. More than half of the rural respondents indicated an interest in building, while only one-third of the urban respondents did. And, of those who were interested in building, nearly half reported they had land on which a new home could be built.

New Housing and Additions to Address Overcrowding

Adjusted for 1990 population changes, the 1988 survey provided the basis for estimating at least 4,573 crowded units should be built (with as many as 14,032 new homes, depending on square footage allowances) were needed to remedy overcrowding. This is discussed further in the section on overcrowding.

Costs for 320 square foot expansions of 18,000 units was estimated to be approximately $280 million. This is based upon an average cost per unit of $15,000 which is the typical cost of a Bureau of Indian Affairs addition under its Housing Improvement Program (HIP).

Results from the 1991 survey indicated that approximately three times as many Native households reported needing housing for one or more persons than did non-Native respondents. Much of the need relates to the fact that household size for Native Alaskans, generally, is larger than for non-Native. And, Native Alaskans comprise the majority of population in rural remote areas where housing financing and construction is difficult to obtain.

Household size is a major determinant of housing need for rural Alaska, where it is not uncommon to find third and fourth generations living in the same dwelling. Often, larger families are living in homes of lower square footage. The 1988 rural survey recorded square footage for each household and found that average size was 1,162 square feet, compared with 1,635 square foot average for Anchorage.

The 1991 statewide survey found that average household size was 3.2 persons for the state, while rural households had 3.4 persons and Native households had 3.9 persons. The variation in household size for rural residents is dramatic in a regional breakdown: Household size in the interior region (Ahtna) was 2.6, while Northwest Alaska was 5.3 average persons. About one-tenth of the respondents in the statewide survey had five or more persons; one-fifth of Native respondents said that six or more persons lived in the house during the winter.

Why Need Exists

The need for 16,867 housing units may be attributed to a number of factors, especially to a relatively high population growth rate for many communities and for the state as a whole. In addition, the supply of housing through governmentally-assisted sources has not been significant, at least, not when compared with the high degree of need.

Federal funding levels for construction of homes for Native Americans have rarely been able to match the need. A persistent and wide gap between housing supply and housing demand for Native Alaskans has existed since the 1960's when federal housing construction programs began in earnest. That gap by 1991 showed Native need to be about 8,000 units, yet only 704 homes have been built for this group since 1988.

State housing policies have tended to benefit housing construction in urban, rather rural areas, and for moderate and upper income groups. Private financing of housing in smaller, more remote communities is rare. Other constraints exist, such as shipment of construction materials to off-road locations is expensive and usually must be coordinated with summer barge traffic. There is a often lack of availability of housing developers and skilled craftsmen in rural areas. Additionally, the variability in Alaska's economic conditions tends to discourage housing investment, especially in multi-family, rental housing.

Alaska Housing Expanded During 1980's

The total number of housing units (vacant and occupied) counted in the 1990 U.S. Census for Alaska was 232,608 as compared to 154,165 total units enumerated in 1980. This increase amounted to 78,445 total units, or a 51% gain. A sizeable chunk of that new housing was built in Anchorage which found 24,769 more housing units in 1990 than in 1980. Other urban areas added approximately 19,462 housing units, while remainder of 34,214 was scattered throughout rural Alaska.

The vast majority of new housing supplied has been through private sector construction activity which experienced a boom in many parts of the state during the early 1980's. Construction levels dropped dramatically in most regions when an economic recession began in 1985-86, with housing permit authorizations from 1985 to 1990 only a fraction of those in the earlier part of the decade.

Population Growth a Significant Feature

Population growth is one of the more important factors in creating housing demand. This growth has continued at a high pace with 148,192 more persons in Alaska in 1990 (550 043) than in 1980, according to the U.S. Census. The 36.9% growth was second highest in the nation, ranking after Nevada. Anchorage with 41.15% of the population had an increase of 29.8%, or 51,907 persons added. Rural areas grew at a rate more than double that of urban areas, with a 46.1% increase in the total from 1980 to 1990.

POPULATION GROWTH FOR URBAN-RURAL AREAS, 1980-1990

	1980	1990	% Change
Municipality of Anchorage	174,431	226,338	29.8
Fairbanks North Star Borough	53,983	77,720	44.1
City and Borough of Juneau	19,528	26,751	37.0
City and Borough of Sitka	7,803	8,588	9.9
Ketchikan Gateway Borough	11,316	13,828	22.2
Urban Total	267,061	353,225	21.7
Rural Areas	134,790	196,818	46.1
Alaska Total	401,851	550,043	36.9

Source: ASK* Marketing and Research Group, from 1980 & 1990 U.S. Census.

The state's population growth rate, and this is especially true for rural Alaska, is related to both high birth rates and rates of in-migration. The overall population growth in a given area is dependent to a large degree on net migration and net migration appears to be directly linked to local economic conditions.

Non-white racial and ethnic groups constituted a third of the population increase with 42,428 Black, Native Alaska or American Indian, Asian or Pacific Islanders, and Hispanic persons -- an average growth rate (67%) twice that of Whites. Native Alaskans increased their numbers by 21,595 from a base of 64,103 in 1980 to 85,698 in 1990.

POPULATION DISTRIBUTION BY RACE AND HISPANIC ORIGIN, 1990-1980

Alaska	1990 Number	1990 Percent	1980 Number	1980 Percent	Number Change	Percent Change
Total Population	550,043	100.0	401,851	100.0	148,192	36.9
White.....	415,492	75.5	309,728	77.1	105,764	34.1
Black.....	22,451	4.1	13,643	3.4	8,808	64.6
American Indian, Eskimo, or Aleut	85,698	15.6	64,103	16.0	21,595	33.7
Asian or Pacific Islander.....	19,728	3.6	8,054	2.0	11,674	149.9
Other Race	6,674	1.2	6,323	1.6	351	5.6
Hispanic Origin*	17,803	3.2	9,507	2.4	8,296	87.3

*Persons of Hispanic Origin can be of any race.

Source: U.S. Census 1990 count, March 1991

Alaska Native population in urban locations is a significant feature. The Municipality of Anchorage can rightfully claim having the state's largest Native Alaskan community with over 14,000 persons in that group. Although numerically, Alaska Natives form much smaller populations in other cities, their proportionate representation is significant. Overall, 28% of Native Alaskans are urban residents. (Note that all totals, except those for Anchorage, represent city and not borough boundaries, therefore the urban Native population may appear to be understated.)

NATIVE POPULATION IN ALASKAN URBAN AREAS, 1990

COMMUNITY	TOT POP	%NATIVE	%NON-NAT WHITE	NATIVE
Anchorage Municipality	226,338	6.4%	93.6% 182,736	14,569
Juneau city	26,751	12.9%	87.1% 21,570	3,462
Ketchikan city	8,263	15.7%	84.3% 6,471	1,296
Sitka city	8,588	20.9%	79.1% 6,359	1,797
Fairbanks city	30,843	9.2%	90.8% 22,316	2,830

Source: U.S. Census 1990 count, March 1991

Lower Income Population Important Component

According to 1988 and 1991 survey data, the proportion of low income households (earning $25,000 and under annual household income) can be significant depending upon location and Native/non-Native status. Nearly twice as many rural respondents earn $25,000 or less annual household income than do urban respondents and three times as many Native households are placed in that category than are non-Native households.

LOWER INCOME POPULATION SURVEY COMPONENTS

	Households Under $25,000 Annually	Est. No. of HH's	Households Under $35,000 Annually	Est. No. of HH's
Anchorage	30%	24,000	45%	37,000
(estimated from 1990 population and survey data)				
1988 Study:	85%		90%	
(predominately rural, Native households)				
1991 Study:				
All Resp.	32%		48%	
Rural	39%		55%	
Urban	22%		38%	
Native	62%		75%	
Non-Native	21%		38%	

Source: ASK* Marketing and Research Group

The preceding table illustrates the basis for the urbanized lower-income factors used in this study's calculations of housing need. For comparison, 1988 survey data on the percent of households with incomes under $25,000 and $35,000 are included.

From the 1991 survey data, 44% of those households in urbanized areas reporting housing needed for at least one person, had incomes under $25,000 with 56% reporting incomes under $35,000. For those in the rural areas reporting housing needed, 52% had incomes under $25,000 with 72% reporting incomes under $35,000. Overall, 50% of those households reporting needing housing for one or more person had incomes under $25,000 and 68% had incomes under $35,000.

Income and Housing Expenditure Contrasts

Median household income, as reported in the statewide survey, was $36,700 for all groups, meaning that half of the sample earned less than that and half earned more. However, urban respondents earned a median income of $43,500 as opposed to a $31,900 median income for rural residents. Native Alaskan respondents earned a median income considerably less than any other group at $20,400. In contrast, median household income for non-Natives was $43,100 annually.

Respondents reported paying an average of $625 per month as a housing payment (this excludes those with no monthly payment which represented 30.4% of the total). Urban housing payments were the higher at an average of $733 compared to rural payments at $518. Non-Natives paid twice as much ($694) in monthly housing payments as Native respondents at $331 average monthly expenditure. Those who owned their homes paid more, $673, than did those who were renting: $553 per month. The figure covers rental amounts or mortgage payments as well as taxes.

These amounts should be compared to those reported in a special Anchorage survey, summarized at the end of Part One in this report, which found an average monthly payment of $775 and $527 for those earning $35,000 and less household income annually. Housing costs in the state's largest city are somewhat higher than the average urban cost figure.

Housing costs are higher in urban areas as opposed to rural areas by about 30%, but utility costs were reported to be somewhat lower than those found in rural areas. Higher income levels for urban residents would more than make up for more expensive housing costs and which, again, would be somewhat compensated for by lower utility costs.

Energy Costs and Weatherization Program Status

The mean expenditure on a monthly basis for winter home heating, according to the 1991 survey, was reported at $167 (excluding those with no costs). For Native householders, the monthly home heating expenditure was higher than for all other groups at $192. Rural Alaskans paid about $20 more per month ($166) for home heating than did urban residents ($157). Summer home heating costs dropped to $69 monthly, excluding those with no costs. Native households reported higher summer home heating bills at $63 par month as compared to non-Native households at $49 monthly. Translating Native Alaskan home heating costs to an annual amount makes it roughly $1,500 per year --a substantial expenditure for households existing on $20,400 (and often less) income.

The 1991 survey found 11.6% of all respondents who were not able to maintain an interior warm temperature of 68 to 70 degrees during the coldest months. Fully nineteen percent of Native respondents could not maintain the warm temperature. Two-thirds of Native respondents said that they had to burn a lot more fuel or run their heating system constantly. These figures should be compared to findings from the 1988 rural survey where 35% of respondents could not maintain a 70 degree interior temperature.

Housing condition, particularly for Native households, was comparatively poorer according to respondent reports. Twice as many Native households compared to non-Native household reported foundation movement due to ground thawing and freezing. Serious heat leakage and the entry of wind around doors and windows was a problem for half of all rural respondents and 64% of Native respondents. Roughly one-third of Native and rural households experienced ice build-up inside the house. Nearly one-fourth of Native respondents had rain or water coming through their roof or ceiling; mold or mildew around windows is more common for Native and rural households.

A special look was made at the impact of low income weatherization programs wherein 19,882 homes have received assistance since program initiation in the late 1970's. Homes which have been assisted in this manner have received additional insulation, sealing around doors and windows, and other energy conservation improvements. In 1985, the Alaska Regional Energy Association estimated that 52,481 homes, statewide, would qualify under the weatherization program. The 1988 DCRA Rural Housing Needs Assessment found that 18,345 homes could not maintain a 70 degree temperature, with another 40,000 to 49,000 with insufficient insulation. A rough estimate of remaining need would place the total at around 40,000 homes for rural areas and an unknown number for urban areas.

Sanitation Systems Require $1.1 Billion

About $1 billion has been expended since 1980 to improve Alaska Native village sanitation conditions; about that much again remains to be spent to bring piped water and sewer to all the state's communities. Of 140 villages surveyed in 1990, only sixty villages had piped water systems. About half of the 140 were served only by washeterias, 11 more by simplistic watering points, and the rest have individual wells and septic tanks. The basic problem for numerous remote, rural villages is an inadequate source of fresh water and poor water quality.

In many locations, sewage is disposed of by the "honey bucket" method, where human waste is collected in a five gallon bucket, taken to the edge of town and dumped. The lack of adequate sanitation facilities poses a significant health hazard. Additionally, sanitation systems are plagued with maintenance and operational problems due to underfunding. Reportedly, the vast majority or rural, remote village sanitation systems are either financially troubled or bankrupt.

Respondents to the 1991 survey overwhelmingly (83.5%) expressed the desire to have working, piped water, flush toilets in their homes. But willingness to pay the required monthly fees which can run as high as $100 to $125 for smaller villages presents a problem. One in five rural respondents are not willing to pay anything for this service as were one quarter of Native respondents. Of those willing to pay, the upper limit average was about $52 for rural and Native respondents --an insufficient amount to support rural sanitation system costs.

A more detailed examination, with recommendations, appears later in this section.

Public and Indian Housing Impacts

A total of 1,902 housing units have been constructed since 1985 under various state and federal programs, serving low income, elderly, and Native Alaskans/Native Americans. Federal assistance through the Department of Housing and Urban Development's public housing and Indian housing programs and the Bureau of Indian Affairs' Housing Assistance Program have constructed 1,730 units. These figures can be compared to a total of 5,750 homes which were built throughout Alaska under all federal aid programs from 1963 to 1984. Alaska State Housing Authority (ASHA) built only 132 new units during that time.

For the period under study, 1988 through 1990, a total of 874 units were built. This number has been subtracted from the total statewide need, as estimated from 1988 and 1991 surveys, to produce a more accurate update.

HOUSING CONSTRUCTED UNDER STATE AND FEDERAL PROGRAMS, 1985-1990

	1985	1986	1987	1988	1989	1990
HUD Indian Housing	257	192	271	302	157	211
HUD Public Housing	--	--	120	20	150	--
BIA Alaska New Units	--	--	16	12	7	15
ASHA	20	152	--	--	--	--

6-YEAR TOTAL = 1,902

Source: ASK* Marketing and Research Group, U.S Dept. of Housing and Urban Development, Bureau of Indian Affairs, and Alaska State Housing Authority.

In addition, the Alaska Department of Community and Regional Affairs, Housing Assistance Section, provided funding through its Supplemental Housing Development Fund, up to $20,000 per unit to assist in the construction of 740 HUD units, from 1988 to the present. DCRA supplemental funds to assist in the construction of 175 HUD units are projected for the construction year 1991.

Conclusions

The single most important observation that can be made as a result of this statewide housing assessment is that a continuing, serious deficit exists with regard to low income, rural, and Native Alaskan housing availability and condition. Even though housing stock expanded greatly in Alaska during the past decade when population increased significantly, the supply of housing for those particular groups was lacking. Private sector or market mechanisms for housing do not function properly in rural Alaska where construction costs are high, transportation of materials difficult, and availability of skilled builders and developers scarce. Additionally, fluctuating local and regional economies discourage housing investment, even in urban areas which have better access to construction materials, skilled builders, and financing sources.

Nearly every urban area of the state is currently experiencing severe housing shortages. The housing need for low income households is significantly higher, and construction of units for this group has been particularly lacking in urban areas. Rents would have to rise 20% to 30% to stimulate new construction, but at the same time, place housing out of the reach of many families. Single family housing construction in some urban areas is mainly for upper income households, with median prices pegged at above $160,000.

Housing of low income and Native Alaskans has typically been assisted through several state and federal programs, which help with financial and technical requirements. Yet the funding levels in these programs have resulted in supplying only a fraction of the need for new or improved housing, especially for Native Alaskans. Houses which are uninhabitable during the winter in the Arctic climate, houses which are small and cramped, households which have three and four generations present for lack of available housing in the community ---these are all common features of rural Alaska housing. The dramatically poorer condition of Native Alaskan housing has been frequently described and documented over the past 30 years.

A large proportion of rural communities do not enjoy modern and hygienic sanitation systems. Sources of good quality fresh water are a problem for remote villages and too many of them continue to dispose of human sewage through the "honey bucket" system. The lack of fresh water, sanitation systems, and sound hygienic practices has led to higher communicable disease rates for Alaskan Native villages. More than $1 billion has been expended since 1980 to build modern systems and another $1 billion is estimated to be required to upgrade all systems to conventional standards. In addition, many existing systems are underfunded and experience continual problems in financing operations and maintenance; only a handful are estimated to be operating "in the black." Even if modern systems were constructed in all remote villages, there is serious question --based on survey findings-- that residents are willing to pay the monthly fees required to support the systems.