2005 Alaska Housing Assessment
Part I

September 2005

Prepared for:

Alaska Housing Finance Corporation

www.ahfc.us

Prepared by:
Information Insights
www.infoinsights.com

Funded by an AHFC grant to:
Cold Climate Housing Research Center
www.cchrc.org

2005 Alaska Housing Assessment: Part I

JUNE 2005

Brian Rogers, *Principal Consultant*
Cady Lister, *Senior Research Analyst*
Information Insights staff: Robin Barker, Ellen Ganley, Gradon Haehnel, Brenda Holden, Jessica Holden, Nancy Lowe, Sherry Modrow, Debbie Mowrey, Jana Peirce, Susan Pruitt, Sylvan Robb, Tracy Rogers, Bobby Wilken, with the assistance of our temporary surveyors
Alaska Works Partnership
First Alaskans Institute

We express grateful appreciation to all the Alaskans who agreed to complete the survey.

Prepared for

Cold Climate Housing Research Center
515 7th Avenue, Suite 340
Fairbanks, AK 99701

Prepared by

Information Insights, Inc.
212 Front Street, Suite 100
Fairbanks, Alaska 99701
(907) 450-2450 phone
(907) 450-2470 fax

605 West 2nd Avenue
Anchorage, Alaska 99501
(907) 272-5074 phone
(907) 272-5076 fax

www.infoinsights.com
info@infoinsights.com

information insights

Contents

Index of Tables

Executive Summary

This 2005 Alaska Housing Assessment Study was undertaken to determine housing conditions and needs throughout Alaska. In part the study updates similar work completed in 1988 and 1991; in part it expands the knowledge of housing conditions in Alaska. The study was funded by the Alaska Housing Finance Corporation and the Association of Alaska Housing Authorities and was conducted by Information Insights under contract to the Cold Climate Housing Research Center.

The information presented in this study derives from a variety of sources. Major sources include

- the 2000 U.S. Census,
- the 1990 U.S. Census,
- weatherization provided by Alaska Housing Finance Corporation,
- a telephone survey of more than 1,500 households statewide, conducted by Information Insights,
- Department of Labor and Workforce Development Research Section,
- Alaska Housing Market Indicator Reports, 2000 through 2004, published quarterly,
- Native American Housing and Self Determination Act Recipient Data provided by Housing and Urban Development and Regional Housing Authorities, and
- several regional housing authorities.

Major study findings include:

Conditions of overcrowding are estimated based on three levels: 150 square feet per resident, 200 square feet per resident, and 300 square feet per resident. For ease of reading, the middle level is discussed in the narrative portions of the report that address overcrowding. The 200 square foot definition of overcrowding is also used in the detailed estimation of costs. Highlights of costs and need for each level are outlined below.

Costs of housing needed: 150 square feet per resident = overcrowded

- More than 17,000 new housing units are currently needed to meet population growth, relieve overcrowding, and replace substandard housing.
  - 4,500 of these units are substandard and in need of replacement
  - More than 13,000 of these units are needed to alleviate overcrowding
  - More than 700 units of the total are duplicates that are both substandard and also overcrowded, these duplicates are subtracted to arrive at the total of more than 17,000 new units needed
- More than 20,000 units are in need of major repair

- Cost to provide major repairs to substandard homes that are determined to be salvageable is calculated at $25,000 per unit and totals **$519 million**
- Cost to replace units that are substandard and not salvageable is **$873 million**
- Cost to alleviate overcrowding for homes with 150 square feet or fewer per resident is approximately **$2.87 billion**
  - Note that the figure of $2.87 billion assumes that only overcrowded units are replaced.
  - When duplicates are removed from the total units needed to replace substandard and overcrowded homes the cost is **$3.66 billion**.
- Total cost to repair, replace and alleviate overcrowding is estimated to be **$4.18 billion**

Costs of housing needed: 200 square feet per resident = overcrowded

- More than 25,000 new housing units are currently needed to meet population growth, relieve overcrowding, and replace substandard housing.
  - 4,500 of these units are substandard and in need of replacement
  - More than 22,000 of these units are needed to alleviate overcrowding
  - 1,120 units of the total are duplicates that are both substandard and also overcrowded; these duplicates are subtracted to arrive at the total of more than 25,000 new units needed
- More than 20,000 units are in need of major repair
- Cost to provide major repairs to substandard homes that are determined to be salvageable is calculated at $25,000 per unit and totals **$519 million**
- Cost to replace units that are substandard and not salvageable is **$873 million**
- Cost to alleviate overcrowding for homes with 200 square feet or fewer per resident is approximately **$4.78 billion**.
  - Note that the figure of $4.78 billion assumes that only overcrowded units are replaced.
  - When duplicates are removed from the total units needed to replace substandard and overcrowded homes the cost is **$5.47 billion**.
- Total cost to repair, replace and alleviate overcrowding is estimated to be **$5.99 billion**

Costs of housing needed: 300 square feet per resident = overcrowded

- More than 48,000 new housing units are currently needed to meet population growth, relieve overcrowding, and replace substandard housing.
  - 4,500 of these units are substandard and in need of replacement
  - Roughly 46,000 of these units are needed to alleviate overcrowding

  - More than 2,000 units of the total are duplicates that are both substandard and also overcrowded, these duplicates are subtracted to arrive at the total of more than 48,000 new units needed.
- More than 20,000 units are in need of major repair
- Cost to provide major repairs to substandard homes that are determined to be salvageable is calculated at $25,000 per unit and totals **$519 million**
- Cost to replace units that are substandard and not salvageable is **$873 million**
- Cost to alleviate overcrowding for homes with 300 square feet or fewer per resident is approximately **$9.60 billion**
  - Note that the figure of $9.60 billion assumes that only overcrowded units are replaced.
  - When duplicates are removed from the total units needed to replace substandard and overcrowded homes the cost is **$10.05** billion.
- Total cost to repair, replace and alleviate overcrowding is estimated to be **$10.56 billion**

Cost of construction is based on regional differences. The state is separated into Alaska Native regions and an average cost per unit assigned to each region. The table showing these amounts is located below; a detailed description of the formula used to arrive at these amounts is located in the cost of construction section.

Census area	Cost per unit	Census area	Cost per unit
Aleutians East Borough	**$316,742**	Nome CA	**$229,030**
Aleutians West CA	**$316,742**	North Slope Borough	**$283,976**
Anchorage Municipality	**$168,033**	Northwest Arctic Borough	**$225,501**
Bethel CA	**$225,501**	Prince of Wales-Outer Ketchikan CA	**$166,017**
Bristol Bay Borough	**$225,501**	Sitka City and Borough	**$166,017**
Denali Borough	**$187,693**	Skagway-Hoonah-Angoon CA	**$166,017**
Fairbanks North Star Borough	**$187,693**	Southeast Fairbanks CA	**$187,693**
Haines Borough	**$150,894**	Valdez-Cordova CA	**$173,074**
Juneau City and Borough	**$150,894**	Wade Hampton CA	**$383,283**
Kenai Peninsula Borough	**$180,636**	Wrangell-Petersburg CA	**$147,869**

Census area	Cost per unit	Census area	Cost per unit
Ketchikan Gateway Borough	**$147,869**	Yakutat City and Borough	**$166,017**
Kodiak Island Borough	**$187,189**	Yukon-Koyukuk CA	**$283,976**
Matanuska-Susitna Borough	**$173,074**		

Housing sizes and age

- Calista region has the highest percentage of houses with 500 square feet or less, one in ten houses in the region are this size.
- Statewide just under six percent of homes are less than 500 square feet.
- With the exception of Sealaska, every region in the state saw a decrease in new housing (0 to 10 years) as a percentage of total units.
- Older housing (21 years or more) increased as a percentage of total housing stock in every region, including Sealaska.
- Alaska Native households are getting bigger and the number of residents per house is declining. However, these households continue to be smaller and have more residents per unit than non-Native households.

Housing conditions

- Of the more than 1,500 survey respondents roughly 7.5 percent of respondents indicated that their housing was in need of repair that they were unable to make.
- Five percent of people who live in homes with 300 square feet per resident or fewer also report living in a dwelling that is falling apart and in need of replacement.
- Sixty-eight percent of households with less than $10,000 annual income report having homes that are drafty.
- Estimated cost to build a housing unit in Alaska ranges from a low of $47,869 to a high of $316,742.
- Approximately 10 percent of homes statewide are without running water, down from 39 percent of homes in 1988.

Housing built

- Forty-four percent of new units built between 2000 and 2004 were built in the Municipality of Anchorage.
- Thirty-three percent of new units built between 2000 and 2004 were built in the Matanuska-Susitna Borough.

- Sixty-three percent of new units were single-family units, 37 percent were multi-family units with the remaining one percent being mobile homes.
- The majority of new housing in rural Alaska is built by regional or local Alaska Native housing authorities.

Population and housing dynamics

- The population of the state grew by roughly 77,000 in the ten years between the 1990 and the 2000 Census.
- Between 1990 and 2000 and then again between 2000 and 2004, the population in urban areas has grown while the population in rural areas of the state has declined.
- Of the survey respondents who indicated they lived in a household with less than $10,000 in annual earnings 83.6 percent were in rural Alaska and an identical 83.6 percent were Native households.
- There are more residents per household in Alaska Native households than in non-Native households.
- Since 1991 the total number of housing units increased in every region of the state with the exception of the Bering Straits region.
- More than 45,000 households in Alaska are potentially eligible for weatherization services.
- The number of people indicating that someone in their household is in need of specialized housing has decreased between 1991 and 2005.
- A larger proportion of households in which a resident is in need of specialized housing are Alaska Native and a larger proportion of them are in rural Alaska.

The 2005 Alaska Housing Assessment Study estimates a need of at least 25,771 new housing units to meet population growth, relieve overcrowding, and replace substandard housing. Major repairs needed for housing units that are substandard but salvageable will require significant funding. Without repairs to these units, they will continue to deteriorate until they need to be replaced. The number of homes in need of major repair is close to 20,000 units.

There are a number of housing units that are both substandard to the point of needing replacement and are also overcrowded. These duplicates were subtracted before cost estimates were made, but it is important to note that the total cost estimate assumes that both issues are addressed at the same time. If policy makers choose to only address overcrowded conditions the cost to do so would be higher than that reported here since the duplicates were subtracted from the total number of overcrowded homes.

Housing construction has failed to keep pace with demand in many parts of the state. Lack of private investment and market activity contribute to the shortage of adequate housing in rural Alaska. A failure to invest in the kinds of housing most needed throughout the state continues to create situations in which people are living in crowded conditions and in homes that are falling into disrepair.

Rural areas of the state have had historically, and continue to have, substandard housing conditions at a significantly higher rate than urban areas. Number of residents per household is higher in rural Alaska and total square footage of those households is lower.

Urban Alaska has a relatively responsive housing market. Demand for new housing units has driven construction of record numbers of new units in urban areas. This demand, fueled in part by population growth, also has caused an increase in the cost of housing. One primary challenge faced by urban Alaska is the lack of affordable housing for low-income people.

Estimates of current housing stock for 2005 begin with the base number of housing units counted in the 2000 Census. We added to this base the number of new housing units reported in the Alaska Housing Market Indicators Report, produced by the Alaska Department of Labor and Workforce Development (DOLWD) research section and published quarterly.

Supplemental information is provided by estimating residential construction activity for each region based on permits issued and estimates published quarterly for years 2000 through 2004 by the U.S. Census Bureau. Residential utility information was utilized to check the accuracy of estimated current housing stock. There are an estimated 278,118 housing units in Alaska in 2005.

Conditions of overcrowding are less prevalent in rural areas than they were 15 years ago but they continue to exist far more frequently than in urban Alaska. Low incomes and the high cost of construction make solving the housing dilemma in rural Alaska particularly challenging. There are an estimated 22,392 households in Alaska in which overcrowded conditions exist. An additional 4,500 housing units were determined to be in such poor condition that replacement is the best solution.

For the purposes of this study, conditions of overcrowding are defined as those units with less than or equal to 200 square feet per household resident. Overcrowding at this level prompts the need for an additional housing unit. Information Insights gathered information on overcrowded conditions as part of the household survey. The 1991 housing assessment estimated need due to overcrowding on housing units with less than or equal to 200 square feet per resident.

Residents were asked also to rate the condition of their home. A housing unit is determined to be in need of replacement due to the condition of the home when respondents indicate that their home is “falling apart”. Units that were reported to need major repairs that the household residents were unable to make were rated to be in need of major repair but not in need of replacement. It is important to note that households in need of major repair will become households that need replacement if funding for repair is not provided to assist household residents.

Since many of the housing units that are falling apart or in need of major repair also experience conditions of overcrowding duplicates were removed from the estimates.

Information is also provided on units that have 150 and 300 square feet per resident even though these households are not counted in the cost estimates based on need. A detailed explanation of housing need with accompanying tables is provided in the Housing Need section of the report.

The costs associated with building new units are estimated regionally based on transportation costs reported by the Department of Labor and Workforce Development as well as permit values reported by the U.S. Census Bureau. A detailed explanation of regional construction costs is provided in the construction costs section of this report.

The high cost of construction and the lack of skilled trades-people act as barriers to developing adequate housing for populations in rural areas. Targeted money is needed not only to purchase construction materials but also to provide the training necessary so that rural residents can obtain the good paying jobs associated with building.

The populations most in need of housing are Alaska Native households, rural households and low-income households. Our findings indicate that rural Alaskans are more likely to both live in substandard and/or overcrowded housing and have low incomes. Rapid population growth in urban areas, Anchorage and Mat-Su especially, has driven the cost of housing to a level that is unaffordable to many low-income people.

The majority of new housing units being developed throughout the state are single-family units with a cost to construct that is beyond the reach of low and moderate-income households. The median cost of construction for a single-family home in the Municipality of Anchorage is more than $200,000. Based on the findings of the affordability report, a household in the Wade Hampton census area would have to pay 111 percent of annual median income in order to rent a two-bedroom housing unit at regional rental rates. Both the Yukon-Koyukuk Census Area and the Bethel Census Area would have to pay more than 90 percent of median annual income to rent at the going rate.

The private sector and housing market do not function in a traditional way in rural Alaska. The cost to construct homes is high and the incomes of the rural population are low. If a private developer were to build a home in rural Alaska they would find it difficult to impossible to identify a buyer in many parts of the state. Additionally, there is a shortage of skilled builders in rural areas so finding the people power to undertake projects is also challenging. For these reasons, it is unlikely that the solution to the housing problem in rural Alaska lies in private investment.

Progress has been made. Since the passage of the Native American Housing and Self Determination Act (NAHASDA), federal funding for housing for Alaska Native people has been de-centralized allowing for more rapid response to need and a more focused regional approach to eliminating housing problems. Regional Housing Authorities and Tribally Designated Housing Entities continue to build new homes in rural and urban Alaska and to assist in the maintenance of older ones.

State and federal agencies participate in housing development as well. The Alaska Housing Finance Corporation provides millions of dollars in housing resources for low-income and special needs housing as well as incentive programs to private developers and home ownership loans to low-income people.

Despite the efforts of these organizations and others, there is still a need for affordable housing throughout the state, a need felt most acutely in parts of rural Alaska.

Fairbanks

Introduction

This 2005 Alaska Housing Assessment Study updates the 1991 Alaska Housing Needs Study. Information Insights gathered information on housing conditions and demographics of residents through a survey of more than 1,500 households. The study used 2000 Census data to create a baseline for housing stock data as well as to evaluate changes in housing and population demographics since the 1990 Census.

The 1991 study relied heavily on information gathered in yet another prior study, the 1988 study of rural housing. In the 1988 study, surveyors were on the ground in villages throughout Alaska talking to people and assessing the condition of their homes. The benefit of this method is that telephone bias is eliminated and a trained and objective person is evaluating multiple sites, adding to the consistency and reliability of the data reported. The 1991 study took data gathered in the 1988 study and applied 1990 Census information to estimate need. The 1991 study also conducted a telephone survey of 1,200 households statewide. This report can no longer utilize the information gathered on housing condition in the 1988 study because too much time has elapsed. It would be ideal – but cost prohibitive – to send surveyors to communities throughout the state.

This report is organized in two parts. The Part I contains:

- A detailed description of the methodology utilized to perform household surveys and assess need;
- An executive summary of results;
- Highlights of salient findings and a general overview in narrative form;
- Population changes, trends and distributions broken down by Alaska Native region, urban and rural areas, and Alaska Native compared to non-Native;
- Details of income by population and housing affordability by region;
- Construction costs by region;
- A summary of weatherization activity;
- Information about populations with special housing needs such as teachers, the elderly and people with disabilities; and
- Estimates of housing stock detailed by Alaska Native region, urban-rural and race.

One central source of data on rural housing stock and rural construction activity utilized in the 1991 report that is no longer relevant is housing data from the Bureau of Indian Affairs. Funding for housing in Alaska comes from a variety of sources but is primarily funded through state and federal government programs and through Tribal organizations.

Since the last statewide housing assessment, the way in which federal money for housing for Alaska Native/American Indian people comes into the state and is disbursed has changed dramatically. In 1996 Congress passed the Native American Housing Assistance and Self Determination Act (NAHASDA). Because of NAHASDA, Tribes have direct

access to the money that is intended to assist them in finding solutions for the housing problems of Alaska Native/American Indian people living within their region.

Tribally Designated Housing Authorities (TDHE) and Regional Housing Authorities (RHA) submit reports on activity associated with NAHASDA funds. However, these reports are not required to be very detailed and data varies dramatically in reliability from organization to organization.

Housing need estimates are based on conditions of overcrowding and substandard housing. Estimates of overcrowding are based on survey findings and estimated housing stock.

Substandard housing is broken into two categories, that which is salvageable and that which is not. The units that are determined to be beyond repair prompt a new housing unit. Substandard housing units that are determined to be salvageable are added to a table estimating costs for bringing these units to acceptable standards. Housing need will be detailed with regional, urban-rural, racial and income breakdowns.

Part II of the report includes summaries and frequencies from the household survey, detailed summary of weatherization completions, 2000 Census of Alaska Native community population by region, summary of Alaska Native and non-Native population by region.

Ketchikan

Methodology

The methodology for this project has several components:

Tasks

- Gathering, organizing and analyzing existing data and other useful information.
- Redesigning the survey tool with the First Alaskans Institute.
- Conducting household surveys in rural and urban Alaska.
- Coordinating site visits through Alaska Works Partnership to verify survey data and provide anecdotal and qualitative information to further strengthen the validity of findings.
- Analyzing the data.

Tools

Information Insights has created tools that can be used by CCHRC upon project completion. The database and website will allow CCHRC to update and modify the database, making it useful for other purposes beyond the length of this project, and to replicate this study as needed in the future.

- Database – to house new and existing data in a meaningful and useful way
- Web communications and data manipulation tool for staff communication and public education upon project completion. Final design allows for a limited number of users to enter and manipulate data housed in the database.
- Forecast of future housing demand

Deliverables

- The final report serves as a coherent synthesis of existing housing data and newly created survey data. The report describes the housing situation in Alaska in a variety of ways, striving to be accessible and understandable.
- Upon completion of the study, CCHRC will take over management of the project website and database to facilitate future data collection efforts.

Statewide Survey Methodology

Information Insights conducted the 2005 housing survey during February and March 2005. The survey comprised in-depth telephone interviews with over 1,500 households statewide. Information Insights developed the survey tool in collaboration with the Alaska Native Policy Center at the First Alaskans Institute as well as with the invited assistance of all members of the Alaska Association of Housing Authorities (AAHA) board and select staff at the Alaska Housing Finance Corporation. A copy of the survey tool is attached at the end of this report.

Sample technique

According to the U.S. Census 626,932 people lived in Alaska in 2000, a 14 percent increase from the 1990 Census count of 550,43 people. The 2005 survey conducted more than 1,500 surveys, with 58 percent in rural Alaska and 42 percent in urban areas of the state, and incorporated the population increase into its larger sample size. The 1991 Statewide Housing Needs Assessment completed 1,200 telephone surveys in urban and rural Alaska, 60 percent in rural Alaska and 40 percent in urban Alaska (720 rural surveys and 480 in urban areas). Over-sampling in rural Alaska is necessary in reporting statistically significant numbers because of the extremely small population sizes covering vast expanses of geography, economics, and demographics.

County name	April 1, 1990	April 1, 2000	Percent change	% of total 1990 pop.	% of total 2000 pop.
Aleutians East Borough	2,464	2,697	9.5	0.45%	0.43%
Aleutians West CA	9,478	5,465	(42.3)	1.72%	0.87%
Anchorage Borough	226,338	260,283	15.0	41.15%	41.52%
Bethel CA	13,656	16,006	17.2	2.48%	2.55%
Bristol Bay Borough	1,410	1,258	(10.8)	0.26%	0.20%
Denali Borough	1,764	1,893	7.3	0.32%	0.30%
Dillingham CA	4,012	4,922	22.7	0.73%	0.79%
Fairbanks North Star Borough	77,720	82,840	6.6	14.13%	13.21%
Haines Borough	2,117	2,392	13.0	0.38%	0.38%
Juneau Borough	26,751	30,711	14.8	4.86%	4.90%

County name	April 1, 1990	April 1, 2000	Percent change	% of total 1990 pop.	% of total 2000 pop.
Kenai Peninsula Borough	40,802	49,691	21.8	7.42%	7.93%
Ketchikan Gateway Borough	13,828	14,070	1.8	2.51%	2.24%
Kodiak Island Borough	13,309	13,913	4.5	2.42%	2.22%
Lake and Peninsula Borough	1,668	1,823	9.3	0.30%	0.29%
Matanuska-Susitna Borough	39,683	59,322	49.5	7.21%	9.46%
Nome CA	8,288	9,196	11.0	1.51%	1.47%
North Slope Borough	5,979	7,385	23.5	1.09%	1.18%
Northwest Arctic Borough	6,113	7,208	17.9	1.11%	1.15%
Prince of Wales-Outer Ketchikan	6,278	6,146	(2.1)	1.14%	0.98%
Sitka Borough	8,588	8,835	2.9	1.56%	1.41%
Skagway-Hoonah-Angoon CA	3,680	3,436	(6.6)	0.67%	0.55%
Southeast Fairbanks CA	5,913	6,174	4.4	1.08%	0.98%
Valdez-Cordova CA	9,952	10,195	2.4	1.81%	1.63%
Wade Hampton CA	5,791	7,028	21.4	1.05%	1.12%
Wrangell-Petersburg CA	7,042	6,684	(5.1)	1.28%	1.07%
Yakutat Borough	705	808	14.6	0.13%	0.13%
Yukon-Koyukuk CA	6,714	6,551	(2.4)	1.22%	1.04%

Source: US Census (parenthesis indicates negative n umber)

The 1991 Statewide Housing Needs Assessment defined as urban the cities of Anchorage, Fairbanks, Juneau, Ketchikan and Sitka. In 1990 approximately 67 percent of the population lived in Juneau, Anchorage, Fairbanks or the Mat-Su Borough. By 2000, that percentage rose to just over 69 percent. The majority of growth occurred in the Palmer/Wasilla area of the Matanuska-Susitna Borough – in 2004 it became the second largest school district in the state, and growth is expected in the area for several years to come. Because of rapid population growth coupled with relatively easy access to goods

and services enjoyed in the city of Wasilla, we have identified the Mat-Su Borough as a new urban area for the purposes of this statewide survey.

Sampling technique – stratified sampling

Random sampling raises the potential for randomly excluding a distinct group from the sample. Cost restraints made it impossible to travel extensively to sample across the entire state. Instead, the project team segmented the population into non-overlapping strata or groups for the purpose of improving efficiency of sample design. Forming the population into strata and then sampling from each stratum ensured that samples represented the total population.

A balanced allocation in stratified sampling involves designating the same sample size for each stratum. The project team used a balanced allocation approach for regional populations that represent greater than one percent of the total population of Alaska, which equals a minimum of 6,300 people in each region. A balanced allocation is primarily used in designs for strata of unequal size, where the main use of the sample data is to prepare stratum-specific estimates or to compare estimates among strata. This allocation is thus disproportionate in populations with unequal-sized strata, and may somewhat limit the efficiency of estimate from the total population, to the extent that the size and composition of the strata in reference to the main study measurements are not correlated.

Information Insights used a disproportionate allocation among certain strata to facilitate an *over-sampling* of one or more relatively small but important population domains. If the regional population of residents is too small, the sample size in this stratum may be insufficient to achieve study goals. Consequently, residents in this region will be over-sampled by stratifying residents by location, and applying relatively higher sampling rates in these small regional strata. Over-sampling will most likely achieve the sample size increases that are sought since the group to be over-sampled can be fully isolated within the strata that are formed.

Samples from small populations

There is a limit on the achievable accuracy when sampling small populations. When dealing with large populations, the sample size is determined using the normal approximation to the binomial distribution. This approximation is accurate when the population is large, and the sample size is small. However, sampling a population of 200 individuals for a given accuracy would require a far smaller sample than that calculated using the normal approximation to the binomial. To determine the sample size for small populations, a normal approximation to the hyper-geometric distribution will be applied to arrive at our sample size.

Development of survey questions

The survey tool utilized queries respondents for information on:

- The demographics of household members
- Household size and conditions

- Costs associated with maintaining the household

Information Insights partnered with the First Alaskans Institute to assure survey questions that were culturally relevant and appropriate. First Alaskans Institute has a mission to "help develop the capacities of Alaska Native people and their communities to meet the social, economic and educational challenges of the future, while fostering positive relationships among all segments of society." The institute also operates the Alaska Native Policy Center and has a staff of highly skilled professionals who offered their unique expertise to this project, creating a superior and more meaningful survey product.

Survey implementation and limitations

Interviews were conducted Monday through Friday from 10:00 a.m. to 3:00 p.m. and then again in the evenings from 5:30 p.m. to 8:30 p.m. Weekend interviews ere conducted between 10:00 a.m. and 5:00 p.m. Each number selected was attempted three times before being removed form the call list. Interviews took between 15 minutes and 30 minutes depending on the types of answers given and varying by region of the state. Survey questions that were not simple yes/no/multiple choice questions were structured as open ended and instruction given to the survey giver to read scripted prompts when the respondent did not seem to understand the meaning of the question. Surveyors took every opportunity to retrieve the desired information. An example is the question "how many square feet is your house?" if a respondent did not know the answer to this question they often did know the outside dimensions of the house as well as how many levels it was so that the surveyor could calculate square footage for them. Likewise, those respondents who did not know how much they spent to hear their homes per month often knew how much per year or how big their fuel tank was and how often it was filled. In this way the surveyors were able to extract the desired information from respondents who were unable to answer the initial question.

One weakness of the survey is that it does not address the population of people living in homes without telephones. There are simply inadequate resources to provide a study in which on-the-ground surveyors visited multiple locations throughout the state to perform surveys. The region of the state with the highest percentage of households with no telephones according to the 2000 Census was Ahtna region of the state with 16 percent of households with no telephone. Most other regions of the state have less than 10 percent of households with no telephone. The region with the lowest percentage of homes with no telephones, 1.6 percent, was Cook Inlet region. Homes that are at or below the poverty level are more likely to be without a telephone. Homes that are located in rural Alaska are more likely to be without a telephone than those in urban Alaska. These are important facts to note as both low income and rural households are also more likely to be in poor condition and to be overcrowded.

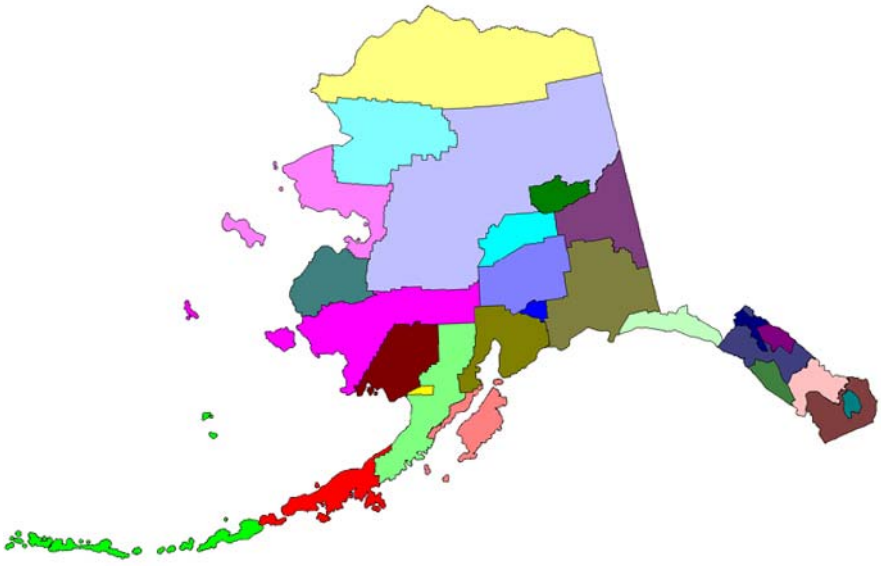
Rural site visits

Information Insights subcontracted with the Alaska Works Partnership to conduct site visits in rural Alaska. The goal of Alaska Works Partnership is to increase local hire in the construction industry in Alaska and to increase the number of skilled workers in Alaska, with special emphasis on rural areas. Alaska Works Partnership staff collected

information from household residents and performed on-site home inspection and assessment of those units. Detailed findings of site visits can be found in the site visit section of this report.

Analysis of survey data

Information Insights staff provided analysis of survey data in narrative, picture and spreadsheet formats.



Alaska Boroughs and Census Areas

ANCSA Regions

Estimating 2005 Housing Stock

In non-census years, the U.S. Census Bureau publishes estimates of new housing units by census area. These estimates rely primarily on permitting offices for their information. Information Insights contacted permitting offices throughout the state and received the same information. However, much of Alaska lies in unorganized boroughs where permitting is not required. Even within organized areas not all activity is reported all of the time.

A more accurate indicator of activity is the number of new housing units reported in the Housing Market Indicators Report, researched by the Alaska Department of Labor research section and published quarterly. The Market Indicators Report counted over 5,000 more new units than were estimated by the Census Bureau, about 4,000 of which fell within the Mat-Su Borough.

Most of the residential development activity since 2000 has occurred in Anchorage and the Mat Su Borough. Those two areas account for 77.46 percent of all counted new housing units.

Anchorage

Table 1. New housing units: AHFC housing market indicator reports 2001-2004

Census area	Single family	Multi family	Mobile	All units	% of new units
Aleutians East Borough	3	0	0	3	0.02
Aleutians West CA	17	15	0	32	0.18
Anchorage, Municipality	**3,685**	**4,110**	**0**	**7,795**	**44.03**
Bethel CA	169	34	0	203	1.15
Bristol Bay Borough	4	0	0	4	0.02
Denali Borough	2	0	1	3	0.02
Dillingham CA	16	0	0	16	0.09
Fairbanks North Star Borough	831	509	2	1342	7.58
Haines Borough	41	0	0	41	0.23
Juneau Borough	321	132	22	475	2.68
Kenai Peninsula Borough	339	79	1	419	2.37
Ketchikan Gateway Borough	90	59	1	150	0.85
Kodiak Island Borough	181	66	25	272	1.54
Lake & Peninsula Borough	2	0	0	2	0.01
Mat-Su Borough	**4,733**	**1,151**	**34**	**5,918**	**33.43**
Nome CA	41	28	1	70	0.40
North Slope Borough	40	0	0	40	0.23
Northwest Arctic Borough	74	97	2	173	0.98
Prince of Wales Outer Ketchikan	34	16	8	58	0.33
Sitka Borough	165	94	11	270	1.53
Skagway Hoonah Angoon	37	18	2	57	0.32
Southeast Fairbanks CA	2	0	0	2	0.01
Valdez Cordova CA	95	20	4	119	0.67
Wade Hampton CA	88	7	0	95	0.54
Wrangell Petersburg Census	61	27	6	94	0.53
Yakutat Borough	4	1	0	5	0.03
Yukon Koyukuk CA	41	0	3	44	0.25
Statewide	**11,116**	**6,463**	**123**	**17,702**	

Note: More than 77 percent of new housing units occurred in Anchorage and Mat-Su borough.

Table 2. Estimates of new housing units 2001 to 2004 – U.S. Census

Census area	Single family	Two family	Three - four family	Five + family	Total
Aleutians East Borough	11	0	0	0	11
Aleutians West Borough	30	0	0	10	40
Anchorage Borough	3,618	2,564	447	1,352	8,140
Bethel CA	179	4	7	0	190
Bristol Bay Borough	1	0	0	0	1
Fairbanks North Star Borough	748	68	53	92	961
Haines Borough	30	0	0	0	30
Juneau Borough	295	84	28	34	441
Kenai Peninsula Borough	352	14	10	40	416
Ketchikan Gateway Borough	112	14	0	24	150
Kodiak Island Borough	178	26	24	26	254
Matanuska-Susitna Borough	381	144	121	170	816
Nome CA	13	2	7	0	22
North Slope Borough	73	14	0	0	87
Northwest Arctic Borough	0	0	0	0	0
Prince of Wales - Outer Ketchikan	10	0	0	0	10
Sitka Borough	142	82	0	0	224
Skagway-Hoonah-Angoon CA	40	6	8	0	54
Valdez-Cordova Census	95	0	3	0	98
Wrangell-Petersburg Census	61	0	0	5	66
Yakutat Borough	16	0	0	0	16
Yukon-Koyukuk Census	5	0	0	0	5
Balance of State	646	0	0	0	646
Total State	7,036	3,022	708	1,753	**12,678**

New units reported in the Market Indicators Report added to the number of units reported in the 2000 Census provided an estimate of 2005 housing stock. This number does not

consider housing units currently under construction or units demolished since 2000 as there is no reliable source for comprehensive demolition information.

Alakanuk

The table below provides the estimated total number of households for 2005 by Alaska Native Region. These numbers form the basis for estimates used throughout the report.

Table 3. Estimated housing stock by Alaska Native region

Native region	Estimated total # households 2005	Native region	Estimated total # households 2005
Ahtna	2,771	Cook Inlet	164,158
Aleut	2,992	Doyon	43,009
Arctic Slope	2,578	Koniag	5,436
Bering Straits	3,719	NANA	2,713
Bristol Bay	4,738	Sealaska	33,099
Calista	7,536		
Chugach	5,369	**Statewide**	**278,118**

The project team gathered residential electric utility information from 198 communities for more than 148,000 housing units. This information was used to check the accuracy of numbers reported in the Alaska Housing Market Indicators Report and U.S. Census estimates of new housing stock. Electric utility information provided a useful check on accuracy of housing stock estimates in areas of the state with no permitting practices and in which there is population growth. There were no communities in which estimates varied dramatically from residential electric utility customers.

King Salmon – Under house electrical wiring

Cost of Construction

The cost of construction creates a significant barrier to residential housing development in many communities in rural Alaska. Shipping cost variables make home construction much more expensive in rural communities, particularly those rural communities that are off the road system. High transportation costs can make construction materials unaffordable to most and create a breakdown of the housing market.

One measure of the added cost of transportation is the AHFC construction cost survey that aims to reflect contractor pricing for a single-family home. The survey collects prices of goods used to build a home; these goods represent roughly 30 percent of the cost of building a new home, according to the report.

In 2004, AHFC reported that Barrow experienced the highest shipping cost, coming in more than eight times higher than the community with the lowest shipping cost. Barrow also saw the largest increase in the cost of shipping between 2003 and 2004, further widening the gap between the cost of goods in urban (and close-to-Seattle) communities and the rest of Alaska. Using transportation data it is possible to create an index with which to estimate expense associated with shipping goods and materials to various parts of the state.

Table 4. Transportation cost of market basket

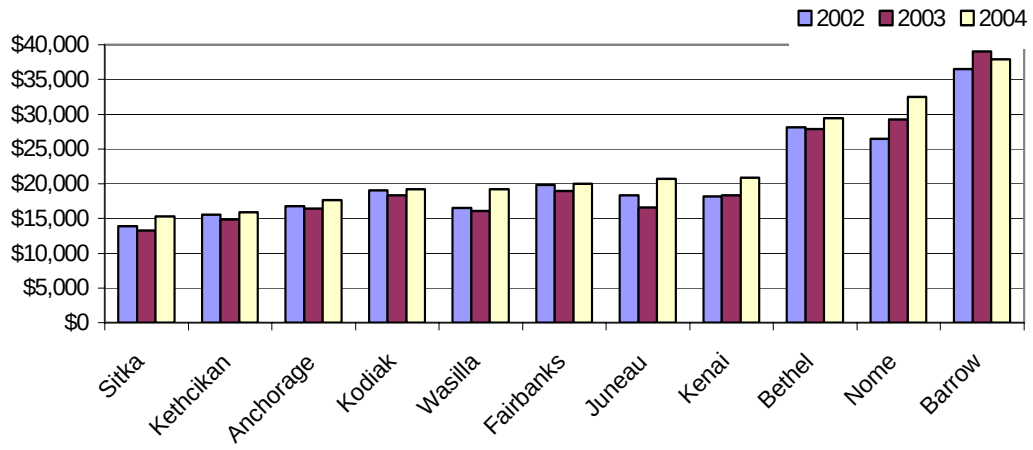
(Shipping and handling – without concrete & rebar) 2004 [1]

Destination	Census area	Cost to ship from Seattle	Index with Anchorage = 1
Ketchikan	Ketchikan Gateway	$2,752	0.60
Juneau	Juneau Borough	$3,028	0.66
Sitka	Sitka Borough	$4,382	0.96
Anchorage	**Anchorage Municipality**	**$4,554**	**1.00**
Wasilla	Mat-Su Borough	$4,987	1.10
Kenai	Kenai Peninsula Borough	$5,708	1.25
Kodiak	Kodiak Island Borough	$6,299	1.38
Fairbanks	Fairbanks North Star Borough	$6,328	1.39
Bethel	Bethel CA	$9,768	2.14
Nome	Nome CA	$10,068	2.21
Barrow	North Slope Borough	$15,008	3.30

Source: construction cost survey Spring 2004, prepared for AHFC by ADOLWD Research and Analysis

In the graph below the average cost for items in the construction market basket from 2002 to 2004 shows Sitka and Ketchikan as the lowest cost communities. Both are closest geographically to Seattle and have shipping ports. Barrow has the highest cost for a construction market basket, more than twice as expensive as the lowest cost communities each year. In 2004 the basket pegs Barrow at $37,873 and Sitka at $13,909. This information is gathered by the Alaska Department of Labor and Workforce Development and is the property of the Alaska Housing Finance Corporation.

Table 5. Average cost for construction market basket 2002 to 2004



Transportation values provided by Housing Authorities

The table below gives an index value for transportation of materials based on information gathered from area housing authorities. Costs are from 2004 and represent an average value to ship a package of materials to build one unit of housing in the region. This transportation value does not include any administrative expenses incurred by the housing authority, it only represents what they pay to have a package of building materials shipped to the construction site. Index values appear generally higher than those collected by AHFC and part of the reason is attributable to the fact that they represent housing shipped not just to Hub villages, but to the entire region including very small villages where transportation costs are often highest. For the purposes of calculating cost of construction for the regions where Native Housing Authority information is available the following method was used.

For Calista region: The AHFC index value for Bethel was applied to Bethel Census Area and the housing authority index value was applied to the Wade Hampton Census Area, an average of both provides the final estimate of construction costs in the region.

For the Aleutian region: The housing authority index is utilized since there is no available Alaska Housing Finance Corporation data that is in the geographic vicinity of this region.

For the Bristol Bay region: An average of the index values provided by the housing authority and the value for the Bethel Census Area are averaged.

Table 6. Average cost for transportation from housing authorities 2004

Destination	Native Region	Cost to ship one Housing package	Index based on Anchorage = 1
Aleutian Island Housing Authority	Aleut	$18,000	3.95
Association of Village Council Presidents	Calista	$24,000	5.27
Bristol Bay Housing Authority	Bristol Bay	$21,770	4.78

Another source of regional construction information is the U.S. Census Bureau. The Bureau collects building permit information on an ongoing basis – including the cost of construction. In Alaska, permitting is not required in all parts of the state. In particular there are large unorganized areas without established governments or whose local governments lack the authority or budget to track building activity.

According to permits reported to the U.S. Census Bureau for calendar year 2004 the average cost per unit statewide was $168,033. The average cost per single-family house was $204,157. To calculate construction costs for new units of housing the statewide average cost per unit was used as a baseline. The statewide average is used rather than averages from regional permits because of the wild variations in reported cost of constructions as well as because of the limited number of units constructed in some regions. For several regions of the state there is no information on construction for 2003 or 2004, indicating that either nothing was built or nothing was reported.

To arrive at the estimated cost of construction utilized in projecting costs, the following methodology is utilized.

- One third of the statewide average total construction cost is subtracted,
- then multiplied by the transportation index value,
- and then added back in to the total.
- (C*0.3)X+C-(C*0.3)
    - where C = statewide average construction cost
    - and X = transportation index value.

Where AHFC did not track construction and transportation costs the index value in the closest (geographically) census area was utilized unless alternative information from regional housing authorities was available. This is at best an imperfect method as the number of communities for which AHFC tracks construction costs and transportation costs is limited and response to information request from housing authorities was incomplete. Census areas were then matched as closely as possible to Alaska Native regional corporation boundaries and estimates of construction cost per unit for each region resulted.

Table 7. Statewide average housing unit cost 2003 and 2004

Statewide 2003	Units	Total Cost	Cost per Unit
Single Family	1,752	$337,039,652	$192,374
Two Family	932	$125,982,190	$135,174
Three or Four Family	249	$31,336,317	$125,849
Five or More Family	612	$67,912,151	$110,968
2003 Average	3,545	$562,270,310	**$158,609**
Statewide 2004	**Units**	**Total Cost**	**Cost per Unit**
Single Family	1,763	$359,928,251	$204,157
Two Family	580	$87,010,965	$150,019
Three or Four Family	155	$15,597,888	$100,632
Five or More Family	528	$72,649,330	$137,593
2004 Average	3,185	$535,186,434	**$168,033**

Construction costs are reported for 2003 and 2004. The 2003 costs are presented so that they can be compared to the construction cost estimates presented in a General Accounting Office (GAO) report, and also to show change in costs. All construction costs utilized to estimate cost are based on end of year 2004.

Table 8. Cost of construction by Census area

Census area	Cost per unit 2003	Cost per unit 2004	Census area	Cost per unit 2003	Cost per unit 2004
Aleutians East Borough	**$298,978**	**$316,742**	Nome CA	**$216,185**	**$229,030**
Aleutians West CA	**$298,978**	**$316,742**	North Slope Borough	**$268,050**	**$283,976**
Anchorage Municipality	**$158,609**	**$168,033**	Northwest Arctic Borough	**$212,854**	**$225,501**
Bethel CA	**$212,854**	**$225,501**	Prince of Wales-Outer Ketchikan CA	**$156,706**	**$166,017**
Bristol Bay Borough	**$212,854**	**$225,501**	Sitka City and Borough	**$156,706**	**$166,017**
Denali Borough	**$177,167**	**$187,693**	Skagway-Hoonah-Angoon CA	**$156,706**	**$166,017**

Census area	Cost per unit 2003	Cost per unit 2004	Census area	Cost per unit 2003	Cost per unit 2004
Fairbanks North Star Borough	**$177,167**	**$187,693**	Southeast Fairbanks CA	**$177,167**	**$187,693**
Haines Borough	**$142,431**	**$150,894**	Valdez-Cordova CA	**$163,368**	**$173,074**
Juneau City and Borough	**$142,431**	**$150,894**	Wade Hampton CA	**$361,786**	**$383,283**
Kenai Peninsula Borough	**$170,505**	**$180,636**	Wrangell-Petersburg CA	**$139,576**	**$147,869**
Ketchikan Gateway Borough	**$139,576**	**$147,869**	Yakutat City and Borough	**$156,706**	**$166,017**
Kodiak Island Borough	**$176,691**	**$187,189**	Yukon-Koyukuk CA	**$268,050**	**$283,976**
Matanuska-Susitna Borough	**$163,368**	**$173,074**			

Estimated cost of construction for 2003 and 2004 by Alaska Native region is shown in the table below. The Aleut region has the highest cost per unit and the Sealaska region has the lowest. Also presented below is the change in cost per unit from 2003 to 2004, the region with the largest increase in costs per unit is the Aleut Slope, all regions saw an increase in costs.

Table 9. Cost of construction by Alaska Native region 2003 and 2004

Alaska Native Region	Cost of Construction per Unit 2003	Construction Cost per Unit 2004	Change in per Unit Cost from 2003 to 2004
Ahtna	$170,267	$180,384	$10,117
Aleut	$298,978	$316,742	$17,764
Arctic Slope	$268,050	$283,976	$15,926
Bristol Bay	$275,663	$292,031	$16,368
Bering Straits	$216,185	$229,030	$12,845
Calista	$287,320	$304,392	$17,072
Chugach	$160,037	$169,546	$9,509
Cook Inlet	$164,161	$173,915	$9,754
Doyon	$195,343	$206,950	$11,607
Koniag	$176,691	$187,189	$10,498
NANA	$212,854	$225,501	$12,647
Sealaska	$152,721	$161,795	$9,074

The GAO that reported 2003 construction costs by Alaska Native region for every region except Ahtna. The difference between the estimates reached utilizing the above methodology and the estimates the GAO reached are presented in the table below. The two regions with the largest difference in estimates are the Koniag region and Sealaska region. Both of these regions have high land costs that are likely the cause of the discrepancy.

The only region where Information Insights estimated costs as significantly higher than the GAO report was in the Bristol Bay region. Transportation cost estimates for this region are based on information provided by the construction manager from the regional housing authority and are, we believe, a more accurate reflection of actual costs. The remaining 2003 estimates are an average of 10% different from GAO estimates. The estimates that are most closely matched are for the Cook Inlet region.

Table 10. GAO cost of construction – 2005 Assessment cost of construction

	Cost of construction from GAO report 2003	Assessment cost of construction 2003 estimates	Difference GAO minus 2003 Assessment estimates
Ahtna	NA	$170,267	NA
Aleut	$268,614	$298,978	($30,364)
Arctic Slope	$305,634	$268,050	$37,584
Bering Straits	$258,043	$275,663	($17,620)
Bristol Bay	$259,095	$216,185	$42,910
Calista	$225,942	$287,320	($61,378)
Chugach	$138,944	$160,037	($21,093)
Cook Inlet	$158,918	$164,161	($5,243)
Doyon	$208,088	$195,343	$12,745
Koniag	$301,823	$176,691	$125,132
NANA	$203,248	$212,854	($9,606)
Sealaska	$226,901	$152,721	$74,180

For the purposes of this report it was necessary to come up with an estimated cost of construction by region of the state so that estimating total cost to alleviate overcrowded conditions and replace substandard housing could be found. It is, however, important to note that these are merely estimates based on the information available at the time. The actual cost of building a unit in a given community will often be quite different.

Cost differences in different regions of the state have a variety of causes. These variables cause a wide range in building expense even within each region of the state, making it difficult to predict costs at the regional level. Variables that influence cost of construction include:

- Transportation: distance from Seattle
- Length of construction season: shorter seasons create more overtime and higher potential for work to be interrupted by weather.
  - In some Alaska communities it is sometimes necessary to work into the winter on a site, requiring temporary and costly heating of the work area.
- Using outside workers: housing and feeding workers that live communities other than the ones they are working in.
  - The average cost for a hotel to house a construction manager or skilled labor in Barrow is $130 to $180 per night and it can cost upwards of $1,300 to reach some of the remote sites within the North Slope Borough.
- Land costs: higher in urban than rural areas
- Different size and type of housing unit
- Labor costs: higher in rural than urban areas. Tribes are allowed to set regional pay rates that are different than the prevailing Davis-Bacon wages but they rarely set rates that are significantly different. If labor is from outside the community where the construction is taking place the workers will often receive a per diem and require room and board.
- Site preparation: if you need to extend road, utilities etc then the costs increase, also varying costs by type of terrain.
  - Many rural areas lack infrastructure on available land.
  - If a work site is located on tundra all of the heavy materials must be brought in during the winter months when the top layer of soil is frozen, this can sometimes be a year before construction on the building begins.

Most of the causes of variability in construction costs cause differences not only by region of the state but within the region as well. For example, the cost of transporting materials from Seattle to a hub community such as Bethel or Nome is only one part of the transportation costs when the final destination for materials is a smaller village within the region. Transportation costs are affected not only by proximity to Seattle but also by access to water, road and regular air freight services.

All estimates of cost are based on information from the 2004 construction season.

Population

Population growth

The population in the state overall grew between 1990 and 2000 at an average rate of 1.4 percent per year, adding nearly 77,000 people from 1991 to 2000. Between 2000 and 2004 state population grew a projected 4.55 percent, displaying basically the same rate of growth as in the prior ten-year period and adding 28,500 people. The area of the state with the most significant growth was and continues to be the Matanuska-Susitna Borough. The Mat-Su grew 49.5 percent between 1990 and 2000, an average of nearly five percent per year. Between 2000 and 2004 the area saw estimated growth of 18.25 percent, with average annual growth rates of nearly five percent.

Table 11. Population by Census area

Census area	1990 Census	2000 Census	% change 1991 - 2000	2004 DOLWD Estimates	% change 2000 - 04
Aleutians East Borough	2,464	2,697	9.46	2,629	(2.52)
Aleutians West CA	9,478	5,465	(42.34)	5,239	(4.14)
Anchorage Municipality	226,338	260,283	15.00	277,498	6.61
Bethel CA	13,656	16,006	17.21	16,853	5.29
Bristol Bay Borough	1,410	1,258	(10.78)	1096	(12.88)
Denali Borough, Alaska	--	1,893	--	1,842	(2.69)
Dillingham CA	4,012	4,922	22.68	4845	(1.56)
Fairbanks North Star Borough	77,720	82,840	6.59	84979	2.58
Haines Borough	2,117	2,392	12.99	2,245	(6.15)
Juneau City and Borough	26,751	30,711	14.80	30,966	0.83
Kenai Peninsula Borough	40,802	49,691	21.79	50,980	2.59
Ketchikan Gateway Borough	13,828	14,070	1.75	13,030	(7.39)
Kodiak Island Borough	13,309	13,913	4.54	13,466	(3.21)
Lake and Peninsula Borough	1,668	1,823	9.29	1,603	(12.07)
Matanuska-Susitna Borough	39,683	59,322	49.49	70,148	18.25

Census area	1990 Census	2000 Census	% change 1991 - 2000	2004 DOLWD Estimates	% change 2000 - 04
Nome CA	8,288	9,196	10.96	9,403	2.25
North Slope Borough	5,979	7,385	23.52	7,104	(3.81)
Northwest Arctic Borough	6,113	7,208	17.91	7,306	1.36
Prince of Wales-Outer Ketchikan CA	6,278	6,146	(2.10)	5,548	(9.73)
Sitka City and Borough	8,588	8,835	2.88	8,805	(0.34)
Skagway-Hoonah-Angoon Census Area	4,385	3,436	(21.64)	3,101	(9.75)
Southeast Fairbanks CA	5,913	6,174	4.41	6,192	0.29
Valdez-Cordova CA	9,952	10,195	2.44	9,959	(2.31)
Wade Hampton CA, Alaska	5,791	7,028	21.36	7,394	5.21
Wrangell-Petersburg CA	7,042	6,684	(5.08)	6,247	(6.54)
Yakutat City and Borough	--	808	--	680	(15.84)
Yukon-Koyukuk CA	8,478	6,551	(22.73)	6,277	(4.18)
TOTAL	**550,043**	**626, 932**	**13.98**	**655,435**	**4.55**

Naknek

Urban-rural population growth

The table below shows population growth for urban and rural Alaska. There was a dramatic increase in urban population and decrease in rural population between 1990 and 2000. In part this is due to the fastest growing region of the state, the Mat-Su Borough, changing from a rural to an urban borough.

If Palmer and Wasilla were combined, they would be the third largest community in Alaska. Mat-Su Borough has the state's second largest school district by population, having passed Fairbanks in the 2004/05 school year. In rural Alaska, out-migration continues to exceed in-migration. Most opportunities for jobs and education as well as economic stability continue to be located primarily in urban areas and to a lesser extent in rural hub communities.

Table 12. Population growth for urban and rural areas

Population centers	1980	1990	Change 1980 – 1990: %	2000	Change 1990 – 2000: %	2004	Change 2000 – 2004: %
Municipality of Anchorage	174,431	226,338	29.8	260,283	15.0	277,498	6.6
Fairbanks North Star Borough	53,983	77,720	44.1	82,840	6.6	84,979	2.6
City and Borough of Juneau	19,528	26,751	37.0	30,711	14.8	30,966	0.8
City and Borough of Sitka	7,803	8,588	9.9	8,835	2.9	8,805	(0.3)
Ketchikan Gateway Borough	11,316	13,828	22.2	14,070	1.8	13,030	(7.4)
Mat-Su (added to Urban in 2000)	--	39,683	--	59,322	49.5	70,148	18.2
Urban Total[2]	267,061	392,908	47.1	456,061	16.1	485,426	6.4
Rural Areas	134,790	157,135	16.6	170,871	8.7	170,009	(-0.5)
Alaska Total	401,851	550,043	36.9	626,932	14.0	655,435	4.5

[2] Mat-Su Borough was added to the total urban population figures for 1990, 2000 and 2005. The 47 percent increase in urban population is due in part to this reallocation of the population. If the Mat-Su Borough were still considered a rural area in 1990, urban population would have grown only 32 percent from 1990 to 2000 and rural population growth would appear to have grown 46 percent.

Native population

The Alaska Native population grew as a percentage of total population from 15.6 percent in 1980 to nearly 20 percent in 2000. The percentage reporting *Alaska Native Alone* as their racial category in the Census remained relatively consistent over the last decade. The category for people of two or more races continues to grow and in Alaska largely means people with some Alaska Native heritage. Asian-Pacific Islander population grew as well, from 2.0 to 4.6 percent of the population between 1990 and 2000.

Table 13. Population distribution by race

Statewide	1980		1990		Change 1980 to 1990	2000		Change 1990 to 2000
	Pop.	%	Pop.	%	%	Pop.	%	%
Total Population	550,043	100.0	401,851	100.0	36.9	629,335	100.0	56.6
White	415,492	75.5	309,728	77.1	34.1	434,534	69.1	40.3
Black	22,451	4.1	13,643	3.4	64.6	21,787	3.5	59.7
AK Native/ Am Indian	**85,698**	**15.6**	**64,103**	**16.0**	**33.7**	**98,043**	**15.6**	**53.0**
Asian Pacific Islander	19,728	3.6	8,054	2.0	149.9	28,425	4.6	252.9
Other Race	6,674	1.2	6,323	1.6	5.6	9,997	1.6	58.1
Two or more Races						34,146	5.4	NA

As in other parts of the state, the Alaska Native population has grown in urban Alaska. According to the 1990 Census 6.4 percent of the population in Anchorage was Alaska Native; by the 2000 Census the number had increased to 7.2 percent of total population that identified as Alaska Native alone. That number increases to 10.3 percent with the addition of individuals who are Alaska Native with some other race.

Table 14. Native population in Alaskan urban areas

	1990		2000		
Community	% Alaska Native	% Non-Native	% Alaska Native Alone	**% Alaska Native alone or w/another race**	% Non-Native
Anchorage Muni.	6.4	93.6	7.2	**10.3**	89.7
Juneau City	12.9	87.1	11.3	**16.4**	83.6
Ketchikan City	15.7	84.3	14.9	**19.0**	81.0
Sitka City	20.9	79.1	18.5	**24.5**	75.5
Fairbanks City	9.2	90.8	6.9	**9.8**	90.2

Fairbanks

Household Variables

This section presents current findings related to housing characteristics and compares them to findings reported in the 1991 study. Variables include:

- Number of residents per household
- Number of square feet per household
- Number of square feet per resident
- Occupancy rate
- Age of housing units

Residents per household

Regional Housing Authorities manage and fund most home construction outside the urban areas. RHA boundaries follow the regional Native corporation boundaries. The following tables use Native corporate regions to present housing information.

The average number of residents per household decreased statewide except in the Koniag region, with less than one percent increase, and Arctic Slope region, with no change. The most notable change occurred in the Sealaska region where the average person per occupied housing unit decreased by just over 30 percent.

Table 15. 2000 Census and change from 1990 Census

Native region	Residents / house-hold unit - 2000	Residents/ household unit - 1990	Percent change	Number of household units - 2000	Number of household units - 1990	Percent change
Ahtna	2.49	2.58	(3.49)	2,728	2,714	0.52
Aleut	2.6	3.01	(13.62)	2,957	2,742	7.84
Arctic Slope	3.44	3.44	0.00	2,538	2,154	17.83
Bering Straits	3.34	3.41	(2.05)	3,649	3,684	(0.95)
Bristol Bay	**3.08**	**3.19**	**(3.45)**	**4,716**	**3,204**	**47.19**
Calista	3.91	3.86	1.30	7,238	6,228	16.22
Chugach	2.56	2.71	(5.54)	5,293	4,860	8.91
Cook Inlet	2.69	2.72	(1.10)	150,026	132,266	13.43
Doyon	2.69	2.78	(3.24)	41,618	39,783	4.61
Koniag	3.06	3.03	0.99	5,164	4,890	5.60
NANA	3.87	3.96	(2.27)	2,540	1,998	27.13
Sealaska	2.58	3.72	(30.65)	31,949	27,556	0.52

Note: Bristol Bay had the largest percentage change in number of household units between 1990 and 2000.

Total housing units increased in every area of the state with the exception of Bering Straits region. The most striking increase occurred in the Bristol Bay region where there was an increase of over 1,500 units – 47 percent. Other areas of significant growth in households included NANA region with 27.13 percent growth and Arctic Slope with 17.83 percent. Although not representing the highest percentage increase, the Cook Inlet region added 17,760 new units of housing between 1990 and 2000.

Square footage of household

The following tables display total household size. Here again the 2005 study indicates fewer very small homes than the 1991 study. The 2005 survey also shows an increase in the percentage of households that are 2,001 square feet total size and larger.

Calista region has the highest percentage of houses with 500 square feet or less – one in ten houses in the region is this size. More than half of the houses in Calista region have 1,000 square feet or less. In contrast, Chugach – the region of the state with the smallest percentage, 18.6 percent – of houses 1,000 square feet and under had no houses reported as less than or equal to 500 square feet.

Statewide, just fewer than six percent of homes have less than 500 square feet; nearly 30 percent range from 501 to 1,000 square feet; the remaining 65 percent have more than 1,000 square feet. Cook Inlet Region has more than 9,000 of the 16,500 homes statewide with fewer than 500 square feet in size.

Alakanuk – This home is 16x20 feet and houses two adults and two children under the age of 12.

Table 16. Size of houses in each region – percent of housing stock

	500 square feet or less: percent of housing stock			501 to 1,000 square feet: percent of housing stock			1,001 to 2,000 square feet: percent of housing stock			2,001 square feet or more: percent of housing stock	
	1991	**2005**		**1991**	**2005**		**1991**	**2005**		**1991**	**2005**
Ahtna	24	2.6		51	41.0		18	43.6		7	12.8
Aleut	19	9.6		18	32.5		42	47.0		21	10.8
Arctic Slope	11	4.4		34	31.1		45	51.1		10	13.3
Bering Straits	0	8.1		33	67.6		33	16.2		33	8.1
Bristol Bay	9	7.0		49	32.0		23	44.5		19	16.4
Calista	41	**10.8**		43	**43.4**		15	**41.0**		2	**4.8**
Chugach	8	**0.0**		43	**18.6**		24	**48.8**		26	**32.6**
Cook Inlet	5	5.6		10	17.8		40	43.9		45	32.7
Doyon	45	7.3		44	29.8		7	39.9		4	23.0
Koniag	3	2.1		61	22.9		31	45.8		5	29.2
NANA	20	7.1		78	47.6		2	33.3		1	11.9
Sealaska	9	4.1		29	22.5		41	48.5		21	24.9
Statewide	19	5.9		40	29.5		26	44.0		16	20.6

Note: Calista region has the highest percentage of households that are 500 square feet or less and the Chugach region has the fewest.

Square feet per household resident

The table below displays results from the 1991 household study, which used as its basis the 1988 study that allowed for on-the-ground assessment of housing variables and 1990 Census data. The numbers represent total square footage of houses, regardless of use of space, e.g. closets are included in this equation although they are not considered living space.

Table 17. Average space per household resident: 1990

1990 Census data applied to 1988 study	Average sq. ft/ house	Average number residents/household	Average sq. ft/ resident
Ahtna	808	2.59	312
Aleut	1,411	2.73	517
Arctic Slope	1,229	4.37	281
Bering Straits	650	4.73	137
Bristol Bay	1,303	3.25	401
Calista	661	4.53	146
Chugach	1,996	3.39	589
Cook Inlet	1,885	3.06	616
Doyon	686	3.07	223
Koniag	982	3.62	271
NANA	731	5.30	138
Sealaska	1,509	3.70	408
Statewide	**1,162**	**3.73**	**333**

The next table uses results of the 2005 study to determine the average square feet per resident – note that it displays the mean and the median size house per resident in 2005. Nearly all areas of the state showed an increase in average size of homes between 1991 and 2005, with an associated increase in the number of square feet per household resident. Statewide, the average square feet per resident increased 119 square feet from 1991 to 2005.

Table 18. Average space per household resident: 2005

2005 Survey data	Mean square feet per house	Median square feet per house	Average residents per household	Average square feet per resident based on mean
Ahtna	1,502	1,100	2.71	554
Aleut	1,355	1,152	2.94	461
Arctic Slope	1,443	1,300	3.44	419
Bering Straits	**991**	**900**	**3.95**	**251**
Bristol Bay	1,384	1,200	3.21	431
Calista	**1,048**	**1,000**	**4.95**	**212**
Chugach	1,771	1,500	2.96	598
Cook Inlet	1,732	1,700	2.70	641
Doyon	1,539	1,200	2.80	550
Koniag	1,755	1,615	3.05	575
NANA	1,256	1,000	4.39	286
Sealaska	1,641	1,500	2.88	570
Statewide	**1,507**	**1,300**		**452**

Note: Calista and Bering Straits regions have the lowest square feet per resident.

The average number of residents per household decreased in most regions of the state between 1991 and 2005. In 1991 the Arctic Slope and Bering Straits regions had the highest number of residents per household with an average 4.73 and 4.37 respectively. Both of these regions reported much lower numbers of residents per household in 2005. Bering Straits continues to have one of the highest resident to household ratios in the state with an average of 3.95.

The Calista region has the highest resident-to-household ratio, with a 4.95 average. The more telling numbers are those that indicate square footage per household resident. Three regions, Calista, Bering Straits and NANA, have average square feet per resident of less than 300.

Occupancy rates

The following table shows the number of housing units, average size of households and occupancy rates as reported in the 2000 Census.

It is notable that the 2000 Census shows 100 percent occupancy rates in six census areas and boroughs in Alaska. Wade Hampton is one such area and also reports the highest person per household number at 4.38.

Table 19. Occupancy rate: 2000 Census

Census areas	2000 population	Number of housing units	Household size - average	Occupancy rate - %
Aleutians East Borough	2,698	724	2.69	72.7
Aleutians West Census	5,484	2,234	2.52	56.8
Anchorage Municipality	261,478	100,368	2.67	94.5
Bethel CA	16,015	5,188	3.73	81.5
Bristol Bay Borough	1,258	979	2.57	50.1
Denali Borough	1,896	1,351	2.28	58.1
Dillingham Census	4,932	2,332	3.2	65.6
Fairbanks North Star Borough	83,156	33,291	2.68	89.4
Haines Borough	2,394	1,419	2.41	69.8
Juneau City and Borough	30,917	12,282	2.6	94.0
Kenai Peninsula Borough	49,831	24,871	2.62	74.1
Ketchikan Gateway Borough	14,125	6,218	2.56	86.8
Kodiak Island Borough	13,949	5,159	3.07	85.8
Lake and Peninsula Borough	1,824	1,557	3.1	37.8
Matanuska-Susitna Borough	59,499	27,329	2.84	75.2
Nome CA	9,214	3,649	3.33	73.8
North Slope Borough	7,409	2,538	3.45	83.1
Northwest Arctic Borough	7,216	2,540	3.87	70.1
Prince of Wales-Outer Ketchikan CA	6,163	3,055	2.68	74.0
Sitka City and Borough	8,881	3,650	2.61	89.8
Skagway-Hoonah-Angoon	3,445	2,108	2.5	64.9
Southeast Fairbanks CA	6,174	2,098	2.8	100.0
Valdez-Cordova CA	10,195	3,884	2.58	100.0
Wade Hampton CA	7,028	1,602	4.38	100.0
Wrangell-Petersburg Census	6,684	2,587	2.56	100.0
Yakutat City and Borough	808	265	2.59	100.0
Yukon-Koyukuk CA	6,551	2,309	2.81	100.0

Age of housing stock

The tables below describe the change in age of housing stock, using increments of zero to ten years, 11 to 20, and 21-plus years in age. Of particular note is that only the Sealaska region had "new" housing stock representing a higher percentage of total housing in 2005 compared to 1990 – although by only a fraction. Every other region of the state saw a decrease in housing aged ten years or less as a percentage of total housing. Older housing (21 years or more) increased as a percentage of total housing stock in every region, including Sealaska.

This is consistent with other information regarding building in Alaska. A significant period of overbuilding in the early 1980s was fueled by high oil prices (a result of the conflict between Iraq and Iran). Following the Iraq/Iran conflict the price of oil plummeted and Alaska found itself with a glut of real estate, particularly in urban areas.

The Cook Inlet and Chugach regions are two of the fastest growing regions in the state; both enjoy an active housing development market. Arctic Slope, Cook Inlet and Chugach regions all saw an increase in the percentage of 11 to 20 year old housing.

Table 20. Incremental age of housing stock

Native region	1988 Study			2005 Survey		
	Houses 0–10 yrs (%)	Houses 11–20 yrs (%)	Houses 21 yrs or more (%)	Houses 0–10 yrs (%)	Houses 11 - 20 yrs (%)	Houses 21 yrs or more (%)
Ahtna	21.5	41.5	37.0	12.3	36.6	51.2
Aleut	51.7	23.5	24.7	17.6	23.1	59.3
Arctic Slope	78.3	14.1	6.5	19.6	35.7	44.6
Bering Straits	28.4	53.3	18.4	22.2	11.1	66.7
Bristol Bay	32.2	30.5	37.3	14.8	28.4	56.8
Calista	38.3	38.3	23.5	22.6	18.3	59.1
Chugach	50.4	20.7	28.8	26.6	31.3	52.1
Cook Inlet	48.5	21.4	30.1	21.1	21.9	57.0
Doyon	40.3	34.9	24.8	16.9	22.1	61.0
Koniag	37.9	41.1	21.0	19.7	21.1	59.2
NANA	43.8	42.7	13.4	24.5	15.1	60.4
Sealaska	21.4	31.0	47.6	21.8	17.3	60.9

Table 21. Change in age of housing as percentage of housing stock: 1988 to 2005

Native region	Houses 0–10 yrs (%)	Houses 11–20 yrs (%)	Houses 21 yrs or more (%)
Ahtna	(9.2)	(4.9)	14.2
Aleut	(34.1)	(0.4)	34.6
Arctic Slope	(58.7)	21.6	38.1
Bering Straits	(6.2)	(42.2)	48.3
Bristol Bay	(17.4)	(2.1)	19.5
Calista	(15.7)	(20.0)	35.6
Chugach	(23.8)	10.6	23.3
Cook Inlet	(27.4)	0.5	26.9
Doyon	(23.4)	(12.8)	36.2
Koniag	(18.2)	(20.0)	38.2
NANA	(19.3)	(27.6)	47.0
Sealaska	0.4	(13.7)	13.3

The age of housing stock is one indication of need. Older homes require more maintenance and are more costly to heat, making them both less desirable and less affordable.

King Salmon

Housing Need: Income, Urban-Rural and Race as Indicators

One primary driver of the demand for new housing units is population growth. The population of the state is growing steadily with that in the urban areas growing at a higher rate. The non-white population in Alaska continues to grow, representing a significantly higher growth rate than the white population.

In rural Alaska, moderate population growth drives the demand for housing, but very little private investment or free market housing activity means high prices. Due to prohibitively high construction costs in many communities, many individuals cannot participate in the housing market. A shortage of local skilled trades people and businesses with the capacity to build needed housing units creates an additional barrier in rural Alaska.

The highest level of need continues to be housing for low-income people of all racial and ethnic backgrounds as well as Alaska Native people, particularly in rural areas.

Since the 1991 study, solid progress has been made toward improving the condition of housing in rural Alaska. Millions have been spent in rural Alaska to improve sewage and safe water systems. Multiple federal and state agencies have invested in infrastructure development of communities through funding for health clinics, teacher housing and economic development. Additionally, NAHASDA allows funding entities to be more responsive at the local level. Yet significant unmet need for adequate housing exists.

Due to the unpredictable nature of the economy, particularly the housing market in rural areas, it is unlikely that there is an easy private sector solution to this problem – and much more likely that the majority of funds utilized to build homes in rural areas will be public monies.

Income

The 2005 survey information presented below illustrates the disparity in income between rural and urban households as well as between Alaska Native and non-Native households.

Of the survey respondents who indicated they lived in a household with less than $10,000 in annual earnings, 83.6 percent were in rural Alaska and an identical 83.6 percent were Native households. Just over 70 percent of households in the $10,000 to $30,000 income range were from rural Alaska and just over 60 percent of them were Native.

Table 22. Low and moderate income households: 1990[3]

	Households under 25,000 annual income	Households under 35,000 annual income
1988 Study	85%	90%
1991 Study	32%	48%
1991 Rural	39%	55%
1991 Urban	22%	38%
1991 Native	62%	75%
1991 Non-Native	21%	38%

To compare income levels from 1991 to those found in the 2005 study, we adjusted for inflation as reported by the consumer price index for years 1991 to 2004. The adjusted annual incomes for 2005 are $34,675 and $48,545 respectively. These numbers were rounded up to $34,999 and $49,999 to correlate with census income groupings and allow easier comparison. The table below is based on 2000 Census data for income and number of households.

Table 23. Low and moderate household income by Census areas: 2000

2000 Census data area	Households under $34,999 annual - %	Est. number of households under 34,999	Households under $49,999 annual - %	Est. number households under $49,999
Aleutians East CA	36.8	193	53.2	279
Aleutians West CA	22.4	285	36.8	469
Anchorage Municipality	28.3	26,909	44.3	42,108
Bethel CA	49.0	2,069	64.9	2,741
Bristol Bay CA	26.6	131	47.6	233
Denali Borough	30.8	243	46.5	366
Dillingham CA	44.5	672	58.4	883
Fairbanks North Star Borough	33.6	10,000	50.8	15,131

[3] Note that the 1988 study was predominantly rural Native households.

2000 Census data area	Households under $34,999 annual - %	Est. number of households under 34,999	Households under $49,999 annual - %	Est. number households under $49,999
Haines Borough	4.1	434	59.0	581
Juneau City & Borough	25.1	2,896	39.4	4,549
Kenai Pen. Borough	37.5	6,895	53.4	9,831
Ketchikan Gateway	31.1	1,681	48.8	2,635
Kodiak Island Borough	29.7	1,315	44.2	1,958
Lake & Peninsula Borough	48.7	286	66.3	389
Mat Su Borough	33.4	6,859	48.7	9,998
Nome CA	42.2	1,138	58.8	1,578
North Slope Borough	23.6	499	37.6	795
NW Arctic Borough	39.5	702	54.2	964
Prince of Wales Outer Ketchikan CA	41.0	930	60.8	1,381
Sitka City & Borough	31.1	1,019	47.7	1,566
Skagway Hoonah Angoon	44.1	604	60.7	831
SE Fairbanks CA	45.5	933	59.3	1,228
Valdez Cordova CA	35.4	1,375	51.0	1,982
Wade Hampton CA	**57.4**	**924**	**75.6**	**1,217**
Wrangell Petersburg	37.0	963	54.5	1,419
Yakutat City & Borough	36.8	98	54.1	144
Yukon Koyukuk CA	57.9	1,334	71.9	1,658
Statewide	**32.2**	**71,395**	**48.2**	**106,914**

Note: Wade Hampton Census Area has the highest percentage of households earning less than $34,999.

The area of the state with the lowest per household income is the Wade Hampton Census Area. Just over 75 percent of households in Wade Hampton have household incomes of $49,999 or less, a larger proportion than for any other census area or borough. More

telling is that 41 percent of households have household incomes of less than $25,000 per year and there are more residents per household, an average of 4.38, in this region than in any other part of the state.

Housing for people with low incomes is needed in all areas of the state. Traditional suppliers of low-income housing include:

- Housing and Urban Development
- Alaska Housing Finance Corporation
- Tribal housing authorities

According to the 2000 Census 32 percent of households in Alaska earn at or less than $34,999 per year, the equivalent of $25,000 in 1991 dollars. Income varies widely across urban-rural and racial classifications and by region of the state. The 2005 survey found that most households earning less than $30,000 per year were Alaska Native households and were located in rural areas.

Table 24. Low-income households: 2005

	Households with $10,000 and below of annual income	**Households with $10,000 to $30,000 of annual income**
2005 Rural	83.6%	70.3%
2005 Urban	16.4%	29.7%
2005 Native	83.6%	60.2%
2005 Non-Native	16.4%	39.8%
2005 Total	**100%**	**100%**

Income plays a huge role in determining ability to obtain adequate housing, either through rent or home ownership. According to the *Out of Reach* 2004 report data nearly 20,000 households statewide are unable to afford rent. This determination is based on a household's income at zero to 50 percent of median income.

The increasing cost of fuel is well known and wide spread but its affects are felt particularly dramatically in rural Alaska where the cost of utilities is already high despite subsidies. The price of fuel affects the cost of all goods in rural Alaska where these goods are flown in by plane or brought in by tanker, both utilizing fuel for transport. Increasing costs of utilities will reduce the affordability of housing for many residents as the proportion of their income required to pay for utilities increases.

The Institute of Social and Economic Research at the University of Alaska Anchorage produced a report titled *Sustainable Utilities in Rural Alaska* in summer of 2003. According to that report rural consumers pay a higher percent of household income for utilities than Anchorage residents.

> *"Many users of the flush/haul systems have cut back their water consumption to less than 6 gallons per person per day to reduce their bills, despite significant health risks while Anchorage consumers use about 100 gallons per person per day."* - Sustainable Utilities in Rural Alaska report, ISER, 2003

The increased cost burden associated with rising fuel prices will affect the ability of low income people to maintain a home throughout the state with the impact felt most acutely in rural Alaska. People who were on the edge financially will no longer be able to afford the housing in which they currently reside.

The Haines Borough is reported to have the lowest median household income with the North Slope Borough reporting the highest. The urban areas of Anchorage, Fairbanks and Juneau do not stray far from the statewide average median income of just over $43,000.

Table 25. Household earnings as a percentage of median income: by region

	Households earning less than 30% of median income	Households earning 30 to 50% of median income	Estimated median income
Statewide	**10,377**	**9,236**	**$43,128**
Aleutians East Borough	20	16	$45,454
Aleutians West CA	24	28	$66,373
Anchorage Municipality	5,016	4,906	$43,421
Bethel CA	213	80	$49,898
Bristol Bay Borough	24	8	$56,500
Denali Borough	18	12	$50,842
Dillingham CA	61	31	$50,584
Fairbanks North Star Borough	1,459	1,343	$41,045
Haines Borough	**40**	**24**	**$31,326**
Juneau City and Borough	478	538	$44,823
Kenai Peninsula Borough	809	500	$36,047
Ketchikan Gateway Borough	193	227	$42,179
Kodiak Island Borough	171	164	$48,929
Lake and Peninsula Borough	24	24	$40,221
Matanuska-Susitna Borough	751	512	$35,094
Nome CA	117	89	$51,536
North Slope Borough	**79**	**48**	**$78,866**
Northwest Arctic Borough	74	68	$62,792
Prince of Wales-Outer Ketchikan	88	58	$40,956
Sitka City and Borough	156	160	$42,560
Skagway-Hoonah-Angoon	50	32	$45,066
Southeast Fairbanks CA	105	56	$34,944
Valdez-Cordova CA	156	95	$42,623
Wade Hampton CA	60	38	$38,938
Wrangell-Petersburg Census	89	103	$39,166
Yakutat City and Borough	8	8	$39,083
Yukon-Koyukuk CA	94	68	$33,550

Note: Haines Borough lowest median income and the North Slope Borough has the highest.

Based on findings of the affordability report, a household in the Wade Hampton census area would have to pay 111 percent of annual median income to rent a two bedroom housing unit at regional rental rates. Both the Yukon-Koyukuk Census Area and the Bethel Census Area would have to pay more than 90 percent of median annual income to rent at the prevailing rate.

Native/non-Native households

According to the Bureau of Indian Affairs, the number of Alaska Native persons per household (pph) in 1990 was:

- 3.4 in Anchorage
- 3.4 in Fairbanks
- 3.7 in Southeast Alaska

By comparison, the number of non-Native persons per household in 1990 was 2.7.

Table 26. Housing unit summary for urban areas, 1990

	Housing units	Total population	Native population	Estimated Native households	Estimated non-Native households	Total house-holds
Anchorage	94,153	226,338	14,569	4,285	78,433	82,718
Fairbanks	12,537	30,843	2,830	832	10,375	11,208
Juneau	10,638	26,751	3,462	936	8,626	9,561
Ketchikan	3,360	8,263	1,296	350	2,580	2,931
Sitka	3,222	8,588	1,797	486	2,515	3,001
1990 Totals	**123,910**	**300,783**	**23,954**	**6,889**	**102,529**	**109,418**

The table below estimates the number of Native households in 2000 based on 2000 Census data and the findings of the 2005 survey indicating the number of residents per household.

Table 27. Estimated Alaska Native households – utilizing 2000 Census data

Native region	Native population 2000	Total population 2000	Residents per household - Native	Est. number of households - Native
Ahtna	641	3,674	2.65	242
Aleut	2,217	8,162	2.80	792
Arctic Slope	5,062	7,385	3.87	1,308
Bering Straits	6,840	9,196	3.74	1,829
Bristol Bay	5,301	7,875	3.51	1,510
Calista	19,468	23,034	4.31	4,517
Chugach	1,751	12,134	2.84	617
Cook Inlet	24,603	364,225	2.85	8,633
Doyon	10,853	97,169	2.82	3,849
Koniag	1,939	13,913	3.03	640
NANA	5,914	7,208	4.30	1,375
Sealaska	11,219	71,510	2.72	4,125

There are more residents per Alaska Native household than in non-Native households in every region of the state. The incidence of larger numbers of people living in a single residence has several possible causes:

- Alaska Native and American Indian people have lower incomes than their non-Native counterparts
- Population increases in some rural communities and the prohibitively high cost of obtaining building materials have led to overcrowded conditions
- The Native population in Alaska is younger than the non-Native population – younger families with children tend to mean larger household size
- A shortage of specialized housing for Elders in rural Alaska means many Elders live with relatives

Table 28. Estimated non-Native households – utilizing 2000 Census data

Native region	Non-Native population 2000	Total population 2000	Residents per household - non-Native	Est. number of non-Native households
Ahtna	3,033	3,674	2.49	7,552
Aleut	5,945	8,162	2.60	15,457
Arctic Slope	2,323	7,385	3.44	7,991
Bering Straits	2,356	9,196	3.34	7,869
Bristol Bay	2,574	7,875	3.08	7,928
Calista	3,566	23,034	3.91	13,943
Chugach	10,383	12,134	2.56	26,580
Cook Inlet	339,622	364,225	2.69	913,583
Doyon	86,316	97,169	2.69	232,190
Koniag	11,974	13,913	3.06	36,640
NANA	1,294	7,208	3.87	5,008
Sealaska	60,291	71,510	2.58	155,551

Fairbanks

Estimating square feet per resident

Estimates are made for households with 150, 200 and 300 square feet per resident. For the purposes of this report households with 200 square feet or less per resident are considered inadequate and necessitate the addition of a new housing unit. The 2005 survey found a significantly lower incidence of households with 200 square feet or fewer per resident than did the 1991 study.

This difference can be attributed almost entirely to the fact that 1991 estimates are based on percentages in the 1988 study that was conducted only in rural Alaska where homes are generally smaller.

Table 29. Square feet per resident in households: 1991 and 2005

Native region	Estimated total number of households		Households with 200 square feet or less/ resident - %		Households with 150 to 300 square feet/ resident - %		Households with more than 300 square feet per resident - %	
	1991	**2005**	**1991**	**2005**	**1991**	**2005**	**1991**	**2005**
Ahtna	843	2,771	36	8	27	15	51	80
Aleut	4,399	2,992	14	9	19	22	74	74
Arctic Slope	1,433	2,578	38	16	40	18	43	76
Bering Straits	1,790	3,719	67	26	0	32	33	51
Bristol Bay	2,146	4,738	39	15	42	20	53	70
Calista	4,186	7,536	68	43	32	**35**	20	**34**
Chugach	3,373	5,369	23	2	35	16	55	84
Cook Inlet	24,719	164,158	5	5	10	6	88	91
Doyon	19,064	43,009	51	13	40	23	28	73
Koniag	3,903	5,436	34	8	45	19	41	77
NANA	1,197	2,713	75	30	35	27	14	54
Sealaska	6,464	33,099	26	5	28	14	59	83
Statewide	**73,517**	**278,118**			**30**	**19**	**48**	**74**

Results of the 2005 survey indicate that 22,392 new units of housing are needed to alleviate overcrowding in units with 200 square feet or less per resident. In the Calista region 66.2 percent of households have 300 square feet or less per household occupant; more than 30 percent of these have 150 square feet or less per occupant and 43 percent have 200 square feet or less per resident.

These numbers are significantly higher than in other regions of the state. The also exceed the statewide average that finds 12.4 percent of households with 200 square feet or less per person and 26 percent of the population with 300 square feet or less per person. In contrast, in the Cook Inlet region 9.5 percent of households have 300 square feet or less per person and only 5 percent of households have 200 square feet or fewer per resident.

The table below estimates the number of households needed to reduce overcrowded conditions. The first column assumes that a home is overcrowded only if there is less than or equal to 150 square feet per household occupant. The second column shows the number of homes with less than 200 square feet per resident and the third shows homes with 300 square feet or fewer per resident. The area of the state with the highest number of new units needed is Cook Inlet, corresponding with the majority of the state population residing in that region.

Table 30. Estimated number of households with low square feet per resident: 2005

Native region	Estimated Total households	Households w/ 150 square feet or less/ resident		Households with 200 square feet/ resident		More than 300 square feet per resident
	Number	Percent	Number	Percent	Number	Percent
Ahtna	2,771	5.1	141	7.5	208	79.5
Aleut	2,992	3.7	111	9.3	278	74.4
Arctic Slope	2,578	6.7	173	16.3	420	75.6
Bering Straits	3,719	16.2	602	26.3	979	51.4
Bristol Bay	4,738	10.2	483	15.0	711	69.5
Calista	7,536	31.3	2,359	42.9	3,230	33.7
Chugach	5,369	0.0	0	2.4	131	83.7
Cook Inlet	164,158	3.8	6,238	4.8	7,817	90.6
Doyon	43,009	4.0	1,720	13.5	5,794	72.9
Koniag	5,436	4.2	228	7.9	431	77.1
NANA	2,713	19.5	529	30.4	826	53.7
Sealaska	33,099	2.9	960	4.7	1,568	83.2
Statewide	**278,118**		**13,545**	12.4	**22,392**	74.0

Note that in this narrative and the following tables, a new housing unit will only be required due to overcrowding when there is 200 square feet or less per resident of the home. The survey finding of need based on overcrowding appears to understate overcrowded conditions when compared with information reported by regional hosing authorities to Housing and Urban Development. Regional housing authorities report need based on the criteria of households with more than one person per room or homes without plumbing.

The 2005 assessment numbers differ in a few fundamental ways that must be kept in mind when comparisons are made: the 2005 study does not include lack of plumbing as an indication of overcrowded conditions, it provides an estimate of need for all households in Alaska, not only Alaska Native/American Indian households and the overcrowded criteria is based on square feet per resident rather than number of rooms per resident. These differences aside it is still useful to note that the areas of high need are the same. The Calista region stands out on both groups as an area of the state in which housing is seriously deficient, high need is also noted in the Cook Inlet region where so much of the states population resides.

Table 31. Alaska Native/American Indian overcrowding: HUD 2004

Tribe	Alaska Native/American Indian households with more than 1 person per room or without plumbing
Aleutian Region	181
AVCP/Calista Region	3,892
Bristol Bay Region	808
Baranof Island Housing	99
Bering Straits Region	1,324
Cook Inlet Region	1,841
Copper River Region	125
Interior Region	1,985
Kodiak Island Region	120
Annette Island-Metlakatla	36
North Pacific Rim Region	130
Northwest Inupiat Region	906
Tlingit-Haida Region	682
Arctic Slope Region	889
Total - Alaska	**13,018**

Survey data indicates that statewide 12.4 percent of households have less than or equal to 200 square feet per resident. Roughly 9,000 homes throughout the state have 100 square feet or less per resident. Statewide, more than one in four homes offer less than or equal to 300 square feet per resident.

Table 32. 2005 Average size home per resident: statewide

	Percentage	Estimated # households
100 sf/res or less	3.3	9,178
101 to 150 sf/res	3.9	10,847
151 to 200 sf/res	6.3	17,521
201 to 250 sf/res	5.1	14,184
251 to 300 sf/res	7.4	20,581

Addressing Substandard Housing

The following pages will estimate the number of housing units needed, by Alaska Native Region, based on housing units in need of replacement and housing units needed to alleviate conditions of overcrowding. Estimates are based on findings of the 2005 telephone survey applied to the estimated current number of households in 2005.

Housing units determined to be substandard are separated into two categories. The first category covers housing units that are determined to be in need of replacement. The second category counts units that are determined to be in need of major repair. We estimate that 4,500 units are in need of replacement and 20,741 units are in need of major repair. The cost associated with these two activities is estimated to be roughly $1.4 billion.

Conditions of overcrowding exist in varying levels throughout the state. For the purposes of estimating need for new units we have defined overcrowded as those households with less than or equal to 200 square feet per resident. The estimated number of households living in this condition of overcrowding is 22,392.

However, 5 percent of respondents who indicated that their households were overcrowded also indicated that their homes were falling apart and in need of replacement. These duplicates were eliminated to form a final estimate of 221392 new units needed to alleviate overcrowded conditions. This assumes that units in need of replacement are in fact replaced. The estimated cost associated with eliminating overcrowded conditions only is approximately $4.78 billion.

The 1991 portion of the table below utilized 1990 census data to update numbers collected for homes in need of replacement during the 1988 housing assessment in rural Alaska. Because the 1988 study did not include data for Anchorage, Fairbanks, Juneau, Ketchikan or Sitka, those communities are not represented in the 1991 estimates for condition of home.

The 4,500 units needed in 2005 to replace housing units that are reported to be falling apart and beyond repair is lower than the 4,599 units that were reported to be needed to replace substandard housing in the 1991 report, but the two numbers are not directly comparable – the 2005 study includes urban areas, while the 1991 study did not.[4] Likely explanations for the decrease in new housing needed include new housing constructed in the previous 15 years, and the re-categorization in this study of substandard housing that is salvageable with major repair and therefore not in need of replacement.

Of the more than 1,500 respondents roughly 7.5 percent of respondents indicated that their housing was in need of repair that they were unable to make. For purposes of this study we estimated that cost to repair these units is an average of $25,000 per unit. Case by case costs will be higher or lower depending on whether foundation work is needed and will vary by location. Cost in 1991 for replacement was estimated at $130,000 per unit. Costs for replacement of housing units in 2005 are broken down by region and are covered in detail in the construction section of this report.

Alakanuk

[4] The 1991 study excluded Anchorage, Fairbanks, Juneau, Ketchikan and Sitka.

Table 33. Estimated need to replace or repair substandard housing (part 1)

Native region	Estimated total number of households		Number of households rated replace		Number of households rated major repair	Cost to replace	Cost of major repairs to substandard housing
	1991	**2005**	**1991**	**2005**	**2005**	**2005**	**2005**
Ahtna	843	2,771	177	136	67	$24.2 million	$1.7 million
Aleut	4,399	2,992	440	54	287	$11.0 million	$7.2 million
Arctic Slope	1,433	2,578	72	0	178	$0	$4.4 million
Bering Sts	1,790	3,719	0	130	785	$29.0 million	$19.6 million
Bristol Bay	2,146	4,738	150	208	682	$45.8 million	$17.1 million
Calista	4,186	7,536	126	512	1,801	$112.7 million	$45.0 million
Chugach	3,373	5,369	169	0	107	$0	$2.7 million
Cook Inlet*	24,719	164,158	0	1,313	10,014	$234.7 million	$250.3 million
Doyon*	19,064	43,009	3,241	1,419	3,226	$278.0 million	$80.6 million
Koniag	3,903	5,436	39	0	294	$0	$7.3 million
NANA	1,197	2,713	120	98	388	$23.3 million	$9.7 million
Sealaska*	6,464	33,099	65	629	2,913	$114.1 million	$72.8 million
TOTAL	**73,517**	**278,118**	**4,599**	**4,500**	**20,741**	**$872.8 million**	**$518.5 million**

* The 1991 study did not include Anchorage, Fairbanks, Juneau, Ketchikan or Sitka.

Table 34. Estimated need to replace or repair substandard housing (part 2)

Native region	Estimated total number of households		Total new housing needed	Total replacement housing/ major repairs needed	Percent of households rated replace	Percent of households rated major repair	Total replacement cost ($130K / new house, 1991 dollars)	Total cost to replace or conduct major repairs
	1991	**2005**	**1991**	**2005**	**2005**	**2005**	**1991**	**2005**
Ahtna	843	2,771	248	203	4.9%	2.40%	$32.2 million	$25.9 million
Aleut	4,399	2,992	589	341	1.8%	9.60%	$76.6 million	$18.2 million
Arctic Slope	1,433	2,578	340	178	0.0%	6.90%	$44.1 million	$4.4 million
Bering Sts	1,790	3,719	190	915	3.5%	21.10%	$24.7 million	$48.6 million
Bristol Bay	2,146	4,738	285	890	4.4%	14.40%	$37.1 million	$62.9 million
Calista	4,186	7,536	812	2,313	6.8%	23.90%	$105.6 million	$157.7 million
Chugach	3,373	5,369	347	107	0.0%	2.00%	$45.2 million	$2.7 million
Cook Inlet	24,719	164,158	222	11,327	0.8%	6.10%	$28.9 million	$485.0 million
Doyon	19,064	43,009	3,851	4,645	3.3%	7.50%	$500.6 million	$358.6 million
Koniag	3,903	5,436	332	294	0.0%	5.40%	$43.1 million	$7.3 million
NANA	1,197	2,713	304	486	3.6%	14.30%	$39.5 million	$33.0 million
Sealaska	6,464	33,099	485	3,541	1.9%	8.80%	$63.0 million	$186.9 million
TOTAL	**73,517**	**278,118**	**8,005**	**25,241**			**$1,040.7 million**	**$1,391.3 million**

* The 1991 study did not include Anchorage, Fairbanks, Juneau, Ketchikan or Sitka.

Alleviating Overcrowded Conditions

Total cost to alleviate overcrowded conditions based on 200 square feet per resident criteria is estimated at $4.78 billion dollars, this number does not include replacing substandard units.

A separate issue from replacement of substandard housing is the creation of new dwelling units to alleviate overcrowding. The tables below recognize the potential for duplication of need between substandard and overcrowded housing. The "duplicates" listing below recognizes the following potential for double counting of need:

- 5 percent of people who live in homes with less than 200 square feet per resident also report living in a dwelling that is falling apart and in need of replacement.
- An additional 2.6 percent of homes with 200 square feet per resident also report being in need of major repair.

The majority of homes with between 150 and 300 square feet per resident fall into the range below median income – nearly 33,000 households. For the purposes of this report the households that are between 150 and 300 square feet per resident were not included in the number considered to be overcrowded to the extent that an additional unit would be needed.

In 1991 overcrowding was based on the criterion that if a household had 200 square feet or less per resident, a new housing unit would be required. Estimated cost to create these additional units was $793 million, less $238 million for homes that had been replaced – a total of $555 million. That estimate was based on 1988 survey findings and did not include urban areas.

Table 35. Estimated new units to alleviate overcrowding: 2005

Native region	Cost of construction	Preliminary number of households under 200 sq. ft. per resident		Estimated number of households under 200 sq. ft.	Preliminary number of households 150 - 300 sq. ft. per resident		Estimated number of households 150 - 300 sq. ft. / resident
			Minus dup.	W/o duplicates		Minus dup.	
Ahtna	$180,384	208	10	198	427	60	366
Aleut	$316,742	278	14	264	658	93	565
Arctic	$283,976	420	21	399	459	65	394
Bering Sts	$292,031	979	49	930	1,205	171	1,034
Bristol	$229,030	711	36	675	962	136	826
Calista	$304,392	3,230	161	3,069	2,630	372	2,258
Chugach	$169,546	131	7	124	875	124	751
Cook Inlet	$173,915	7,817	391	7,426	9,357	1,324	8,033
Doyon	$206,950	5,794	290	5,504	9,978	1,412	8,566
Koniag	$187,189	431	22	409	1,022	145	877
NANA	$225,501	826	41	785	727	103	624
Sealaska	$161,795	1,568	78	1,490	4,568	646	3,921
Statewide		**22,392**	1,120	**21,272**	**32,868**	**4,651**	**28,217**

Table 36. Estimated total cost for new housing needed: 2005

Native region	Total est. cost to alleviate crowded conditions in units with under 200 sq. ft. / resident minus duplicates	Total cost to repair	Total cost to alleviate crowded conditions and replace and repair substandard housing
Ahtna	$60.1 million	$1.6 million	$61.8 million
Aleut	$100.9 million	$7.2 million	$108.0 million
Arctic Slope	$113.2 million	$4.4 million	$117.7 million
Bering Straits	$309.5 million	$19.6 million	$329.1 million
Bristol Bay	$202.3 million	$17.1 million	$219.3 million
Calista	$1,089.8 million	$45.0 million	$1,134.8 million
Chugach	$21.1 million	$2.7 million	$23.8 million
Cook Inlet	$1,519.9 million	$250.3 million	$1,770.2 million
Doyon	$1,432.8 million	$80.6 million	$1,513.4 million
Koniag	$76.7 million	$7.3 million	$84.1 million
NANA	$199.0 million	$9.7 million	$208.7 million
Sealaska	$342.8 million	$72.8 million	$415.6 million
Statewide	**$5,468.0 million**	$518.5 million	**$5,986.5 million**

Table 37. New housing stock needed to remedy overcrowding: 1991

Native region	Est. total number of households	Households under 200 sq. ft. /resident	Households 200 to 320 sq. ft. / resident	Estimated cost (@ $15k per household)	Households needing new home	Cost (@$116k per new house)	Total cost[5]
Ahtna	843	307	271	$4.1 million	36	$4.1 million	$8.2 million
Aleut	4,399	594	572	$8.6 million	22	$2.5 million	$11.1 million
Arctic Slope	1,433	550	476	$7.1 million	74	$8.6 million	$15.8 million
Bering Straits	1,790	1,194	602	$9.0 million	592	$68.7 million	$77.8 million
Bristol Bay	2,146	828	802	$12.0 million	27	$3.1 million	$15.1 million
Calista	4,186	2,846	1,611	$24.2 million	1,235	$143.3 million	$167.5 million
Chugach	3,373	776	709	$10.6 million	67	$7.7 million	$18.4 million
Cook Inlet	24,719	1,310	1,249	$18.7 million	62	$7.1 million	$25.9 million
Doyon	19,064	9,742	8,027	$120.4 million	1,715	$198.9 million	$319.3 million
Koniag	3,903	1,323	1,192	$17.9 million	131	$15.2 million	$33.1 million
NANA	1,197	898	466	$7.0 million	432	$50.1 million	$57.1 million
Sealaska	6,464	1,694	1,512	$22.7 million	181	$21.0 million	$43.7 million
Total	**75,517**	**22,062**	**17,489**	**$262,335 million**	**4,573**	**$530.4 million**	**$792.8 million**

[5] This table is based on a table from the 1991 Housing Needs Assessment with costs rounded to the nearest 10th of a million for the sake of ease in reading.

Housing Need by Native Region

AHTNA

The Ahtna region is located in South-central Alaska. The geography of the region includes the Copper River Basin and the Wrangell Mountains. The Mentasta and Nutzotin Mountains provide the northeastern border, along with the Alaska Range in the North, the Talkeetna Mountains in the west, and the Chugach Mountains in the south. Ahtna, Inc. headquarters are in Glennallen. The region's economy boomed during the building of the Trans-Alaska Pipeline, but has had little substantial economic activity since the decline of oil prices in the mid 1980s. The regional housing authority in the Ahtna Region is Copper River Basin Regional Housing Authority.

According to the 2000 Census the population of the Ahtna region was 3,674 people.

- 17 percent of the population was Alaska Native
- 83 percent of the population was non-Native

Native region	Estimated total # households 2005	Residents/ household unit - 2000	Residents/ household unit - 1990	Percent change residents/ household	Number of household units - 2000	Number of household units - 1990	Percent change number of household units
Ahtna	2,771	2.49	2.58	(3.49)	2,728	2,714	0.52

The 2005 Housing Assessment estimates current housing stock at 2,771 units, an increase of 43 units since the 2000 Census. The number of residents per household decreased 3.5 percent between 1990 and 2000.

2005 Survey data	Mean square feet per house	Median square feet per house	Average residents per household	Average square feet per resident based on mean
Ahtna	1,502	1,100	2.71	554

In 2005 the mean square footage per house in the Ahtna region is 1,502 with a median of 1,100. This is up from an average 808 square feet per house reported in the 1991 assessment. During this same 14 year time period, average square foot per resident increased from 312 to 554.

	Estimated total number of households		Households with 150 square feet or less/ resident - %		Households with 200 square feet/ resident - %		Households with more than 300 square feet per resident - %	
	1991	2005	1991	2005	1991	2005	1991	2005
Ahtna	843	2,771	22	5	36	8	51	80

The percentage of households with 200 square feet or less per resident has decreased from 36 percent in 1991 to 7.5 percent in 2005. Households with greater than 300 square feet per resident increased from 51 percent to almost 80 percent of homes.

	1988 Study			2005 Survey		
	Houses 0–10 yrs - %	**Houses 11–20 yrs - %**	**Houses 21 yrs or more - %**	**Houses 0–10 yrs - %**	**Houses 11 - 20 yrs - %**	**Houses 21 yrs or more - %**
Ahtna	21.5	41.5	37.0	12.3	36.6	51.2

As a percentage of total housing stock:

- Houses 0 to 10 years old decreased 9.2 percent;
- Houses between 11 and 20 years old declined 4.9 percent; and
- Houses more than 20 years old increased 14.2 percent.

We estimate a need for 334 new housing units in the Ahtna region. One hundred thirty-six of these units would serve to replace existing substandard housing, an additional 208 units are needed to alleviate overcrowded conditions. Ten units were subtracted as duplicates for a total of 334 new units. In addition to the construction of new units there is an estimated 67 households that are in need of major repair that the owner/resident is unable to make. Without intervention and major repair, many of these units will fall in to the category of needing replacement.

Forty-six percent of households in the Ahtna region have annual income at or below $30,000. This figure is 1.5 times the statewide average. Ahtna region also has a high rate of homes with no running water, 17 percent versus the statewide 10 percent. Most other household variables are not significantly different from statewide averages.

ALEUT

The Aleut region is composed of southwest Alaska, including the Alaska Peninsula, Aleutian Islands, Pribilof Islands, and Shumagin Islands. Major industries include commercial fishing and service and tourism-based industries. The regional housing authority in the Aleut Region is the Aleutian Housing Authority.

The population in the Aleut region according to the 2000 census was 8,162 people.

- 27 percent of the population was Alaska Native
- 73 percent of the population was non-Native

Native region	Estimated total # house-holds 2005	Residents/ household unit - 2000	Residents/ household unit - 1990	Percent change residents/ household	Number of household units - 2000	Number of household units - 1990	Percent change number household units
Aleut	2,992	2.6	3.01	(13.62)	2,957	2,742	7.84

The 2005 Housing Assessment estimates current housing stock at 2,992 households, an increase of 250 units since the 2000 Census. The number of residents per household decreased 13.6 percent between 1990 and 2000.

2005 Survey data	Mean square feet per house	Median square feet per house	Average residents per household	Average square feet per resident based on mean
Aleut	1,355	1,152	2.94	461

Mean square footage per house in 2005 is 1,355 with a median of 1,152. This is a decrease from the average square feet per house of 1,411 reported in the 1991 Housing Assessment. Like total house size, the average square foot per resident was slightly higher in 1991, at 517 square feet per resident. The Aleut region is one of the few in the state that saw a decrease in total house size and square feet per resident. It is important to note however that the 2005 numbers continue to come in above average and well within standard levels.

	Estimated total number of households		Households with 150 square feet or less/ resident - %		Households with 200 square feet or less/ resident - %		Households with more than 300 square feet per resident - %	
	1991	2005	1991	2005	1991	2005	1991	2005
Aleut	4,399	2,992	7	3.7	14	9	74	74.4

The number of households with 200 square feet or less per resident decreased from 14 to 9 percent of total households between 1991 and 2005. During this same period the percent of households with 150 to 300 square feet per resident increased from 19 to 22 percent.

	1988 Study			2005 Survey		
	Houses 0–10 yrs - %	Houses 11–20 yrs - %	Houses 21 yrs or more - %	Houses 0–10 yrs - %	Houses 11 - 20 yrs - %	Houses 21 yrs or more - %
Aleut	51.7	23.5	24.7	17.6	23.1	59.3

As a percentage of total housing stock:

- Houses 0 to 10 years old decreased 34.1 percent;
- Houses between 11 and 20 years old remained relatively steady moving from 23.5 to 23.1 percent; and
- Houses more than 20 years old increased 34.6 percent.

We estimate a need for 318 new housing units in the Aleut region. There are an estimated 278 households that have 200 square feet or less per resident and 54 units that are in need of replacement due to the condition of the home. There are 14 duplicates in this group for an end total estimated need of 318 units. In addition to the new units, there is a need for major repair on 287 units. Without intervention and major repair, many of these units will fall in to the category of needing replacement.

The Aleut region has a significantly lower percent of total households with low income than the state average. Only three percent of households in Aleut region have income at or below $30,000 annually, the state average is just under 34 percent. Aleut region also has a substantially lower portion of households with no running water, 3.6 percent compared to10 percent state average.

ARCTIC SLOPE

The Arctic Slope Regional Corporation lands lie north of the Brooks Range to the Arctic Ocean, with headquarters in Barrow. The primary industry within the Arctic Slope Region is oil exploration and development. The primary employer in the Arctic Slope Regional Corporation is the North Slope Borough. The regional housing authority in the Arctic Slope Region is Tagiugmiullu Nunamiullu (TNHA).

The population of the Arctic Slope Region according to the 2000 census was 7,385.

- 69 percent of the population was Alaska Native
- 31 percent of the population was non-Native

Native region	Estimated total # households 2005	Residents/ household unit - 2000	Residents/ household unit - 1990	Percent change residents/ household	Number of household units - 2000	Number of household units - 1990	Percent change number of household units
Arctic Slope	2,578	3.44	3.44	0.00	2,538	2,154	17.83

The 2005 Housing Assessment estimates current housing stock at 2,578 units, an increase of 40 units since the 2000 census. The number of residents per household did not change from 1990 to 2000.

2005 Survey data	Mean square feet per house	Median square feet per house	Average residents per household	Average square feet per resident based on mean
Arctic Slope	1,443	1,300	3.44	419

Mean square footage per house in 2005 is 1,443 with a median of 1,300. This is an increase from the average square feet per house of 1,229 reported in the 1991 Housing Assessment. The average square feet per resident was lower in 1991, at 281 square feet per resident. Overall, housing in the Arctic Slope region has gotten bigger while the number of resident per household has remained the same.

	Estimated total number of households		Households with 150 square feet or less/ resident - %		Households with 200 square feet or less/ resident - %		Households with more than 300 square feet per resident - %	
	1991	2005	1991	2005	1991	2005	1991	2005
Arctic Slope	1,433	2,578	18	7	38	16	43	76

Households with 200 square feet or less per resident decreased as a percentage of total households from 38 percent in 1991 to 16 percent in 2005. Households with more than 300 square feet per resident increased from 43 to more than 75 percent of homes.

	1988 Study			2005 Survey		
	Houses 0–10 yrs - %	Houses 11–20 yrs - %	Houses 21 yrs or more - %	Houses 0–10 yrs - %	Houses 11 - 20 yrs - %	Houses 21 yrs or more - %
Arctic Slope	78.3	14.1	6.5	19.6	35.7	44.6

As a percentage of total housing stock:

- Houses 0 to 10 years old decreased 58.7 percent;
- Houses between 11 and 20 years old increased 21.6 percent; and
- Houses more than 20 years old increased 38.1 percent.

We estimate a need for 399 new housing units in the Arctic Slope region. There are an estimated 420 households that have 200 square feet or less per resident. There are an estimated 21 units that are in need of replacement due to the condition of the home. In addition to the new units, there is a need for major repair on 178 units. Without intervention and major repair, many of these units will fall in to the category of needing replacement.

Arctic Slope region has a very low portion of households, only 2.5 percent, with earnings less than or equal to $30,000 annually. A significantly higher than the statewide average percent (58.6) of households indicated their homes were drafty. Given the number of households reporting that they were drafty, a surprisingly low 22 percent of homes indicated they had difficulty maintaining temperature during the winter. These findings are consistent with the relationship between maintaining temperature and household income. It may be very cold on the North Slope but the combination of access to natural gas in some areas and high income make maintaining temperature more feasible.

According to the NSB 2003 Economic Profile and Census Report the cost of heating a home dramatically increases once outside Barrow. In 2003 the cost of heating a home in Barrow averaged $96 per month, in Koktovik the average was $256 and in Point Hope it was $219. Communities outside Barrow do not yet have access to natural gas although Nuiqsut is expected to eventually switch over. Costs are increasing throughout the region, including in Barrow.

BERING STRAITS

The Bering Straits Native Corporation region lies on the west coast of Alaska, encompassing the Seward Peninsula and the eastern part of Norton Sound. There is little in terms of industry in the Bering Straits region, and full time, year round jobs are scarce; the economy is based on subsistence. The regional housing authority for the Bering Straits Region is the Bering Straits Regional Housing Authority.

The population of the Bering Straits Region according to the 2000 census was 9,196.

- 74 percent of the population was Alaska Native
- 26 percent of the population was non-Native

Native region	Estimated total # households 2005	Residents/ household unit - 2000	Residents/ household unit - 1990	Percent change residents/ household	Number of household units - 2000	Number of household units - 1990	Percent change household units
Bering Straits	3,719	3.34	3.41	(2.05)	3,649	3,684	(0.95)

The 2005 Housing Assessment estimates current housing stock at 3,719 units, an increase of 70 units since the 2000 census. According to the U.S. Census there was actually a decrease in the number of households between 1990 and 2000. The number of residents per household decreased 2 percent between 1990 and 2000.

2005 Survey data	Mean square feet per house	Median square feet per house	Average residents per household	Average square feet per resident based on mean
Bering Straits	991	900	3.95	251

Mean square footage per house in 2005 is 991 with a median of 900. This is an increase from the average square feet per house of 650 reported in the 1991 Housing Assessment. The average square feet per resident was lower in 1991, at 137 square feet per resident but continues to be low relative to the rest of the state, at an average of 251 square feet per resident.

	Estimated total number of households		Households with 150 square feet or less/ resident - %		Households with 200 square feet or less/ resident - %		Households with more than 300 square feet per resident - %	
	1991	2005	1991	2005	1991	2005	1991	2005
Bering Straits	1,790	3,719	67	16	67	26	33	51

Households with 150 square feet or less per resident have decreased as a percentage of total households from 67 percent in 1991 to 16.2 percent in 2005. Households with less than 200 square feet per resident have decreased significantly as well, going from 67 percent of total households in 1991 to 26 percent in 2005.

	1988 Study			2005 Survey		
	Houses 0–10 yrs - %	Houses 11–20 yrs - %	Houses 21 yrs or more - %	Houses 0–10 yrs - %	Houses 11 - 20 yrs - %	Houses 21 yrs or more - %
Bering Straits	28.4	53.3	18.4	22.2	11.1	66.7

As a percentage of total housing stock:

- Houses 0 to 10 years old decreased 6.2 percent;
- Houses between 11 and 20 years old increased 42.2 percent; and
- Houses more than 20 years old increased 48.3 percent.

We estimate a need for 1,060 new housing units in the Bering Straits region. There are an estimated 979 households that have 200 square feet or less per resident. There are 130 units that are in need of replacement due to the condition of the home. There are 49 duplicates that were subtracted for a total of 1,060 new units needed. In addition to the new units, there is a need for major repair on 785 units. Without intervention and major repair, many of these units will fall in to the category of needing replacement.

Just over 40 percent of homes in the Bering Straits region have income at or below $30,000, higher than the statewide average of just under 34 percent. Average square feet per resident is substantially lower in Bering Straits region than the state average and the percentage of homes with no running water is more than double the state average. In addition, Bering Straits region also has a significantly higher percent of homes reported drafty.

BRISTOL BAY

The Bristol Bay Native Corporation is located 150 miles southwest of Anchorage and east of the Aleut region. Commercial fishing is the main industry in the area; government and transportation services also help comprise the economy. The regional housing authority for the Bristol Bay Region is the Bristol Bay Housing Authority.

The population of the Bristol Bay Region according to the 2000 census was 7,875.

- 67 percent of the population was Alaska Native
- 33 percent of the population was non-Native

Native region	Estimated total # house-holds 2005	Residents/ household unit - 2000	Residents/ household unit - 1990	Percent change residents/ household	Number of household units - 2000	Number of household units - 1990	Percent change household units
Bristol Bay	4,738	3.08	3.19	(3.45)	4,716	3,204	47.19

The 2005 Housing Assessment estimates current housing stock at 4,738 units, an increase of 22 units since the 2000 census. The number of residents per household decreased 3.5 percent between 1990 and 2000.

2005 Survey data	Mean square feet per house	Median square feet per house	Average residents per household	Average square feet per resident based on mean
Bristol Bay	1,384	1,200	3.21	431

Mean square feet per house in 2005 is 1,384 with a median of 1,200. This is roughly the same as the average 1,303 square feet reported in the 1991 Housing Assessment. The average square feet per resident was slightly lower in 1991, at 401 square feet per resident.

	Estimated total number of households		Households with 150 square feet or less/ resident - %		Households with 200 square feet or less/ resident - %		Households with more than 300 square feet per resident - %	
	1991	2005	1991	2005	1991	2005	1991	2005
Bristol Bay	2,146	4,738	5	10	39	15	53	70

Households with 150 square feet or less per resident have increased as a percentage of total households from 5 percent in 1991 to 10.2 percent in 2005. Households with less than 200 square feet per resident have decreased, going from 39 percent of total households in 1991 to 15 percent in 2005.

	1988 Study			2005 Survey		
	Houses 0–10 yrs - %	Houses 11–20 yrs - %	Houses 21 yrs or more - %	Houses 0–10 yrs - %	Houses 11 - 20 yrs - %	Houses 21 yrs or more - %
Bristol Bay	32.2	30.5	37.3	14.8	28.4	56.8

As a percentage of total housing stock:

- Houses 0 to 10 years old decreased 17.4 percent;
- Houses between 11 and 20 years old decreased 2.1 percent; and
- Houses more than 20 years old increased 19.5 percent.

We estimate a need for 883 new housing units in the Bristol Bay region. There are an estimated 711 households that have 200 square feet or less per resident. There are 208 units that are in need of replacement due to the condition of the home. There are 36 duplicates that were subtracted for a total of 883 new units needed. In addition to the new units, there is a need for major repair on 682 units. Without intervention and major repair, many of these units will fall in to the category of needing replacement.

The percentage of households with no running water is lower in the Bristol Bay region at 5.5 percent than the statewide average of 10 percent. Households are also better able to maintain temperature, with just under 18 percent reporting difficulty, compared to the statewide average of 26 percent.

CALISTA

The Calista Corporation also lies in southwest Alaska, encompassing the Yukon-Kuskokwim River Delta and the Kuskokwim Mountains. The main industry in Calista is commercial fishing. Many people rely on subsistence, and there are a limited number of year round, full time positions in government and transportation services. The regional housing authority for the Calista Region is the AVCP Housing Authority.

The population of the Calista Region according to the 2000 census was 13,943.

- 85 percent of the population was Alaska Native
- 15 percent of the population was non-Native

Native region	Estimated total # house-holds 2005	Residents/ household unit - 2000	Residents/ household unit - 1990	Percent change residents/ household	Number of household units - 2000	Number of household units - 1990	Percent change household units
Calista	7,536	3.91	3.86	1.30	7,238	6,228	16.22

The 2005 Housing Assessment estimates current housing stock at 7,536 units, an increase of 298 units since the 2000 census. The number of residents per household increased 1.3 percent between 1990 and 2000.

2005 Survey data	Mean square feet per house	Median square feet per house	Average residents per household	Average square feet per resident based on mean
Calista	1,048	1,000	4.95	212

Mean square feet per house in 2005 is 1,048 with a median of 1,000. This is significantly higher than the average 661 square feet house size reported in the 1991 Housing Assessment. The average square feet per resident was also lower in 1991, at 146 square feet per resident.

	Estimated total number of households		Households with 150 square feet or less/ resident - %		Households with 200 square feet or less/ resident - %		Households with more than 300 square feet per resident - %	
	1991	2005	1991	2005	1991	2005	1991	2005
Calista	4,186	7,536	49	31	68	43	20	34

Households with 150 square feet or less per resident decreased as a percentage of total households from 49 percent in 1991 to 31 percent in 2005. Households with less than 200 square feet per resident have decreased, going from 68 percent of total households in 1991 to 43 percent in 2005.

	1988 Study			2005 Survey		
	Houses 0–10 yrs - %	Houses 11–20 yrs - %	Houses 21 yrs or more - %	Houses 0–10 yrs - %	Houses 11 - 20 yrs - %	Houses 21 yrs or more - %
Calista	38.3	38.3	23.5	22.6	18.3	59.1

As a percentage of total housing stock:

- Houses 0 to 10 years old decreased 15.7 percent;
- Houses between 11 and 20 years old decreased 20 percent; and
- Houses more than 20 years old increased 35.6 percent.

We estimate a need for 3,581 new housing units in the Calista region. There are an estimated 3,320 households that have 200 square feet or less per resident. There are 512 units that are in need of replacement due to the condition of the home. There are 161 duplicates that were subtracted for a total of 3,581 new units needed. In addition to the new units, there is a need for major repair on 1,802 units. Without intervention and major repair, many of these units will fall in to the category of needing replacement.

The Calista region has several indicators of housing condition as well as demographic characteristics that are significantly different from statewide averages. Sixty-two percent of households in this region have incomes at or below $30,000 annually, compared to the statewide average of 34 percent. Three times the proportion of homes in Calista region are without running water than statewide. Mean household size is 2/3 of the state average and the square feet per resident is fully half the state average.

COOK INLET

The Cook Inlet Region is in South-central Alaska, with its southern boundaries near Iliamna Lake and Seldovia, extending north past Anchorage. Industry in the Cook Inlet region is diverse, ranging from the state's commerce center in Anchorage to commercial fishing, tourism, mining and oil activity. The regional housing authority in the Cook Inlet Region is the Cook Inlet Housing Authority.

The population of the Cook Inlet Region according to the 2000 census was 364,225.

- 7 percent of the population was Alaska Native
- 93 percent of the population was non-Native

Native region	Estimated total # households 2005	Residents/ household unit - 2000	Residents/ household unit – 1990	Percent change residents/ household	Number of household units - 2000	Number of household units - 1990	Percent change household units
Cook Inlet	164,158	2.69	2.72	(1.10)	150,026	132,266	13.43

The 2005 Housing Assessment estimates current housing stock at 164,158 units, an increase of 14,132 units since the 2000 census. The number of residents per household decreased 1.1 percent from 1990 to 2000.

2005 Survey data	Mean square feet per house	Median square feet per house	Average residents per household	Average square feet per resident based on mean
Cook Inlet	1,732	1,700	2.70	641

Mean square feet per house in 2005 is 1,732 with a median of 1,700. This is actually slightly lower than the average 1,885 square feet house size reported in the 1991 Housing Assessment. The average square feet per resident was also slightly lower in 1991, at 616 square feet per resident.

	Estimated total number of households		Households with 150 square feet or less/ resident - %		Households with 200 square feet or less/ resident - %		Households with more than 300 square feet per resident - %	
	1991	2005	1991	2005	1991	2005	1991	2005
Cook Inlet	24,719	164,158	2	4	5	5	88	91

Households with 150 square feet or less per resident have increased slightly as a percentage of total households from 2 percent in 1991 to 3.8 percent in 2005. Households with less than 200 square feet per resident saw almost no change. This lack of change is explained by the fact that the 1991 survey was based on a sample that did not include the large urban population in the Cook Inlet Region.

	1988 Study			2005 Survey		
	Houses 0–10 yrs - %	Houses 11–20 yrs - %	Houses 21 yrs or more - %	Houses 0–10 yrs - %	Houses 11 - 20 yrs - %	Houses 21 yrs or more - %
Cook Inlet	48.5	21.4	30.1	21.1	21.9	57.0

As a percentage of total housing stock:

- Houses 0 to 10 years old decreased 27.4 percent;
- Houses between 11 and 20 years old decreased 0.5 percent; and
- Houses more than 20 years old increased 26.9 percent.

We estimate a need for 8,739 new housing units in the Cook Inlet region. There are an estimated 7,817 households that have 200 square feet or less per resident. There are 1,313 units that are in need of replacement due to the condition of the home. There are 391 duplicates that were subtracted for a total of 8,739 new units needed. In addition to the new units, there is a need for major repair on 10,014 units. Without intervention and major repair, many of these units will fall in to the category of needing replacement.

Cook Inlet region boasts larger than average size homes with 20 percent more square feet per resident than the state average. There is also a low incidence of households with no running water, 2.5 percent regionally and 10 percent statewide. Fewer households in the Cook Inlet, 19 percent, report trouble maintaining temperature, than the statewide figure of 26 percent.

CHUGACH

The Chugach Alaska Corporation region also lies in South-central Alaska, with Prince William Sound at its center. Industry in the area includes oil, transportation, fishing and government. The regional housing authority in the Chugach Region is the North Pacific Rim Housing Authority.

The population of the Chugach Region according to the 2000 census was 12,134.

- 14percent of the population was Alaska Native
- 86 percent of the population was non-Native

Native region	Estimated total # house-holds 2005	Residents/ household unit - 2000	Residents/ household unit - 1990	Percent change residents/ household	Number of household units - 2000	Number of household units - 1990	Percent change household units
Chugach	5,369	2.56	2.71	(5.54)	5,293	4,860	8.91

The 2005 Housing Assessment estimates current housing stock at 5,369 units, an increase of 76 units since the 2000 census. The number of residents per household decreased 5.5 percent from 1990 to 2000.

2005 Survey data	Mean square feet per house	Median square feet per house	Average residents per household	Average square feet per resident based on mean
Chugach	1,771	1,500	2.96	598

Mean square feet per house in 2005 is 1,771 with a median of 1,500. This number is lower than the average 1,996 square feet house size reported in the 1991 Housing Assessment. The average square feet per resident was also slightly lower in 1991, at 589 square feet per resident.

	Estimated total number of households		Households with 150 square feet or less/ resident - %		Households with 200 square feet or less/ resident - %		Households with more than 300 square feet per resident - %	
	1991	2005	1991	2005	1991	2005	1991	2005
Chugach	3,373	5,369	10	0	2	2	55	84

Households with 150 square feet or less per resident have decreased as a percentage of total households from 10 percent in 1991 to 0 percent in 2005. Households with less than 200 square feet per resident remained constant at just over 2 percent in each time period.

	1988 Study			2005 Survey		
	Houses 0–10 yrs - %	Houses 11–20 yrs - %	Houses 21 yrs or more - %	Houses 0–10 yrs - %	Houses 11 - 20 yrs - %	Houses 21 yrs or more - %
Chugach	50.4	20.7	28.8	26.6	31.3	52.1

As a percentage of total housing stock:

- Houses 0 to 10 years old decreased 23.8 percent;
- Houses between 11 and 20 years old increased 10.6 percent; and
- Houses more than 20 years old increased 23.3 percent.

We estimate a need for 124 new housing units in the Chugach region. There are an estimated 131 units with less than 200 square feet per resident and an estimated 7 duplicates. There is a need for major repair on 107 units. Without intervention and major repair, many of these units will fall in to the category of needing replacement.

Chugach region has the largest mean house size in the state at 1,771 square feet. Square feet per resident is 20 percent higher than the state average at 641 square feet per person. There were too few survey respondents indicating a lack of running water to make a reliable estimate. Households with low income are fewer in the Chugach region, as are homes that have difficulty maintaining temperature.

DOYON

Doyon, Limited is the largest private landowner in Alaska and one of the largest in the United States. The Doyon region stretches from the Brooks Range to the Alaska Range and from the Alaska/Canada border to Norton Sound on Alaska's west coast, with headquarters in Fairbanks. Major industries in this region include tourism and mining. The regional housing authority in Doyon Region is the Interior Regional Housing Authority.

The population of the Doyon Region according to the 2000 census was 97,169.

- 11 percent of the population was Alaska Native
- 89 percent of the population was non-Native

Native region	Estimated total # households 2005	Residents/ household unit - 2000	Residents/ household unit - 1990	Percent change residents/ household	Number of household units - 2000	Number of household units - 1990	Percent change household units
Doyon	43,009	2.69	2.78	(3.24)	41,618	39,783	4.61

The 2005 Housing Assessment estimates current housing stock at 43,009 units, an increase of 1,391 units since the 2000 census. The number of residents per household decreased 3.2 percent from 1990 to 2000.

2005 Survey data	Mean square feet per house	Median square feet per house	Average residents per household	Average square feet per resident based on mean
Doyon	1,539	1,200	2.80	550

Mean square feet per house in 2005 is 1,539 with a median of 1,200. This number is higher than the average 686 square feet house size reported in the 1991 Housing Assessment. The average square feet per resident was much lower 1991, at 223 square feet per resident.

	Estimated total number of households		Households with 150 square feet or less/ resident - %		Households with 200 square feet or less/ resident - %		Households with more than 300 square feet per resident - %	
	1991	2005	1991	2005	1991	2005	1991	2005
Doyon	19,064	43,009	32	4	51	13	28	73

Households with 150 square feet or less per resident have decreased significantly as a percentage of total households from 32 percent in 1991 to 4 percent in 2005. Households with less than 200 square feet per resident have also decreased, going from 51 percent of total households in 1991 to 13 percent in 2005. This dramatic shift may be explained by the 1991 survey exclusion of the large urban center in the Doyon region.

	1988 Study			2005 Survey		
	Houses 0–10 yrs - %	Houses 11–20 yrs - %	Houses 21 yrs or more - %	Houses 0–10 yrs - %	Houses 11 - 20 yrs - %	Houses 21 yrs or more - %
Doyon	40.3	34.9	24.8	16.9	22.1	61.0

As a percentage of total housing stock:

- Houses 0 to 10 years old decreased 23.4 percent;
- Houses between 11 and 20 years old decreased 12.8 percent; and
- Houses more than 20 years old increased 36.2 percent.

We estimate a need for 6,923 new housing units in the Doyon region. There are an estimated 5,794 households that have 200 square feet or less per resident. There are 1,419 units that are in need of replacement due to the condition of the home. There are 290 duplicates that were subtracted for a total of 6,923 new units needed. In addition to the new units, there is a need for major repair on 3,226 units. Without intervention and major repair, many of these units will fall in to the category of needing replacement.

Findings from the Doyon region do not vary significantly form state average in most areas. The main difference being that households within the Doyon region are without running water 1.8 times as often as they are statewide.

KONIAG

The Koniag, Inc. Native region is composed of Kodiak Island and a small portion of land on the eastern coast of the Alaska Peninsula. The main industry in the area is commercial fishing. The regional housing authority in the Koniag Region is the Kodiak Island Housing Authority.

The population of the Koniag Region according to the 2000 census was 13,913.

- 14 percent of the population was Alaska Native
- 86 percent of the population was non-Native

Native region	Estimated total # house-holds 2005	Residents/ household unit - 2000	Residents/ household unit – 1990	Percent change residents/ household	Number of household units - 2000	Number of household units - 1990	Percent change household units
Koniag	5,436	3.06	3.03	0.99	5,164	4,890	5.60

The 2005 Housing Assessment estimates current housing stock at 5,436 units, an increase of 546 units since the 2000 census. The number of residents per household increased less than one percent from 1990 to 2000.

2005 Survey data	Mean square feet per house	Median square feet per house	Average residents per household	Average square feet per resident based on mean
Koniag	1,755	1,615	3.05	575

Mean square feet per house in 2005 is 1,755 with a median of 1,615. This number is higher than the average 982 square feet house size reported in the 1991 Housing Assessment. The average square feet per resident was much lower 1991, at 271 square feet per resident.

	Estimated total number of households		Households with 150 square feet or less/ resident - %		Households with 200 square feet or less/ resident - %		Households with more than 300 square feet per resident - %	
	1991	2005	1991	2005	1991	2005	1991	2005
Koniag	3,903	5,436	14	4	34	8	41	77

Households with 150 square feet or less per resident have decreased significantly as a percentage of total households from 14 percent in 1991 to 4.2 percent in 2005. Households with less than 200 square feet per resident have also decreased, going from 34 percent of total households in 1991 to 8 percent in 2005.

	1988 Study			2005 Survey		
	Houses 0–10 yrs - %	Houses 11–20 yrs - %	Houses 21 yrs or more - %	Houses 0–10 yrs - %	Houses 11 - 20 yrs - %	Houses 21 yrs or more - %
Koniag	37.9	41.1	21.0	19.7	21.1	59.2

As a percentage of total housing stock:

- Houses 0 to 10 years old decreased 18.2 percent;
- Houses between 11 and 20 years old decreased 20 percent; and
- Houses more than 20 years old increased 38.2 percent.

We estimate a need for 409 new housing units in the Koniag region. There are an estimated 431 households that have 200 square feet or less per resident. There are 22 duplicates and no units that are in need of replacement due to the condition of the home. In addition to the new units, there is a need for major repair on 294 units. Without intervention and major repair, many of these units will fall in to the category of needing replacement.

Koniag region had too few respondents indicating a lack of running water to make reliable estimates. Mean house size was higher than the state average. Most other housing characteristics and demographic household data was in keeping with state averages.

NANA

The NANA region is located in northwest Alaska, just west of the Kotzebue Sound. Most of the land is above the Arctic Circle. There is little industry in the NANA region; people rely on subsistence as well as schools and a few government jobs for cash income. The regional housing authority in the NANA Region is the Northwest Inupiat Housing Authority.

The population of the NANA Region according to the 2000 census was 7,208.

- 82 percent of the population was Alaska Native
- 18 percent of the population was non-Native

Native region	Estimated total # households 2005	Residents/ household unit - 2000	Residents/ household unit - 1990	Percent change residents/ household	Number of household units - 2000	Number of household units - 1990	Percent change household units
NANA	2,713	3.87	3.96	(2.27)	2,540	1,998	27.13

The 2005 Housing Assessment estimates current housing stock at 2,713 units, an increase of 173 units since the 2000 census. The number of residents per household decreased 2.3 percent between 1990 and 2000.

2005 Survey data	Mean square feet per house	Median square feet per house	Average residents per household	Average square feet per resident based on mean
NANA	1,256	1,000	4.39	286

Mean square feet per house in 2005 is 1,256 with a median of 1,000. This number is higher than the average 731 square feet house size reported in the 1991 Housing Assessment. The average square feet per resident was lower in 1991, at 138 square feet per resident.

	Estimated total number of households		Households with 150 square feet or less/ resident - %		Households with 200 square feet or less/ resident - %		Households with more than 300 square feet per resident - %	
	1991	2005	1991	2005	1991	2005	1991	2005
NANA	1,197	2,713	52	20	75	30	14	54

Households with 150 square feet or less per resident have decreased significantly as a percentage of total households from 52 percent in 1991 to 19.5 percent in 2005. Households with less than 200 square feet per resident have also decreased, going from 75 percent of total households in 1991 to 30 percent in 2005.

	1988 Study			2005 Survey		
	Houses 0–10 yrs - %	Houses 11–20 yrs - %	Houses 21 yrs or more - %	Houses 0–10 yrs - %	Houses 11 - 20 yrs - %	Houses 21 yrs or more - %
NANA	43.8	42.7	13.4	24.5	15.1	60.4

As a percentage of total housing stock:

- Houses 0 to 10 years old decreased 19.3 percent;
- Houses between 11 and 20 years old decreased 27.6 percent; and
- Houses more than 20 years old increased 47 percent.

We estimate a need for 883 new housing units in the NANA region. There are an estimated 826 households that have 200 square feet or less per resident. There are 98 units that are in need of replacement due to the condition of the home. There are 41 duplicates that were subtracted for a total of 883 new units needed. In addition to the new units, there is a need for major repair on 388 units. Without intervention and major repair, many of these units will fall in to the category of needing replacement.

A larger portion of households, 45 percent, within the NANA region has earnings at or below $30,000 per year. Houses are significantly smaller than the state average, as is square feet per resident. Households are 1.5 times more likely to have trouble maintaining temperature and more than half, 58 percent, report being drafty.

SEALASKA

The Sealaska Corporation encompasses the southeast portion of Alaska including the urban areas of Juneau and Sitka. The main industries in Sealaska are tourism, government and fishing. The regional housing authority in Sealaska Region is the Tlingit-Haida Housing Authority.

The population of the Sealaska Region according to the 2000 census was 71,510.

- 16 percent of the population was Alaska Native
- 84 percent of the population was non-Native

Native region	Estimated total # house-holds 2005	Residents/ household unit - 2000	Residents/ household unit - 1990	Percent change residents/ household	Number of household units - 2000	Number of household units - 1990	Percent change household units
Sealaska	33,099	2.58	3.72	(30.65)	31,949	27,556	0.52

The 2005 Housing Assessment estimates current housing stock at 33,099 units, an increase of 1,150 units since the 2000 census. The number of residents per household decreased nearly 31 percent between 1990 and 2000.

2005 Survey data	Mean square feet per house	Median square feet per house	Average residents per household	Average square feet per resident based on mean
Sealaska	1,641	1,500	2.88	570

Mean square feet per house in 2005 is 1,641 with a median of 1,500. This number is pretty much the same as the average 1,509 square feet house size reported in the 1991 Housing Assessment. The average square feet per resident was lower in 1991, at 408 square feet per resident.

	Estimated total number of households		Households with 150 square feet or less/ resident - %		Households with 200 square feet or less/ resident - %		Households with more than 300 square feet per resident - %	
	1991	2005	1991	2005	1991	2005	1991	2005
Sealaska	6,464	33,099	13	3	26	5	59	83

Households with 150 square feet or less per resident have decreased significantly as a percentage of total households from 13 percent in 1991 to 2.9 percent in 2005. Households with less than 200 square feet per resident have also decreased, going from 26 percent of total households in 1991 to 5 percent in 2005. The large jump can be explained by the exclusion of the large urban center in the Sealaska region in the 1991 survey.

	1988 Study			2005 Survey		
	Houses 0–10 yrs - %	Houses 11–20 yrs - %	Houses 21 yrs or more - %	Houses 0–10 yrs - %	Houses 11 - 20 yrs - %	Houses 21 yrs or more - %
Sealaska	21.4	31.0	47.6	21.8	17.3	60.9

As a percentage of total housing stock:

- Houses 0 to 10 years old increased 0.4 percent;
- Houses between 11 and 20 years old decreased 13.7 percent; and
- Houses more than 20 years old increased 13.3 percent.

We estimate a need for 2,119 new housing units in the Sealaska region. There are an estimated 1,568 households that have 200 square feet or less per resident. There are 629 units that are in need of replacement due to the condition of the home. There are 78 duplicates that were subtracted for a total of 2,119 new units needed. In addition to the new units, there is a need for major repair on 2,913 units. Without intervention and major repair, many of these units will fall in to the category of needing replacement.

Sealaska has a lower than average, 27.7 percent, portion of households earning at or below $30,000 per year. The homes in this region are slightly larger than average and the people per household is lower leading to 20 percent more square feet per resident than the statewide average. There is a very low percent of homes without running water, less than two percent regionally compared to 10 percent statewide.

Weatherization

The Alaska Housing Finance Corporation operates a weatherization program for low-income households. Low-income households are defined as those having at or below 60 percent of median income. The objective of this program is to increase the energy efficiency of housing units owned or occupied by low-income individuals. By increasing the energy efficiency of a home the cost burden of energy is decreased, an issue that takes on progressively greater importance as the cost of fuel and other energies continues to rise.

According to Oak Ridge National Laboratories, weatherization can decrease energy bills an average of 23 percent. In Alaska, savings are also seen in the costs of running village generators and reducing requirements for Power Cost Equalization funding. In addition to increasing energy efficiency, weatherization can address mildew and mold problems that plague many households in Alaska causing serious health concerns particularly for children and the elderly. The following list details allowable activities under the weatherization program.

May 2005 compliance supplement

1) Caulking and weather stripping of doors and windows; and advanced air sealing of the building envelope;
2) Furnace efficiency modifications including:
    a. Replacement burners designed to substantially increase energy efficiency of the heating system;
    b. Devices for minimizing energy loss through heating system, chimney or venting system; and
    c. Electrical or mechanical furnace ignition systems which replace standing gas pilot lights.
3) Programmable thermostats;
4) Ceiling, attic, wall, floor, and duct insulation;
5) Water heater insulation and replacement;
6) Storm windows and doors, multi glazed windows and doors, heat absorbing or heat-reflective window and door materials; and
7) The following insulation or energy conserving devices or technologies:
    a. Skirting;
    b. Items to improve ventilation;
    c. Vapor barriers;
    d. Materials used as a patch to reduce infiltration through the building envelope;
    e. Water flow controllers

f. Movable insulation systems for windows

g. Materials to construct vestibules;

h. Pipe and boiler insulation;

i. Heat exchanger;

j. Thermostat control systems;

k. Replacement windows and doors;

l. Materials used for water heater modifications which will result in improved energy efficiency;

m. Hot water heat pumps;

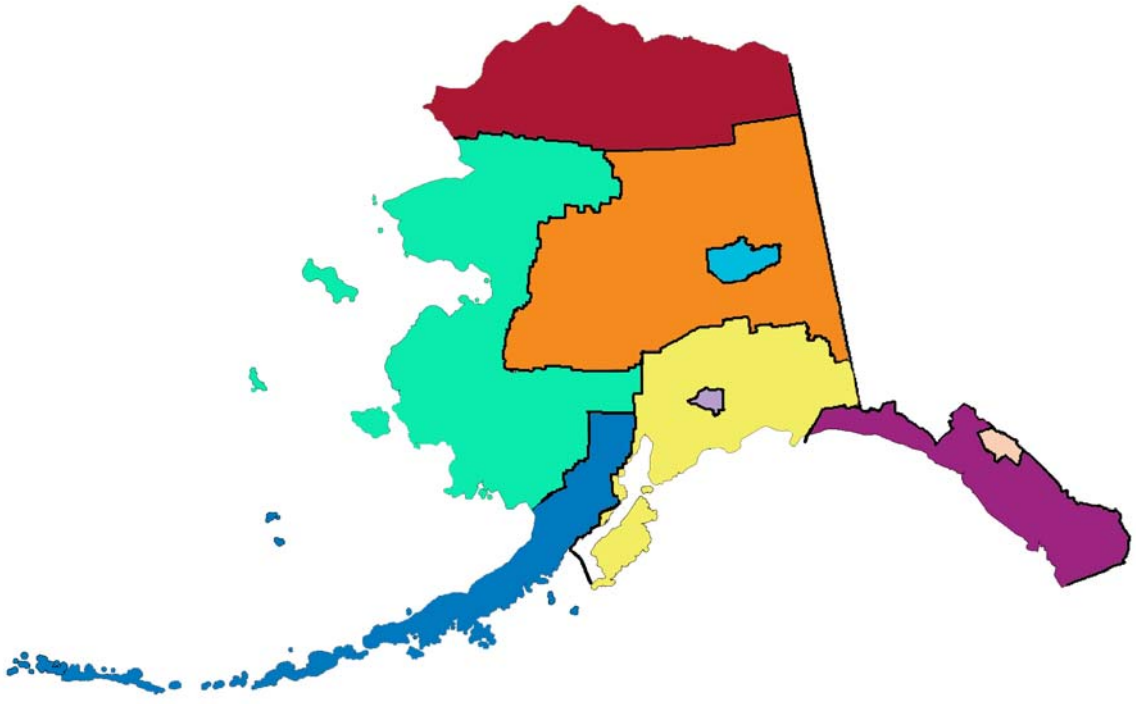
n. Waste heat recovery devices;

o. Materials used for heating and cooling system repairs and modifications which will result in improved energy efficiency;

p. Materials used for boiler repair and modifications which will result in improved energy efficiency;

q. Repairs or replacement of refrigerators, water heaters, lighting equipment and other electrical efficiency equipment;

r. Other items approved by the Department (Check with departmental staff for additional items).[6]

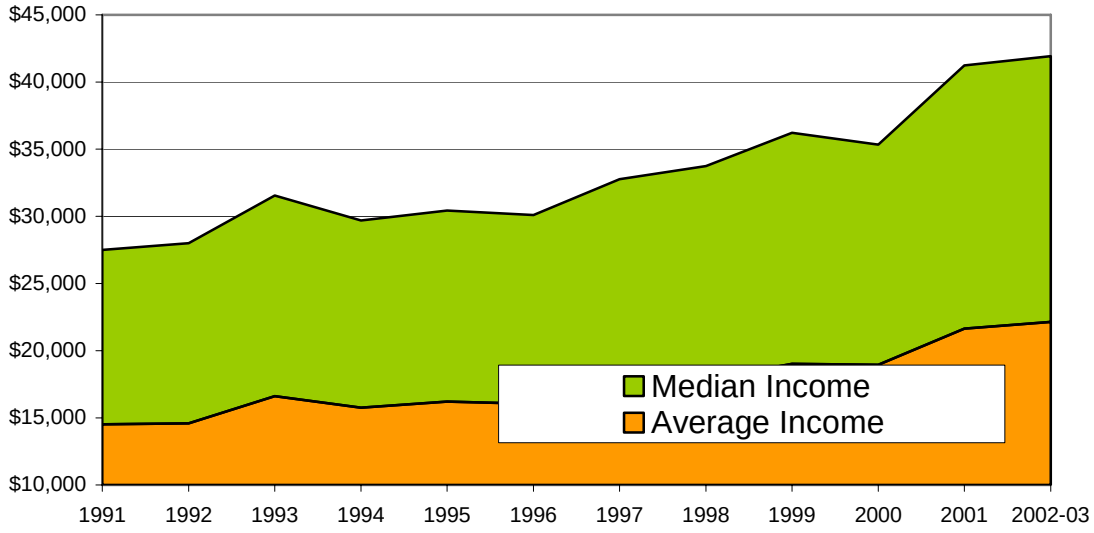


Weatherization Regions

[6] 10 CFR 440.16, 15 AAC 155.470

According to the 1991 Housing Needs Assessment Study, between program inception in the 1970s and 1991 a total of 19,882 housing units had received state and federal government low income weatherization services. It was estimated that this number represented roughly 8.5 percent of all housing units statewide. The 1988 Rural Housing Needs Assessment reported that 18,345 rural households could not maintain a 70-degree temperature during winter. More than 85 percent of these households were reported to have annual incomes of less than $25,000 with more than 75 percent of them falling below the $15,000 level.

Table 38. Income of households receiving weatherization services

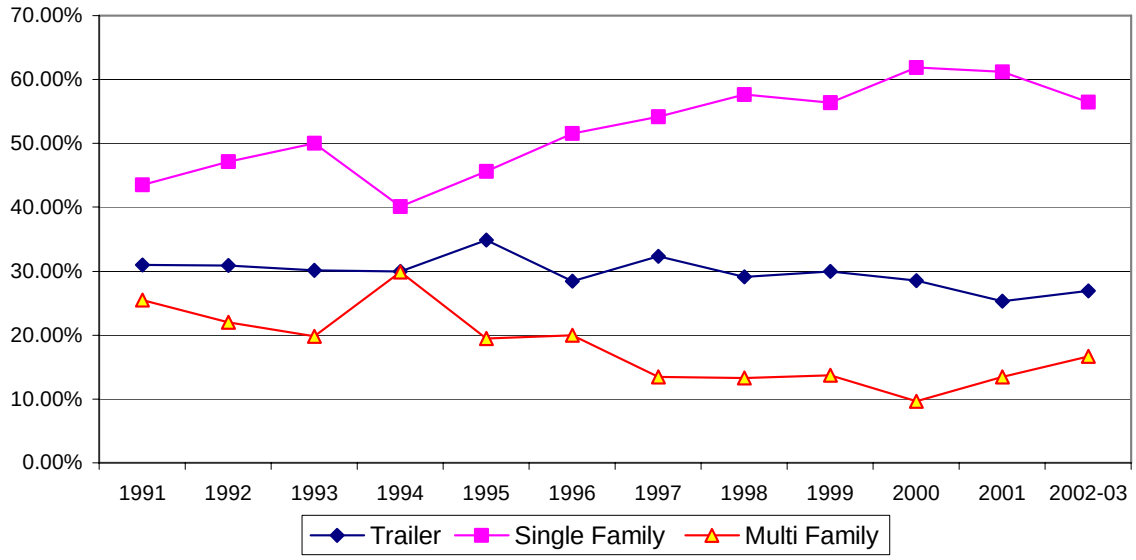


Between calendar year 1991 and 2003 (the last year for which we had complete data), the weatherization program has provided services to 13,716 units. Just over 70 percent of the units serviced were occupied by the owner of the unit. Slightly less than 30 percent of units serviced were occupied by a renter.

Table 39. Types of homes receiving weatherization services

	Owner occupied	Renter occupied	Trailer	Multi- family unit	Single-family unit
Totals 1991 to 2003	71.5%	28.8%	30.1%	18.9%	51.0%

Table 40. Type of dwelling serviced by weatherization program 1991 to 2003

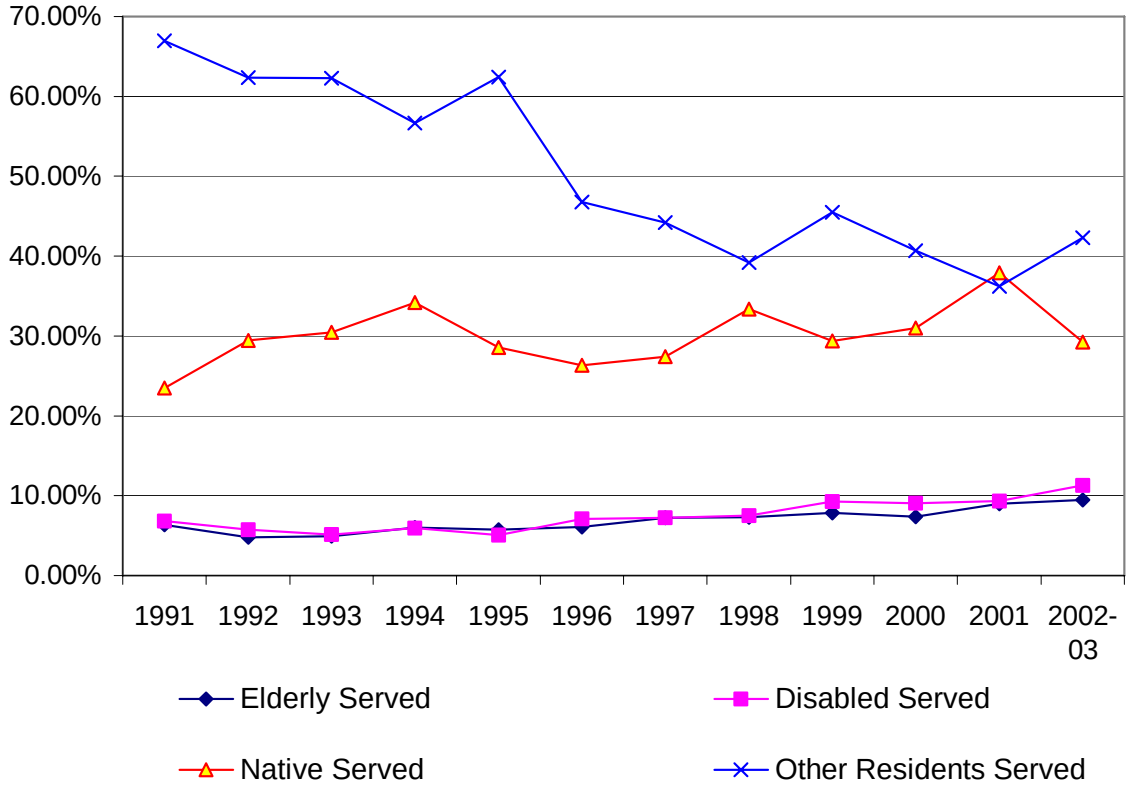


The distribution of funds between the three primary types of dwellings, trailers, single and multi-family units, has not changed dramatically over the last decade. The proportion of funding used for trailers reached a high of 34.9 percent in 1995 and a low of 25.3 percent in 2001. Single-family units receive the majority of weatherization services with a high of 61.9 percent of all units served in 2000 and a low of 40.2 percent in 1994. Fluctuation in the proportion of funding of services to multi-family units is more dramatic, with a high of 29.8 percent in 1994 and a low of 9.6 percent in 2000.

In 1991 the average cost per month for home heating was reported to be $167; for Native household these costs were $192 per month, higher than any other group. The 2005 survey found that 59 percent of respondents paid $150 or more, with 44 percent reporting bills of more than $200. Current oil prices have driven the cost of home heating to unmanageable levels in some rural communities. In the Bering Straits and NANA regions 63 percent of respondents indicated that they paid more than $200 per month for home heating.

Between 1991 and 2003, 42 percent of residents of households receiving weatherization services were children. Just under 31 percent of household residents receiving weatherization services were Alaska Native/American Indian. Elderly people comprised 21 percent of weatherization households, and people who experienced a disability made up 7.5 percent of residents receiving services. The majority of weatherization service recipients were low-income, non-Native, non-disabled people of working age.

Table 41. Residents served by weatherization program



Funding for the program fell from $7 million to just over $3 million between 1984 and 1990. In 1991 funding began to increase, reaching a high of nearly $8.5 million in 1997.

Table 42. Weatherization program budgets

	1984	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**
Budget Total **($ Millions)**	$ 7.0	$ 8.0	$ 4.0	$ 4.0	$3.8	$4.2	$3.0
	1991	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**
Budget Total **($ Millions)**	$4.2	$6.2	$7.2	$7.4	$7.7	$7.3	$8.4
	1998	**1999**	**2000**	**2001**	**2002**[7]	**2003**	
Budget Total **($ Millions)**	$5.6	$6.3	$3.6	$4.9	$5.7	$5.7	

At the time of the 2000 Census, the number of people at or below 60 percent of median income was roughly 30 percent of the state's population. This translates to 78,293

[7] Budget for 2002 and 2003 was reported together as $11,352,000 and averaged over the two years for the purposes of this report and for comparing funding levels to previous years.

households and 188,080 people. Not all of these people reside in homes that are in need of weatherization services but many do. According to the 2005 survey, 68 percent of households with less than $10,000 annual income report having homes that are drafty, defined here as wind blowing through windows, door or floor. Fifty-eight percent of homes with household incomes less than $30,000 per year reported the same problem. If we assume these households would benefit from weatherization services, the numbers indicate that 45,543 lower-income potentially eligible homes in Alaska are in need.

The increase in the number of potentially eligible homes reflects a rise in the number of homes that are income eligible. It is unknown how many of these homes are actually in need of weatherization services and it is unlikely that all of them would be. The 1991 housing assessment reported 50.9 percent of households having wind coming in around doors and windows and one third of households with ice build-up inside their homes. Estimates for numbers of potential homes eligible and in need of weatherization services was roughly 33,000.

Certain regions of the state have a higher level of need for assistance than others. In the NANA and Calista regions more than half of households surveyed indicated that they get ice build-up inside their homes. More than half of NANA and Calista residents also reported that the wind came through their windows, door or floor. Not surprisingly, these regions also have the largest proportion of household earnings of $30,000 or less per year – 44.6 percent of households in NANA region and 62 percent of households in the Calista region have earnings of $30,000 per year or less.

The price of fuel is one factor that may be playing a heavy role in the ability of rural Alaskans to keep their homes comfortably warm during the winter. Skyrocketing fuel costs affect not only the ability of people to keep their homes warm during the winter, but it also threatens their ability to continue to afford housing. Forty-five percent of survey respondents indicated they had difficulty keeping their homes warm during the winter had annual household incomes of less than $10,000 per year. With such limited income, high variability in the price of heating fuel has dramatic effects.

There is an increasing awareness about energy efficiency in homebuilding and a growing knowledge of construction methods tailored to match the many climates that exist in Alaska. The introduction of the Five Star energy rating system has helped to increase production of energy efficient units. Middle and upper income people own most of the units now; over time there will be more of these units on the market, increasing their affordability.

Ivan Moore Research (IMR) conducted a survey of Four Plus and Five Star plus homes to evaluate satisfaction level and understanding of the homeowners in February 2001. Moore randomly selected 1,520 energy efficient housing units from within three energy rated classifications – Four Star Plus, Five Star and Five Star Plus. Results indicate that people have a high level of satisfaction with energy efficient housing.

Key findings include:

- Mean purchase date May 1999
- Mean purchase price of just over $200,000
- Just over 63 percent of respondents purchased an energy efficient home to enjoy lower utility rates

- Nearly 50 percent indicated they were motivated by a reduction in interest rates
- Only 4.5 percent of respondents reported being dissatisfied with their homes
- More than 60 percent of respondents actually received an interest rate reduction when purchasing their home
- Reasons for dissatisfaction included anticipated savings, durability and efficiency of homes falling short of expectation.
- 81.2 percent of respondents indicated that they would be very likely to purchase an energy efficient home again

Kaltag

The following tables illustrate the need for weatherization services in Alaska. Many of the services this program provides can help alleviate the problems of homes that are unable to maintain room temperature during winter months. Weatherization helps a home to hold heat more efficiently, increasing efficiency and decreasing the cost burden shouldered by the resident of the home.

The table below is based on percentages gathered in the 1988 study with 1990 census data applied. Estimates for percentage of households unable to maintain a 70 degree F temperature in the winter months are based on 2005 survey findings. A home's inability to maintain a comfortable temperature is one indication of a need for major repair.

Table 43. Reported estimates of households unable to maintain temperature: 1991

Native region	Estimated households, 1990	Households can't maintain 70 deg F 1990 - %	Households can't maintain 70 deg F 1990 - number
Ahtna	843	56.3%	475
Aleut	4,399	16.1%	708
Arctic Slope	1,433	37.0%	530
Bering Straits	1,790	66.9%	1,198
Bristol Bay	2,146	22.2%	476
Calista	4,186	41.2%	1,725
Chugach	3,373	15.3%	516
Cook Inlet	24,719	12.0%	2,966
Doyon	19,064	40.3%	7,683
Koniag	3,903	26.5%	1,034
NANA	1,197	72.1%	863
Sealaska	6,464	41.0%	2,650
Statewide	**73,517**	**28.3%**	**20,824**

The 1988 study showed that approximately six percent of households had one person or more move into their home during the winter that did not live with them during the summer. The 1991 study reported 5.2 percent of households had housing in which they could not live during the winter due to an inability to heat the home or for some other reason. The 2005 survey shows that 5.2 percent of households have someone move into their home during the winter that does not live with them during the summer.

In 1991, the NANA region reported the highest percentage of homes that were unable to maintain a comfortable room temperature. Cook Inlet region, at 12 percent, had the lowest reported percentage. In the 2005 survey, housing in the Calista region had the highest percentage of homes unable to maintain temperature. Cook Inlet continued to report the lowest percentage, with 5.3 percent.

Table 44. Estimate of households unable to maintain temperature: 2005

Native region	Estimated households	Households cannot maintain 70 deg F – due to all reasons	Households can't maintain 70 deg F due to condition of home	
	Number	Percent	Percent	Number
Ahtna	2,771	25.0	17.5	485
Aleut	2,992	27.2	14.0	419
Arctic Slope	2,578	22.0	11.9	307
Bering Straits	3,719	52.6	33.3	1,238
Bristol Bay	4,738	29.1	17.7	839
Calista	7,536	46.1	18.8	1,417
Chugach	5,369	16.0	6.0	322
Cook Inlet	164,158	19.1	5.3	8,700
Doyon	43,009	21.4	12.6	5,419
Koniag	5,436	21.6	9.5	516
NANA	2,713	35.7	25.0	678
Sealaska	33,099	21.2	12.4	4,104
Statewide	278,118			**24,445**

Residents of rural Alaska acutely feel rising fuel costs, where hefty transportation costs – which are themselves heavily influenced by the cost of fuel – add to the basic cost of a barrel of heating fuel. More than 28 percent of respondents who indicated they were unable to maintain a comfortable room temperature during the winter due to the condition of their home earned $10,000 per year or less. An additional 17.5 percent earned between $10,000 and $30,000 per year. In 45.8 percent of homes for which maintaining comfortable temperature was tied to housing condition, residents earned $30,000 per year or less.

Special Housing

The 2005 household survey asked if anyone in the home was in need of specialized housing. Specialized housing was defined by respondents as housing for the elderly, disabled, low income and tribal housing. The numbers reported below reflect those individuals that indicated they had a need for housing to accommodate an elderly

resident, someone with a physical disability and residents with a developmental disability.

The number of people indicating need for specialized housing in 2005 was lower than the number of people who indicated that they were in need of "other" housing in 1991. This is true for all categories reported on, including Native, non-Native, Urban and Rural. What is similar from 1991 to 2005 is that the proportion of people in need of "other" or "specialized" housing continues to be much higher in rural areas, 14.6 percent and 14.2 percent in 1991 and 2005 respectively. The consistently high percentage of households reporting need for alternative housing is an indication of a continuing shortage of housing for elderly and disabled people.

In 13.8 percent of households, respondents indicated their houses were set up so that someone with a physical disability could live there. The household survey requested information regarding home modifications made by residents to accommodate a person with a disability. Examples of such modifications included attaching wooden dowels to walls as handlebars and creating a wheelchair ramp with shipping pallets and plywood.

Table 45. Indication of need for specialized housing: 1991 and 2005

	All	Native	Non-Native	Urban	Rural
Not needing specialized housing					
1991	88.4%	76.1%	92.7%	92.9%	85.4%
2005	93.6%	88.3%	97.6%	94.7%	85.8%
Change	5.2%	12.2%	4.9%	1.8%	0.4%
One or more persons in need of specialized housing					
1991	11.6%	23.9%	7.3%	7.1%	14.6%
2005	6.4%	11.7%	2.4%	5.3%	14.2%
Change	(5.2%)	(12.2%)	(4.9%)	(1.8%)	(0.4%)

Statewide, 6.4 percent of households indicated a need for specialized housing. This percentage translates to 17,800 housing units needed.

Water

Utility status

According to the Village Safe Water Program 75 percent of rural houses had sanitation systems by the end of 2003, up from the roughly 40 percent in 1990.

Federal and state governments have spent more than $1 billion to provide adequate sanitation systems in rural Alaska. The majority of that spending has occurred since 1990, with $840 million spent between 1990 and 2003. The Alaska Department of Environmental Conservation estimates that 87 percent of all rural homes will have sanitation systems installed by 2007.

The 1990 estimates are based on percentages derived from the 1988 study. 2000 and 2004 estimates are based on percentages derived from the 2005 survey applied to census data and state demographer population estimates. In the 1988 study a home without a sewer system was defined as having flushable toilets but *not necessarily* suitable drinking water pumped into the house. The 2005 survey did not differentiate as most systems implemented currently include safe tap water if they include a flush toilet.

Table 46. Households with sanitation systems

Native region	1988 w/o sewer system	1990 est. number of households affected	2005 w/o sewer system	2005 est. number of households affected
Ahtna	61%	511	20%	554
Aleut	4%	185	4%	112
Arctic Slope	22%	321	9%	243
Bering Straits	78%	1,389	32%	1,183
Bristol Bay	30%	648	6%	275
Calista	98%	4,086	49%	3,671
Chugach	3%	115	2%	110
Cook Inlet	6%	1,384	2%	2,830
Doyon	70%	13,326	23%	9,775
Koniag	4%	152	0%	0
NANA	72%	857	12%	326
Sealaska	3%	181	2%	569
Statewide	**39%**	**28,745**	**10%**	**27,209**

It is difficult to track number of homes with sanitation systems in rural Alaska due to a lack of reliable data on the subject. There is no single clearinghouse or database tracking

all sanitation projects as well as all system failures. There are serious challenges to building sustainable sanitation systems in rural communities; for this reason some communities which have received sanitation funding and systems do not currently enjoy piped safe water.

We estimate 10 percent of homes statewide do not have running water. The region with the highest percentage of homes without running water – Calista – has an estimated 49 percent of households without running water. It is important to note that in 1988 an estimated of only two percent of households in the Calista region had running water and that the actual number of households without running water has also decreased, from 4,086 to 3,761. Doyon Region has the highest number – 9,775 – of homes estimated to be without running water. No survey respondents from the Koniag region indicated that they did not have running water in their homes. Due the nature of survey sampling it is possible that there are homes within that region that do not have running water but the survey is a good indication that they are few.

It is clear that progress has been made – all regions saw a decrease between 1988 and 2005 in the number of households without running water, with the exception of Aleut which remained constant. Statewide the estimated number of homes without running water decreased, despite a dramatic increase in the number of homes.

Alakanuk

On site home assessments

Alaska Works Partnership provided the on-site evaluations for the 2005 study. Alaska Works Partnership is a statewide nonprofit organization that represents Alaska's building and construction trade unions and their federally recognized apprenticeship programs. Alaska Works Partnership has well-developed relationships with regional Native corporations and individuals in the building trades in rural Alaska. During spring of this year, staff of Alaska Works provided Information Insights with 11 on-site home evaluations. These home evaluations were conducted by a skilled trades-person with the permission of the home's resident(s). The primary purpose of these assessments was to provide anecdotal or qualitative data that would supplement the quantitative data gathered through household surveys and existing data sources.

The survey instrument used for on-site surveys collected the same information as did the household surveys. There is often skepticism about survey respondent accuracy in self-reporting about a variety of things. It is true that for certain types of data self-reporting is not the most accurate data collection method. However, studies on the subject indicate that residents of homes are capable reporters when asked about the condition of their homes.

On-site assessments occurred in the Calista and Bristol Bay regions and in Lake and Peninsula and Wade Hampton census areas.

Table 47. On-site assessment of homes: Who was the builder?

	Native housing authority (regional/ local)	Private individual	Private contractor	Community and/or local government	Unknown
Number of Homes	3	4	0	1	3

Many of the homes built in rural Alaska today utilize some form of government assistance to lower the cost of to individuals. In many areas the regional Native housing authorities or Tribally Designated Housing Entities (TDHE) receiving NAHASDA funds are the primary builders of new units.

There is little in the way of activity by private contractors. A primary reason is that in many areas there is simply no market; housing authorities produce homes for their constituents and turn them over for well below the cost of construction.

All households visited heated their homes with oil or diesel. Some households used wood as a secondary heat source.

Eight of the eleven homes assessed were more than 20 years old, there were two new homes that were zero to five years old, slightly varying from the average found in the household survey.

Table 48. On site assessment: size of homes and residential characteristics

	Homes with children	Homes with elders	Homes with neither children nor elders	Average overall
Square feet per resident	171	409	377	306
Range	80 to 254	254 to 650	220 to 640	80 to 650
Average number of household residents	5	2.75	2	3.4
Range	4 to 7	2 to 5	2	2 to 7

Average number of bedrooms per home was 2.1 with a range of zero to three. Average number of household members was 3.4, with a range from two to seven. Average household members per bedroom were 1.5, with a range from 0.67 to 2.5. These findings are slightly different from those found in the telephone household survey, but they are relatively consistent when results are examined at the regional level.

All but a few of the homes visited were wood frame construction; the few that were not were log or pre-fabricated/modular units. None of the homes was accessible to people who experience a physical disability. There was one home in dire need of home modifications. The two residents of this home – both over 70 – need a wheelchair ramp. A makeshift ramp constructed with shipping pallets and homemade handrails is now in place but is not considered adequate.

Four of the homes visited had at least one broken window and a fifth home had windows that did not open. All but one home had some double pane windows but the older units were a combination of single and double pane glass, likely due to the replacement of single with double pane windows when they get broken.

Additional comments made by surveyors include:

- Inadequate roofing material is a problem for a number of homes that have roofing that is either; too old or an inappropriate material for the area.
- One house was described as a shack
- Children sleeping on the floor, on piles of blankets or clothes
- Ceiling tiles falling apart and potentially made of asbestos, judging by age
- Home in need of weatherization
- Elderly residents need assistance with home repair
- Health and safety of children is at risk resulting from poor housing conditions
- People should not be living in this structure