

ALASKA LEGISLATIVE COMMITTEES DO NOT

1987 HRLS SB 666 (HOUSING FILE)

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SOURCES OF FUNDS FOR HOMEOWNERSHIP IN STATE OF ALASKA 1976-1981
(Continued)

Source	1979					1978				
	Number Mortgage Held	Dollars Mortgage Held	Number Mortgage Purchase	Dollars Mortgage Purchase	Share of Mort. Pur. in State	Number Mortgage Held	Dollars Mortgage Held	Number Mortgage Purchase	Dollars Mortgage Purchase	Share of Mort. Pur. in State
State of Alaska										
Alaska Housing Finance CRA-Nonconforming Loans	9,013	496,600	2,940	189,967		6,616	336,648	2,004	117,799	
Veterans Loans			515	26,761				1,527	94,190	
Permanent Fund Pension Funds	3,480	221,000	720	61,200		2,373	178,000	694	59,000	
Municipal Housing Bonds			459	42,400						
Commercial Banks										
Single Family		175,500					201,100			
Mobile Homes		82,422					90,760			
Mutual Savings Banks		69,000					70,990			
Savings and Loan Credit Unions	4,656	230,735				4,259	241,988			
Federal Nat'l Mortgage Assoc.	6,302	363,865	820	70,468		5,976	319,883	1,811	142,047	
Fed. Home Loan Mort. Corp.	3,885		32*	37,171		3,742			60,355	
Bureau of Indian Affairs ^b			88	2,927				122	1,500	
Farmer's Home Administration			343	23,687				244	15,287	
Dept. Housing-Urban Develop. ^c			562	5,392				411	34,730	
Life Insurance Companies		6,200								
Total										

SOURCES OF FUNDS FOR HOMEOWNERSHIP IN STATE OF ALASKA 1976-1981

(Continued)

Source	1977					1976				
	Number Mortgage Held	Dollars Mortgage Held	Number Mortgage Purchase	Dollars Mortgage Purchase	Share of Mort. Pur. in State	Number Mortgage Held	Dollars Mortgage Held	Number Mortgage Purchase	Dollars Mortgage Purchase	Share of Mort. Pur. in State
State of Alaska										
Alaska Housing Finance CRA-Nonconforming Loans	4,923	248,900	2,448	122,665		3,756	147,800		52,888	
Veterans Loans Permanent Fund Pension Funds			1,139	56,886				849	43,121	
	1,813	136,000	687	58,400						
Municipal Housing Bonds										
Commercial Banks										
Single Family		197,500					176,200			
Mobile Homes		85,350					72,000			
Mutual Savings Banks		58,000					62,000			
Savings and Loan Credit Unions	5,235	237,653				4,909	204,423			
Federal Nat'l Mortgage Assoc.	4,842		744	44,921		4,182		701	39,592	
Fed. Home Loan Mort. Corp.	3,437			26,225		3,564				
Bureau of Indian Affairs ^b			89	1,291				60	2,482	
Farmer's Home Administration			219	14,464						
Dept. Housing-Urban Develop. ^c			323	24,108				216	17,633	
Life Insurance Companies										
Total										

SOURCES: Federal Deposit Insurance Corp.; Federal Home Loan Bank Board, Washington, D.C. and Seattle; Federal National Mortgage Assoc., Washington, D.C. and Los Angeles; Federal Home Loan Mortgage Corporation, Washington, D.C.; Department of Revenue, State of Alaska; State of Alaska Division of Loans and Veterans Affairs; Alaska Permanent Fund Corporation; National Credit Unions, Wisconsin; American Council of Life Insurance Companies; Department of Community and Regional Affairs, Housing Assistance Div.; Alaska Housing Finance Corporation; First Federal Savings and Loan Assoc.; U.S. Department of Housing and Urban Development; Bureau of Indian Affairs, and the U.S. Department of Agriculture, Farmers Home Administration.

purchase by the Pension Funds, but not by the other secondary lenders. Unlike FNMAE and FHLMC, the market for mortgages purchased by the Pension Funds was not altered by the initiation of the below-market interest rate programs.

The Department of Community and Regional Affairs Nonconforming Loan Program and the Rural and Mobile Home Loan Programs at AHFC are also mortgage purchase programs which do not use FNMAE guidelines. Mortgages purchased under these programs can be made on properties which, because of structural characteristics or location, would not qualify under FNMAE guidelines. Mortgage loans on properties such as these were, before the initiation of the loan programs, either held in the portfolio of state financial institutions, or the loans were never originated.

The state initiated a mobile home mortgage purchase program in 1980 which was turned over to AHFC with a portfolio of 200 loans worth approximately \$5,700,000. The mobile home loan program has been very active at AHFC, purchasing over 1,100 mortgages since the program began. Mobile home loans were, before the initiation of the state loan programs, held in the portfolios of the primary lenders in the state. For example, mobile home mortgages held by commercial banks in the state fell from \$82.5 million in 1979 to \$54.5 million in 1981.

Though the role of the national secondary lenders in Alaska effectively ended when the new state loan programs began in July 1980, the national share relative to the state's share of the secondary mortgage market has been decreasing for the last six years. In 1976, the two national secondary lenders held 53 percent, and the state held 47 percent of the mortgages in the secondary market. In 1980, the national lenders' share was 29 percent, and the state's share was 71 percent. The relative number of mortgages held by the state and the national lenders reversed themselves during the last six years even though the yearly number of mortgages purchased by the state and

the national secondary lenders did not change. The state, though, has been purchasing between 4,000 and 4,500 loans per year, and the national lenders have been purchasing approximately 1,200 per year (see Table 50).

While the state has been increasing its portfolio of mortgages, primary lenders in the state only increased their holdings of residential mortgages by \$43 million between 1976 and 1979. In 1976, savings and loan institutions, commercial banks, and mutual savings banks held, in residential mortgages, \$515 million, which climbed to \$605 million in 1978, then fell back to \$558 million in 1979, falling further to \$505 million in 1981.

During the same year that the below-market interest rate loan programs were initiated at AHFC, total secondary mortgage purchases by all buyers in the state fell by 20 percent, going from 5,850 in 1979 to 4,647 in 1980. Even though the new below-market interest rate programs of the state took away the market from the national secondary lenders (purchases fell from 1,250 in 1979 to 103 in 1980), the housing market was so inactive in 1980 that state purchases only rose by slightly more than 350.¹ (See Table 50.)

In 1981, however, housing markets in the state became very active (see previous section), and the number of mortgage purchases by state agencies almost doubled, going from 4,650 in 1980 to 8,850 in 1981. Although mortgage purchases by state agencies in 1981 were 112 percent greater than purchases in 1979, total mortgage purchases in Alaska by all secondary lenders increased by only 50 percent between 1979 and 1981.

¹Purchases at AHFC rose by a greater amount than total state purchases because the state's Veterans Loan Program was shifted to AHFC in 1980.

TABLE 50. NUMBER OF RESIDENTIAL MORTGAGES PURCHASED
BY SECONDARY LENDERS

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
National Secondary Lenders	1,200	2,600	1,250	103	0
Federal National Mortgage Association				'	
Federal Home Loan Mortgage Corporation					
State of Alaska	4,274	4,225	4,175	4,544	8,850
Alaska Housing Finance Corp.					
State Pension Funds					
Veterans Loan Program					
Non-Conforming Loan Program					
Permanent Fund					
Municipality of Anchorage			425		
Total Loans Purchased by Secondary Lenders	5,474	6,825	5,850	4,647	8,850

SOURCES: See sources, Table 48.

To sum up, the increase in loan purchases in 1981 by the state was due to the following factors: (a) loans were no longer purchased by national secondary lenders; (b) housing activity and total mortgage originations went from an unusually low year in 1980 to an unusually high one in 1981;² (c) AHFC loan purchases increased more rapidly than the state's involvement as a whole because the Veterans Loan Program (which had been purchasing as many as 1,500 mortgages per year) was turned over to AHFC; and (d) the state began to purchase mobile home mortgages.

The state's increasing participation in the purchase of residential mortgages has been funded by a combination of state funds and bond sales (see Table 51). During the last seven years, over one billion, two hundred and seventy million dollars of state funds have been allocated for the purpose of purchasing residential mortgages. Added to the state funds has been an additional \$1,720 million raised by the sale of bonds. The ratio of state funds to money raised by the sale of bonds has gone from 2.13 in 1976, down to 60 percent in 1979 and back to 58 percent in 1981. This ratio is expected to decrease still further to 45 percent in FY 1982 because AHFC has restructured its bond sales to be able to raise more bond dollars for each state dollar used. This increased leverage of state dollars will allow for an increase in the volume of mortgage purchases in FY 1982 for the same level of state funds.

During FY 1981, the state imported \$610 million from "out of state" sources for mortgage purchases through bond sales at AHFC. During the same period, state funds of \$353 million were directed into the purchase of residential mortgages. Of the total \$963 million, almost 92 percent was used for mortgage purchases through AHFC. The State Pension Funds, the Permanent Fund, and the Nonconforming Loan Program used the remaining \$80 million.

²Fifty percent higher than in 1979 and 30 percent higher than in 1978.

TABLE.51. STATE OF ALASKA FUNDS AND BOND SALES
FOR OWNER-OCCUPIED RESIDENTIAL MORTGAGES, 1976-1982

(millions)

	State Funds					Total State Funds	Bond Sales	Total Funds
	Veterans Program	Persion Funds	CRA	Permanent Fund	AHFC			
1976	43.0	58.0			.891	102	48	150
1977	56.9	58.4			14.41	130	80	210
1978	94.0	59.0			.995	154	182	336
1979	28.7	61.2			10.1	100	169	269
1980 ^b	4.8	62.4				7.2	39.4	106.6
1981 ^c		58.6	10 ^c	10.4	274	353	610 ^c	953
1982 (budget)		60.0 ^d	40 ^c		265	365	592 ^e	957
TOTAL	227.4	417.6	50	10.4	565.43	1,271	1,720.4	1,992.6

^a Rows may not sum due to rounding.

^b AHFC changed fiscal years from November 30th to June 30th.

^c For year ended June 30. ^d Projected for 1982.

^e 592 is bond ceiling, AHFC requesting additional 210.

The effects of the new loan programs at AHFC have been to substitute bond dollars for dollars raised through the national secondary lenders and to increase the importance of the state as a primary source of mortgage funds. Portfolios of primary lenders in the state were not altered significantly by the new loan programs; dollars invested in residential mortgages by primary lenders have been decreasing in constant value dollars for several years, however, especially with the high market interest rates of the past two years. Savings and loan institutions and mutual savings banks would probably have increased their holdings of residential mortgages during the last two years if the state purchase programs had not existed.

Homeowner equity was also substituted for state and bond dollars. Because of the reduced interest rates at AHFC during 1980 and 1981, homeowners who sold a home and bought another had an incentive to withdraw equity dollars and substitute borrowed money for their own. During the first twelve months of the program, the interest rates on the total amount borrowed were below current market interest rates, and, therefore, it would have benefited homebuyers to borrow as much as possible and use lower downpayments. Since June 1981, the interest rates at AHFC on amounts borrowed over \$90,000 have been higher than market rates, and, therefore, homeowners no longer have any added incentive to borrow more than \$90,000.

To estimate equity withdrawal, we took a sample from the Multiple Listings Service, Inc., of homes sold in Anchorage in the first three quarters of 1981. The average sales price was \$105,000, and the median homeowner equity was \$40,000. During this period, the median downpayment of persons financing homes through AHFC, who were also previous homeowners, was \$6,000. After allowing for selling and buying costs, the median withdrawal of equity per previous homeowner in Anchorage was \$24,000.

Slightly more than 4,000 previous homeowners financed homes through AHFC during the period from July 1980 through October 1981, and by using a more conservative figure of \$15,000 instead of \$24,000 to allow for lesser equity of homeowners outside of Anchorage, total withdrawal of owner equity equaled at least \$60 million.

The new loan programs caused substitution of state and bond dollars for dollars from FNMAE, FHLMC, and financial institutions in the state, and for equity dollars of homeowners. However, total mortgage demand would perhaps have been reduced by as much as one-half without the lower interest rates provided by the state loan programs.

Total home sales would have been reduced by approximately one-third (see previous section); assumptions would have increased to perhaps 20 percent of sales; and homeowners would have increased their equity financing, thereby reducing the total demand for mortgages.

CHAPTER SEVEN
COSTS TO STATE GOVERNMENT

During the sixteen-month period, July 1980 through October 1981, the State of Alaska appropriated approximately \$667.1 million in support of its mortgage loan programs. Of this total, approximately 43 percent (\$286.0 million) was in the form of transferred portfolio assets (primarily the Veterans Program mortgage portfolio), with the remaining 57 percent (\$381.12 million) in the form of appropriated funds (Table 52).

TABLE 52. ALASKA STATE GOVERNMENT APPROPRIATIONS
IN SUPPORT OF MORTGAGE LOAN PROGRAMS
JULY 1980 - OCTOBER 1981^a

	Total Appropriations (millions of dollars)		
	Cash	Portfolio of Assets	Total
<u>ANFC Programs</u>			
State Assisted Mortgage ^b	\$312.0	\$236.0	\$548.0
Home Ownership Assistance	2.5	50.0	52.5
Rural ^b	23.7 ^d		23.7
Mobile Home	18.5		18.5
<u>DCRA Programs</u>			
Nonconforming	24.4		24.4
TOTAL	\$381.1	\$286.0	\$667.1

^aIncludes FY 81 and one-third of FY 82 appropriations.

^bIncludes 1 percent veterans buy-down.

^cIncludes Rural Housing Mortgage Purchase and Rural Nonowner-Occupied Purchase Programs.

^dIncludes \$4.4 million in Rural Housing Bonds purchased by State of Alaska.

The State Assisted Mortgage Program received the largest share of these appropriations, approximately 82 percent, with \$236.0 million in assets and \$312 million in funds appropriated to it during the sixteen-month period. The Home Owner Assistance Program was appropriated \$52.5 million, with most of it (96 percent or \$50.0 million) being in the form of transferred portfolio assets. The two rural programs administered by AHFC and the one administered by DCRA, together, received \$48.1 million, all of it in the form of appropriated funds. (This amount includes \$4.4 million in rural housing bonds purchased by the State of Alaska.) The mobile home program was appropriated \$18.5 million, all of it in funds.

The state's appropriations in support of the mortgage loan programs, however, are not the same as the costs to the state. It is as if the state had appropriated funds to a single, special-purpose housing agency and that agency had done two things with its money. First, it used its funds to buy a collection of income-earning assets. Second, it used the value of its new assets to borrow against by going into debt (i.e., by taking out loans secured by the assets). If the agency were a profit-making organization, it would borrow at one rate and lend at a higher rate. The difference between the two rates would be its profit. This is how a commercial bank operates. It borrows at one rate (e.g., from its depositors) and lends at a higher, market rate of interest. The difference between what it pays its depositors in this example and what it receives from its loans is equal to its profit (after all operating costs are deducted).

Since our hypothetical housing agency was created to subsidize homeowner mortgages and not make a profit, it does just the reverse. It uses its appropriation to buy assets (i.e., homeowner mortgages) at a lower rate and borrows at a higher, market rate of interest. The difference between the market rate and the subsidized rate is the equivalent of a profit-making organization's "losses"; and the present value of these losses, over the lifetime of the loans, equals the cost of the hypothetical housing agency's program to the state.

The present value of the difference between the market interest rate at which the state borrows and the subsidized rate at which it lends is the minimum cost to the state of its housing programs. Actual appropriations required, however, are also affected by the efficiency with which the programs are managed. The more accurately the programs forecast their average life of loan or better control their cash flow, the smaller the appropriation required for each point of interest subsidized.

During the sixteen-month period, July 1980 to October 1981, the largest program was State Assisted Mortgages (accounting for about 85 percent of all mortgages purchases). Both its interest rate differential cost and appropriation requirements per point of interest subsidy showed significant changes. Table 53 illustrates the range of interest rate differentials experienced by this program during the sixteen-month period and how state costs were affected.

TABLE 53. STATE ASSISTED MORTGAGE PROGRAM COST
UNDER DIFFERENT INTEREST RATES
(Average Mortgage Amount of \$88,500
. And Life of Ten Years)

	<u>Interest Differential</u>	<u>Average Cost to State</u>
Sixteen-Month Average	4.18	\$17,800
Sixteen-Month High	7.036	26,400
Sixteen-Month Low	.25	1,300
Long-Term Average	3.00	12,900

SOURCE: Estimated by the Institute of Social and Economic Research.

The lowest interest rate differential during the sixteen-month period occurred as a result of the July 1980 bond sale. Federal law at that time allowed the issuance of tax-exempt state bonds to support housing programs. The subsidy was set at a rate of 10 percent for the first \$90,000 and the tax-exempt bonds went at 10.25 percent. To buy down the spread of 0.25 percentage points cost the state \$1,300 on an average mortgage of \$88,500. By October 1981, the situation had totally changed. The state was no longer allowed to issue tax-exempt bonds for housing programs, and AHFC had to compete in the general bond market, at market rates of interest, for its money. At the same time, national demands for funds, coupled with a restrictive monetary policy by the Federal Reserve Board, had pushed interest rates to an all-time high. The net result was that the state had to pay a 19.41 percent rate at its last bond sale. The subsidized rate was set at 12.375 percent (by a formula adopted by the legislature), and the interest differential had climbed to 7.036 percentage points. The costs to the state of buying down those 7.036 points for the same \$88,500 mortgage discussed earlier had climbed to \$26,400.

Over the sixteen-month period of the study, the average buydown was a differential of 4.18 points, at a cost of \$17,800 for an average \$88,500 mortgage. Under the formula adopted by the legislature, the interest rate differential will be adjusted over the next several bond sales until a stable spread of 3 points is reached. At this long-term rate spread, the average cost to the state of the buydown subsidy will be \$12,900 for an average value mortgage of \$88,500.¹

While the rise in the subsidized point spread was an increase in the costs to the state, AHFC was gaining experience improving its funds management and requiring lower appropriations for the buydown of each point of interest rate. Table 16, Chapter One, reports state appropriations as a percent of total funds for each percentage point buydown of the interest rate. Between the last half of 1980 and the last

¹An average loan life of ten years was used for all calculations.

half of 1981, the ratio fell by about 40 percent. This implies that AHFC can now operate at the same level, incurring the same costs and obligations as it did a year ago, with only about 60 percent of the appropriation level it then required.

Table 54 uses sixteen-month averages to compare the costs of Alaska's several mortgage purchase programs. As already discussed, the State Assisted Mortgage Program was largest in terms of both number of mortgages purchased (63 percent) and costs to the state (62 percent). The Veterans Program adds an additional point to the buydown; during the sixteen-month period, this increased state costs by about \$4,400 for each average \$88,500 mortgage purchased. This program accounted for about 19 percent of mortgages purchased and 23 percent of the total costs to the state.

The Home Owner Assistance Program is targeted toward the state's low-income population and offered the largest point buydown of any program, 9.05 percent. This resulted in the highest average cost to the state of each mortgage purchased: over \$26,000, even with an average mortgage value of only \$63,400. The size of the program, however, was small, and it accounted for only 7 percent of total mortgages purchased and 10 percent of total costs to the state.

The rural programs administered by AHFC and DCRA, together, account for about 4 percent of both total mortgages purchased and costs incurred by the state. The two agencies had different administrative procedures, however, and AHFC bought down rural mortgages by 6.3 points on the average, while DCRA bought them down by only 4.18 points. As a result, the buy-down cost of an average rural mortgage of \$68,000 was \$20,100 in the AHFC administered programs and \$13,600 in the DCRA administered program.

All together, the State of Alaska incurred about \$200 million in costs buying down the interest rates (by point spreads which varied by

TABLE 54. COST OF MORTGAGE PURCHASE PROGRAMS TO STATE OF ALASKA
JULY 1980 - OCTOBER 1981

	<u>Average Loan Amount^a</u>	<u>Average Interest Differential</u>	<u>Average Cost to State^b</u>	<u>Number of Loans</u>	<u>Total Cost to State (millions of dollars)</u>
<u>AHFC Programs</u>					
State-Assisted Mortgages	\$88,500	4.18%	\$17,800	6,988	\$124.4
Veterans Loans	88,500	5.18%	22,200	2,071	46.0
Home Ownership Assistance	63,400	9.05%	26,200	733	19.3
Mobile Homes	23,500	4.18%	4,800	891	4.3
Rural Housing ^c	68,000	6.3%	20,100	213	4.3
<u>DCRA Programs</u>					
Nonconforming Loans	68,000	4.18%	13,600	200	2.7
TOTAL				11,096	\$201.0

^aAverage life of mortgage assumed to be ten years.

^bDifferential interest cost only. No adjustment made for different residual principal values at end of mortgage life.

^cIncludes both Rural Housing Mortgage Purchase and Rural Nonowner-Occupied Purchase Programs.

SOURCE: Estimated by the Institute of Social and Economic Research.

program) over the sixteen month study period. As a result, approximately 11,000 households in the state purchased homes at less than market rate mortgage interest costs.

The present value of the interest subsidy to the homebuyer varied not with the size of the state's interest buydown, however, but with the differential between his mortgage rate and the mortgage rate available through private lending institutions. These values are given in Table 55.

The value to the homeowner of the interest subsidy under the State Assisted Mortgage Program during July 1980 was \$12,150; by June of 1981, the subsidy's value had climbed to \$25,600, after which it began declining under the formula adopted by the legislature. The present value of the subsidy to homebuyers is currently about \$17,000 (for an average mortgage amount of \$88,500) and will decline to a value of about \$13,000 when the stable buydown of three points mandated by the legislative formula is reached.

The cost to the state in July 1980 was only about \$1,300 for a homeowner's subsidy value of around \$12,150 on an average mortgage amount of \$88,500. The difference between the state's costs and the homebuyer's subsidy was the cost incurred by the federal government in giving tax-exempt status to the state's housing bonds. By the end of the study period, the tax-exempt status of housing bonds under federal law had been eliminated, and it cost the state about \$26,400 to produce a subsidy to homebuyers of about \$16,950. This occurred for several reasons. The removal of federal tax-exempt status from housing bonds increased state costs enormously since the state had to absorb the total costs of the interest rate buydown. At the same time, interest rates in national bond markets, where AHFC was obtaining its money, were reaching new highs.

TABLE 55. PRESENT VALUE OF INTEREST SUBSIDY TO HOMEBUYER^a

	<u>Average Loan Amount</u>	<u>Sixteen- Month Low</u>	<u>Sixteen- Month High</u>	<u>Sixteen- Month Avg.</u>
<u>AHFC</u>				
State Assisted Mortgage and Pledged Account Program	\$88,500	\$12,150	\$25,600	\$19,000
Veterans Loan Program	88,500	17,150	29,400	23,200
Home Ownership	63,400	21,050	28,850	26,900
Mobile Home	23,500	3,400	6,850	5,000
Rural Housing	68,000	14,000	23,400	21,000
<u>CRA</u>				
Nonconforming Loan	68,000	9,850	19,900	14,400

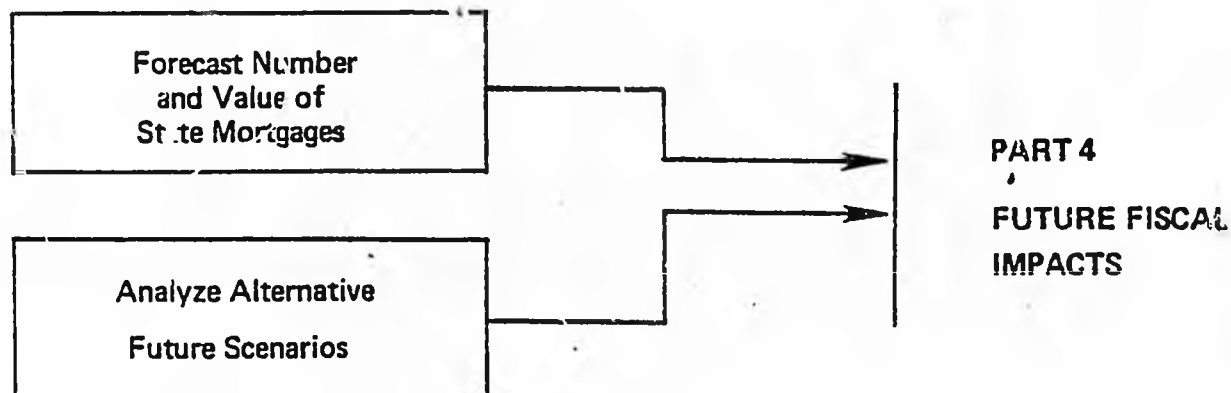
^aCalculated from the following:

- (1) Ten year mortgage
- (2) 7/80 FNMAE Rate - 12.807; AHFC Rate 10.0
- (3) 6/81 FNMAE Rate - 16.3; AHFC Rate 10.0
- (4) 10/81 FNMAE Rate - 16.5; AHFC Rate 12.375
- (5) 7/80 - 10/81 Average FNMAE Rate - 15.4; Average AHFC Rate - 10.88

SOURCE: Calculated by ISER.

This was a short-term phenomenon and could not persist. Subsequently, bond sales by AHFC under the new legislative formula began moving the State Assisted Mortgage Program to a stable buydown of three interest rate points. At that time, the value of the subsidy to homebuyers and the costs to the state should be about the same.

However, the cost to the state will always be determined by its cost of borrowing money, while the homeowners' subsidy will always be determined by the cost of borrowing money by other secondary mortgage institutions such as FNMAE. Because the national institutions have portfolios which are both larger and less geographically concentrated, they will probably be able to obtain funds at approximately three-quarters to a point lower than AHFC. This would imply a permanent difference of the cost of buying down three-quarters to one point between the present value of the subsidy to homebuyers and the program's cost to the state. If this occurs, it may become more efficient for the state to buydown the FNMAE rate than to intervene in the state's secondary markets directly.



The purpose of Part 4 is to assess future fiscal impacts in terms of the number and value of state mortgages and their implications for appropriations. This is done by using population, income, interest rate, and household size trends to project total future home sales and state mortgages for 1986 and 1980. After using these projections to illustrate potential state appropriation requirements, the volatility of the forecast to unforeseen national market shifts is discussed in terms of forecast ranges of probability. The analyses and findings are presented in the following chapter:

Chapter 8: The Fiscal Impact of Alaska's Housing Programs

CHAPTER EIGHT

THE LONG TERM FISCAL IMPACT OF ALASKA'S HOUSING PROGRAMS

Introduction

This chapter focuses on the long-term fiscal impacts of the state's housing programs. Up to this point in our study, we have described how the housing programs work and have assessed their effectiveness and how they directly and indirectly impact both the housing market and the financial markets which finance housing in Alaska. The chapter immediately preceding ascertained the costs the state bears as a result of operating these programs. Our task in this chapter is to draw upon this knowledge of how the state's housing programs currently affect the Alaska housing market and to project the fiscal demands the programs will impose upon the state over the next ten years should the programs continue as currently structured.

To prepare such a projection or even a range of projections is a most ambitious undertaking. It involves projecting not only future levels of economic activity in Alaska and the resulting population growth but also the formation of new households in Alaska, the future mix of housing choices (i.e., to rent or own a house, condominium, duplex, etc.), the future price and supply of housing, the abilities of people to buy the housing of their choice, and the share of the Alaska housing market the state's programs will finance. Obviously, substantial uncertainty afflicts each of these required projections and the results of our projections can only be interpreted with a full appreciation of these uncertainties. We make every effort to subject each projection to rigorous statistical tests and professional judgments. Nonetheless, the projections which follow can only be viewed as approximations of the magnitude and range of possible fiscal impacts the programs will impose upon the state over the next ten years.

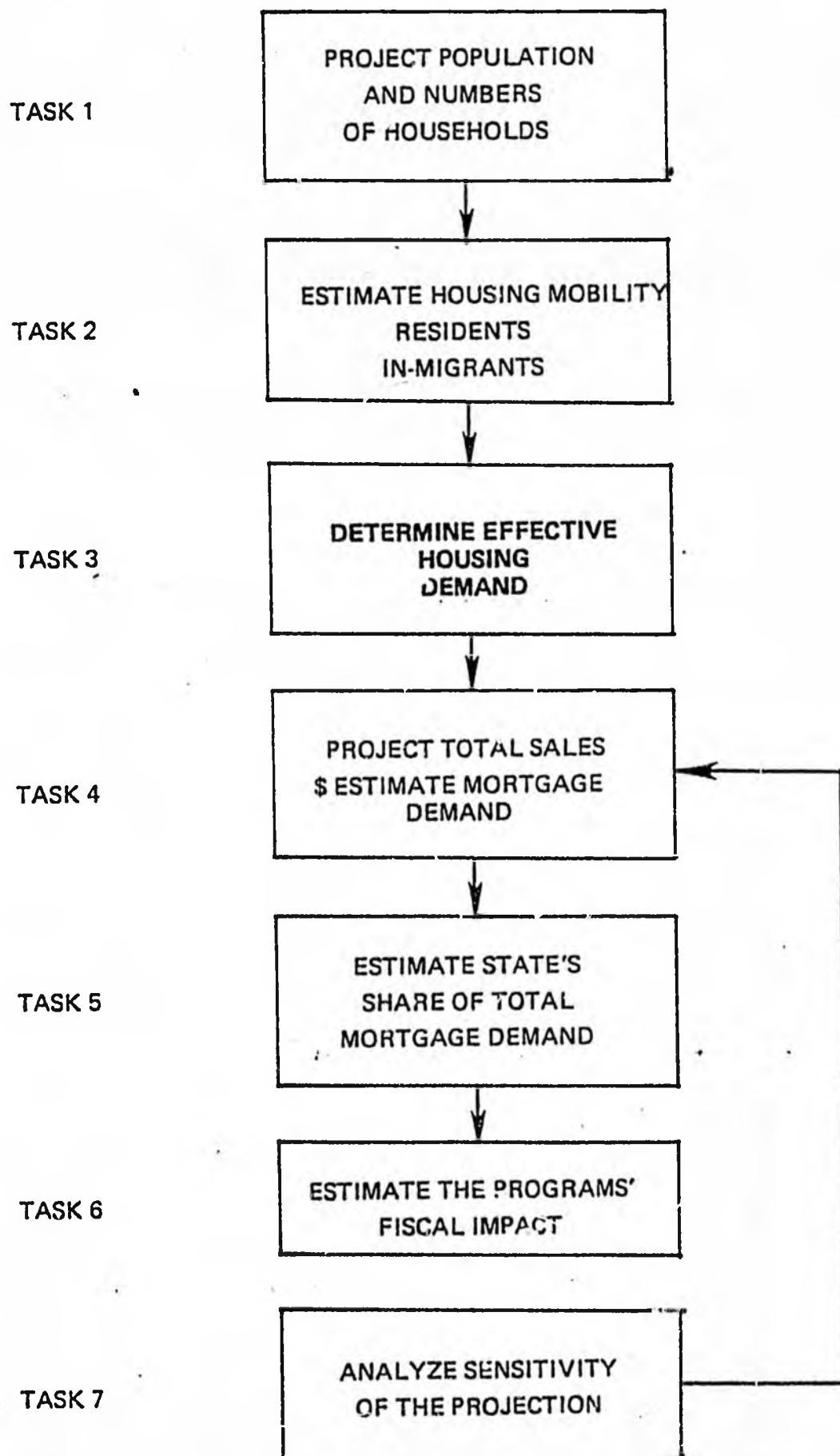
This admonition of precaution is not to suggest that the projections which follow are of no value. Quite to the contrary, we regard the approach employed as the most appropriate way the state can assess its financial liabilities. The methodology designed produces projections which systematically incorporate checks and balances and explicitly identifies each major variable and the assumptions on which it was constructed. If experience or better information proves these assumptions to be in error, the effect of the error on the final housing demand projection can be systematically traced and adjusted and a revised projection prepared.

Methodology

The principal task at hand is to project total mortgage demand in Alaska to 1990 and to estimate the market share state housing programs will finance and at what total cost to the state. Although the details of preparing the mortgage demand forecast and the fiscal impact assessment become somewhat technical, the logic required to produce them can be simplified and explained in a step-by-step sequence. Figure 6 displays the seven major tasks we have undertaken to produce our assessment of the fiscal impacts of the state's housing programs.

The first four tasks are essentially interdependent. For each year of the forecast, they address the questions: how many households are in Alaska; of those households, how many are likely to move or change their housing; what determines people's housing choices; and can people afford the housing of their choice. The fifth task examines the current condition of Alaska's housing market and the sources of housing finance and estimates (assuming current program policies persist) the market share the state's housing programs will underwrite. Based on the analysis of costs the program imposes on the state conducted in Chapter Seven, an estimate of the housing programs' total fiscal impact is then estimated. The final task analyzes how the projections would change if interest rates were to fluctuate.

FIGURE 6. A METHOD OF PROJECTING MORTGAGE DEMAND



Unfortunately, for us as researchers, the work required to perform each task shown in Figure 3 is not as simple as the above description might suggest. Unfortunately, for the reader, to understand the results of our analysis requires a more thorough explanation of how we actually performed each task, the assumptions we made, and the conclusions we reached. Hopefully, the following pages, once carefully read, will enable the reader to understand and critically judge our methods and the results we have produced.

Task 1: Project Population and the Number of Households

To be able to get to the point of projecting mortgage demand, we first need to be able to project the demand for housing, be it single-family, multifamily, a duplex, or mobile home. We do this by projecting population growth and composition and household formations. We assume each household needs shelter and, thereby, represents additional housing requirements. Subsequently, in Task 2, we separate housing demand into the demand for owner-occupied housing.

Table 56 presents two sets of projections of Alaska's population to the year 1990, each of which includes the projected number of households and the average household size. These projections were prepared by the Institute of Social and Economic Research through the use of its computer model of the Alaska economy, referred to as the MAP model. We selected a high and a low development scenario in an attempt to estimate the likely range of economic development which may occur in Alaska. Appendix A details the different economic assumptions which went into our low and high development cases.

The MAP model generates both economic and demographic data. Increases in economic activity in Alaska stimulate population immigration with concomitant effects on the state's population composition. Thus, Alaska's total population in 1990 under the high development case is projected to be 562,488 compared to 503,232 residents in the low development case, a difference of some 59,000 people and 20,000 households. The main difference between the two scenarios is

that the high development case assumes the construction of a natural gas pipeline, which explains the rapid increase in population growth from 1985 to 1987.

TABLE 56. PROJECTIONS OF ALASKA'S POPULATION AND NUMBER OF HOUSEHOLDS^a 1980-1990

	High Development Case			Low Development Case		
	Population	Households ^b	HH Size ^c	Population	Households ^b	HH Size ^c
1980	400,457	131,463	2.933	400,457	131,463	2.933
1981	412,395	135,789	2.926	410,320	135,229	2.924
1982	428,825	141,264	2.923	425,440	141,472	2.920
1983	444,492	147,015	2.918	436,268	144,728	2.908
1984	463,274	153,670	2.911	446,033	148,731	2.894
1985	498,151	164,912	2.921	460,344	153,936	2.886
1986	531,933	176,387	2.919	474,491	159,265	2.875
1987	545,304	182,636	2.892	482,066	163,074	2.854
1988	547,669	185,727	2.857	491,274	167,469	2.835
1989	558,208	190,980	2.833	498,962	171,419	2.815
1990	562,438	194,444	2.804	503,232	174,458	2.790

^aThe low case is created by subtracting an assumed Northwest Gasline impact from the railbelt low case. The high case is based on the moderate case in the railbelt study.

^bHousehold estimates are adjusted to reflect 1980 census results.

^cPeople in households per housing unit. Excludes persons in group quarters.

SOURCE: Alaska Economic Projections for Estimating Electricity Requirements for the Railbelt, Goldsmith and Porter, 1981.

In the high development case, housing demand increases on the average about 6,300 units per year in contrast to the low development case in which housing demand grows at approximately 4,300 units per year. Thus, while it is apparent that actual rate of economic growth will significantly affect housing demand in Alaska, we project housing demands to increase some 4,000 to 6,000 units per year.

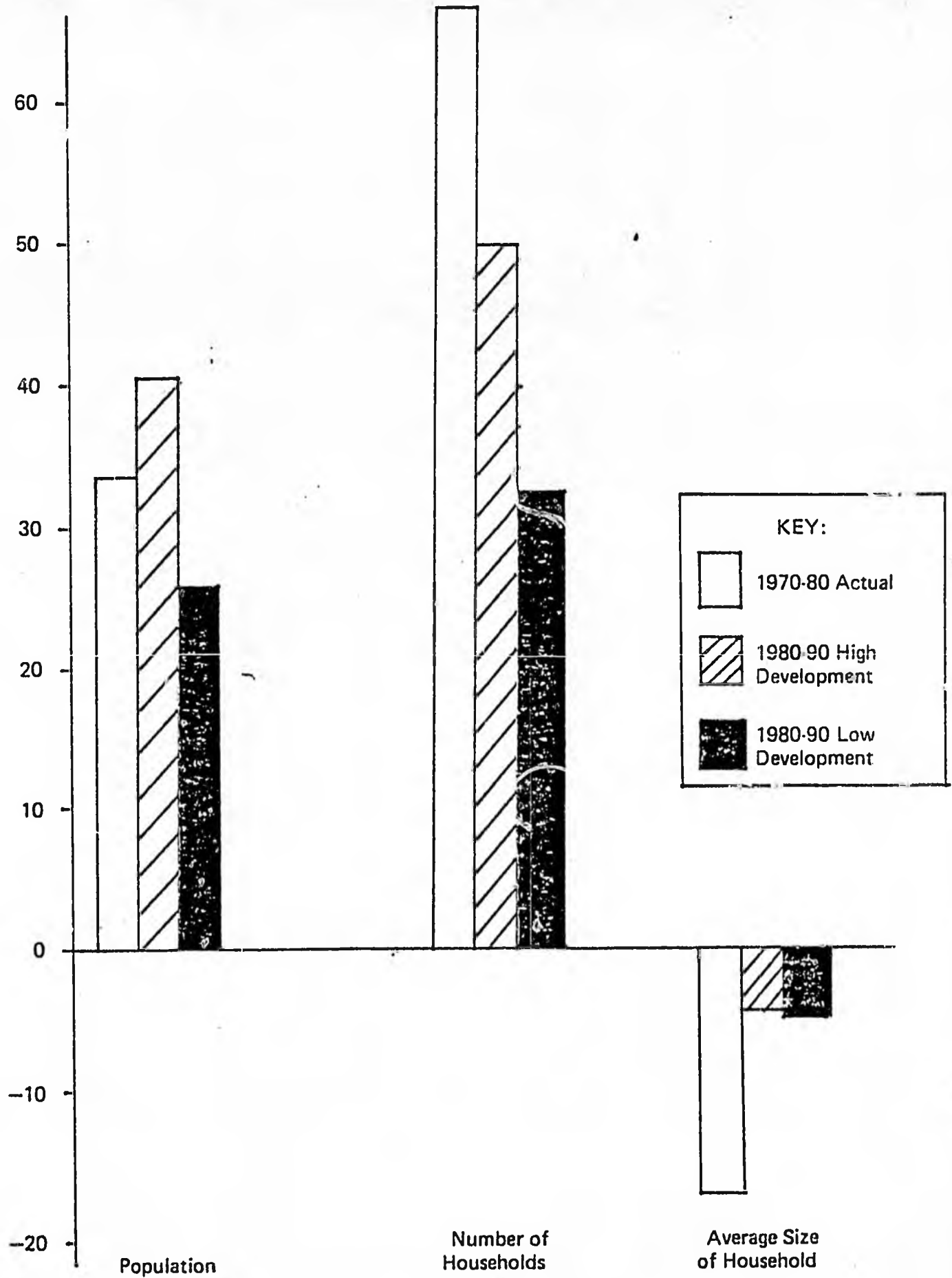
To provide a point of comparison, Figure 7 contrasts our two sets of projections for the 1980s to the actual changes which occurred in Alaska in the 1970s. In summary, in our high development case, total population grows at a faster rate than it did in the 1970s, while in the low development case, the rate of growth is somewhat slower, although still substantial.

Figure 4 also illustrates an often overlooked change which occurred in Alaska throughout the past decade, which dramatically affected the demand for housing--that is, that the number of households in Alaska increased at twice the rate that the population increased. The influx of young adults with no or small families, rising divorce rates which divided one household into two, and continuing the decline in birth rates, all combined to generate a rapid rate of growth in household formations.

Although we project the rate of household formations in the 1980s to continue to exceed the overall rate of population, we do not expect the difference between the two rates to be as great as they have been. The explanation for the narrowing of the different growth rates is twofold. One reason has to do with the size of the population by age group, and the second has to do with changes that affect household formations within a particular age group.

Without going into lengthy detail, the effect young immigrants have on the overall population declines in relative importance (statistically) as the resident base of the population increases. Also,

FIGURE 7. A COMPARISON OF THE RATE OF CHANGE IN POPULATION, NUMBER OF HOUSEHOLDS, AND AVERAGE HOUSEHOLD SIZE, 1970-80 AND 1980-90



there are limits to such things as the decline in birth rate and the rise in divorce rates, and we have incorporated these limits, based on national trends and research into our model of household formations.

Having projected net increases in housing demand, the next task is to estimate housing mobility or the total number of households that change housing.

Task 2: Estimate Housing Mobility

In this task, we estimate the number of households that will be in the market for housing. These include households moving to different housing within the state, newly formed households looking for housing for the first time, and in-migrating households. We classify the first group as movers and the other two groups as new-to-the-market households.

The size of each group is a function of the age distribution of the heads of households, primarily because age serves as an indicator of life cycle changes. These changes include such things as changes in family size and composition, employment, income, and wealth. Thus, it becomes essential to project not only the number of households but also the age of heads of households.

Table 57 projects the age distribution of household heads. The projection incorporates both the effect of aging of the resident population and of age shifts resulting from the out-and-in-migration exchange. The effects of development on the age of household heads is demonstrated by comparing the 1990 age distribution of the two development cases.

Percentage Distribution			
<u>Age of Head</u>	<u>1980</u>	<u>1990 Low Case</u>	<u>1990 High Case</u>
< 24	.114	.108	.115
25-29	.179	.141	.160
30-55	.555	.583	.573
55 <	<u>.153</u>	<u>.168</u>	<u>.151</u>
Total	1.000	1.000	1.000

TABLE 57. PROJECTED NUMBERS OF ALASKA HOUSEHOLD HEADS BY AGE
1980-1990

Year	Age of Household Heads				Total(s)
	< 24	25 - 29	30 - 55	55 <	
<u>High Development Case</u>					
1980	15,011	23,300	73,001	20,151	131,463
1981	15,666	22,999	76,113	21,009	135,789
1982	16,811	23,239	79,350	21,862	141,264
1983	17,907	23,756	82,635	22,715	147,015
1984	19,283	24,680	86,131	23,575	153,670
1985	22,648	27,042	90,689	24,449	164,912
1986	25,648	29,798	95,594	25,347	176,387
1987	25,405	31,167	99,786	26,277	182,636
1988	23,686	31,265	103,525	27,250	185,727
1989	23,467	31,527	107,710	28,276	190,980
1990	22,470	31,137	111,471	29,364	194,444
<u>Low Development Case</u>					
1980	15,011	23,300	73,001	20,151	131,463
1981	15,386	22,839	75,993	21,009	135,229
1982	16,472	22,970	79,107	21,862	140,472
1983	16,888	23,039	82,085	22,715	144,728
1984	17,143	23,105	84,907	23,575	148,731
1985	18,002	23,545	87,939	24,449	153,936
1986	18,804	24,119	90,995	25,346	160,265
1987	18,738	24,312	93,747	26,276	163,074
1988	19,039	24,599	96,584	27,248	167,469
1989	19,119	24,751	99,280	28,270	171,419
1990	18,794	24,610	101,710	29,351	174,458

SOURCE: Based on moderate and low scenarios in Goldsmith and Porter (1981). 1980 figures are estimates derived from the census and are used to adjust scenarios.

To estimate the total flow of in-migrating households, we first estimate the number of households migrating from Alaska and add this number of households to the net increase in households. Again, because of the importance of the age of the household head, we make all of our projections by age group.

Table 58 estimates the annual out-migration rates for Alaska between 1970 and 1978, and compares these rates to a study conducted in Anchorage and to other selected national rates. Although the out-migration rate we have estimated is lower than the Anchorage study, it appears to be within the range of the country's overall mobility experience.

TABLE 58. ESTIMATED RATES OF ANNUAL OUT-MIGRATION
FOR ALASKA AND THE UNITED STATES
BY AGE OF HOUSEHOLD HEAD

Age of Household Head	Annual Rate of Out-Migration			
	Alaska Estimates		U.S. Actual ^c	
	1978 ^a	Survey ^b	High	Low
18 - 24	.11	.25	.16	.08
25 - 29	.07	.18	.13	.07
30 - 55	.05	.11	.05	.03
55 <	.06	.10	.02	.01

^aThe 1978 estimate is the 1970 population survived to 1978 minus the 1978 population living in Southcentral Alaska in 1978 (Alaska Public Survey) who lived in Alaska in 1970, divided by the eight years, the dividend of which is expressed as a percent of the 1970 survived population.

^bThe "Ender Survey" of 1978 reported the share of household heads with plans to move in 1978. The Opinions of the Anchorage Citizens on Local Public Policy Issues, 1977.

^cThe rate reflects the proportion of total households which moved in 1979. The high estimates include all movers, except for those moving within the same SMSA. The low estimates exclude movers whose origin and destination are outside an SMSA. From U.S. Dept. of Commerce, Geographical Mobility: March 1975 to 1979, 1980.

By applying these rates of out-migration to the projected numbers of Alaska household heads by age in Table 57, we can estimate the total number of out-migrating household heads by age. Similarly, by deducting this number of migrants from the preceding year's projections, we, in effect, estimate the number of in-migrating households by the age of the head of the household. These estimates are shown in Table 59.

The major determinants of mortgage demand are the demand for housing and the household's housing choice decision, i.e., the type of housing--single-family, multifamily, duplex, or mobile home--chosen and whether to own or rent.

It is important to remember that mortgage demand is influenced by the total demand for housing, not simply the demand for new housing units. While the increase in the housing stock is an important concern, total demand includes not only the increased demand generated by increased population but also by the turnover of existing owner-occupied housing.

Although the growth in total population and the demand for new housing receive the greatest attention, as mentioned earlier, there are other equally important changes which affect the demand for housing. Even in a region with a stable level of population, the population is not static. Children age and form their own households; families grow and require more living space; and adults age and move in with families or into nursing homes. These changes are often referred to as life-cycle changes. Table 60 illustrates the effect of life-cycle changes on the probability of owning a home. Each of the variables shown in the table reflects a significant element of life-cycle change. As the demographic characteristics of our projected population changes over the decades, the probabilities of homeownership shown in Table 60 enable us to estimate the incidence of homeownership in each year.

TABLE 59. ESTIMATES OF THE TOTAL NUMBER OF HOUSEHOLDS
MIGRATING TO ALASKA BY AGE OF THE HOUSEHOLD HEAD
1981-1990^a

Year	Age of Household Heads			
	< 24	25 - 29	30 - 55	55 <
<u>High Development Case</u>				
1981	1,884	1,777	3,912	1,168
1982	2,272	2,047	4,283	1,218
1983	2,382	2,068	4,446	1,267
1984	2,690	2,281	5,129	1,317
1985	4,181	3,523	6,691	1,366
1986	4,310	3,506	5,936	1,417
1987	2,720	2,043	4,934	1,469
1988	1,708	1,257	4,478	1,523
1989	2,318	1,927	5,168	1,579
1990	1,750	1,465	5,464	1,639
<u>Low Development Case</u>				
1981	1,695	1,618	3,817	1,168
1982	2,186	1,990	4,268	1,218
1983	1,883	1,649	4,157	1,267
1984	1,806	1,553	4,224	1,317
1985	2,190	1,873	4,604	1,367
1986	2,243	1,877	4,737	1,418
1987	1,776	1,440	4,526	1,470
1988	1,950	1,607	4,782	1,524
1989	1,813	1,481	4,812	1,580
1990	1,533	1,238	4,751	1,639

^aThe estimates are based on the replacement of out-migrants plus net migration.

TABLE 60. HOMEOWNERSHIP EQUATIONS

		F
Constant	.545	
<u>Female Household Head</u>	-.218	(13.295)
<u>Family Size</u>		
3 - 5 members	.079	(3.986)
6 or more members	.191	(4.840)
<u>Age</u>		
≤ 24	-.230	(20.571)
30 - 55	.121	(6.986)
55 <	.087	(.771)
<u>Tenure</u>		
Less than one year residency	-.272	(40.323)
= Number of owner occupied households		
R ²	19.9	

Ender's 1978 Anchorage Survey.

Having separated our projected households into two groups--in-migrating households and resident households--both by the age of the household head, we can estimate the incidence of homeownership by the length of residency and age of household head. These probabilities are based on the equations in Table 60. They isolate the effect of residency and age by assuming the other characteristics remain at their 1980 levels. Table 61 reports our findings. In all age categories, the incidence of homeownership is greater among residents than in-migrants, particularly in the younger and older age categories. Table 61 confirms and clearly demonstrates the importance of distributing household heads by age and of separating in-migrants from residents.

By applying the incidence of homeownership by age of household head to our projections of the total number of in-migrating households (Table 59) and to the projections of the resident households (the difference between Table 59 and Table 57), we can project the increase in the number of homeowners and first-time homeowners who are new to Alaska's housing market (Table 62).

You will note in reviewing Table 62 that even in the low development case, the number of additional homeowners increases by over 2,200 households each year. Reviewing survey research results over the past few years, combined with our knowledge of the incidence of homeownership by length of residency, we estimate that approximately .44 percent of all household heads who leave Alaska owned a home. Thus, Table 62 also shows the estimated flow of homeowners leaving Alaska over the next ten years.

As mentioned earlier, because in-migrating households have a lower probability of being homeowners than out-migrants, the net exchange in many years results in fewer homeowners coming in than leaving. This occurs despite the fact that the actual number of people projected to move to Alaska is greater than the number leaving

TABLE 61. AN ESTIMATE OF THE INCIDENCE OF HOMEOWNERSHIP
IN ALASKA BY LENGTH OF RESIDENCY

Age of Head of Household	Length of Residency in Alaska	
	More than One Year (residents)	Less than One Year (in-migrants)
< 24	.285	.013
25 - 29	.540	.268
30 - 55	.687	.415
55 <	.594	.322

TABLE 62 PROJECTED INCREASES IN THE NUMBER OF HOMEOWNERS
AND FIRST-TIME HOMEOWNERS 1981-1990^a

<u>Year</u>	<u>Add'l No. Homeowners</u>	<u>No. Out- Migrating, Homeowners^b</u>	<u>No. In Migrating Homebuyers</u>	<u>No. Discont'd Homeowners^c</u>	<u>No. Resident 1st Time Homebuyers</u>	<u>Total No. 1st Time Homebuyers^d</u>
<u>High Development Case</u>						
1981	2,701	3,238	2,499	600	4,040	4,832
1982	2,895	3,344	2,748	626	4,117	4,988
1983	3,261	3,487	2,838	653	4,563	5,463
1984	3,461	3,634	3,199	678	4,574	5,588
1985	4,704 ^e	3,807	4,215	705	5,001 ^e	6,337 ^e
1986	6,403 ^e	4,117	3,915	734	7,340 ^e	8,581 ^e
1987	5,792 ^e	4,431	3,104	766	7,885 ^e	8,869 ^e
1988	3,307	4,568	2,701	795	5,969	6,825
1989	3,012	4,608	3,199	825	5,246	6,260
1990	2,922	4,721	3,212	856	5,287	6,305
<u>Low Development Case</u>						
1981	2,481	3,250	2,416	597	3,912	4,677
1982	2,700	3,340	2,724	622	3,938	4,802
1983	2,858	3,476	2,598	697	4,383	5,207
1984	2,572	3,578	2,615	673	4,208	5,037
1985	2,778	3,673	2,881	697	4,267	5,180
1986	3,106	3,805	2,955	723	4,679	5,616
1987	2,817	3,939	2,760	798	4,744	5,619
1988	2,591	4,020	2,932	774	4,453	5,382
1989	2,613	4,129	2,927	801	4,616	5,544
1990	2,285	4,220	2,852	829	4,482	5,386

^aTechnical Note: The number of additional homeowners (column 1) is equal to the number of in-migrant homebuyers (column 3) plus the number of residents, first-time homebuyers (column 5) minus the number of out-migrating homeowners (column 2) and minus the number of discontinued homeowners (column 4).

^bThe number of out-migrating homeowners is computed @.44 of all migrating.

^cDiscontinued homeowners include homeowners who die and those who transfer to other housing such as nursing home.

^dTotal number of first-time homebuyers includes resident first-time homebuyers plus .317 of the in-migrating homebuyers. This ratio is derived from AHFC records.

^eIn our judgment, this surge in first-time home purchases, triggered by the potential construction of a natural gas pipeline, will be significantly reduced by supply constraints which could limit the growth by as much as 30 percent of the prior year's experience.

the state. How is it then that we project substantial annual increase in homeowners each year? The answer is that we have a sizable number of resident Alaskans who will be forming households and seeking to own a home for the first time. Referred to as resident, first-time homebuyers, column 6 of Table 62 shows that the projected number of these resident, first-time homebuyers constitute a larger group than either the incoming homebuyers or the total net increase in homebuyers. The last column adds to our resident, first-time homebuyers the proportion of in-migrants who will also be buying a home for the first time.

Task 3: Determine Effective Housing Demand

The reason we go to such lengths to identify first-time homebuyers is that our research suggests that existing homeowners have enough equity in their homes to be able to qualify for buying a different home; whereas first-time homebuyers do not have the "home equity" equivalent and cannot be assumed to be able to afford a home. Therefore, we assume that all households who already own a home either as a resident or as an in-migrant household will be able to secure a mortgage; whereas first-time homebuyers may not have sufficient equity or income to afford a home. In the following pages, we examine the conditions under which potential first-time homebuyers actually would be able to afford to own a home and should, therefore, be regarded as part of the effective mortgage demand.

Table 63 takes the total number of potential first-time homebuyers projected in the preceding table and divides them into two geographic groups, urban and rural. We assumed that the urban-rural split of in-migrants would remain constant at a 91-to-9 allocation and of new homeowners would remain constant at a 95-5 allocation. The projected share of employment growth in rural areas is higher. This allocation assumes (1) a large share of these jobs allow workers to live away from their jobs, such as at Prudhoe Bay; (2) fewer new rural households are homeowners; and (3) a portion of the increase in jobs are taken by existing population. For our purposes, we have defined

TABLE 63. AN ESTIMATE OF THE POTENTIAL NUMBER OF
 HOMEBUYERS WHO ARE NEW TO THE ALASKA MARKET,
 1981 - 1990

Year	Number First Time Homebuyers			Number In-Migrant Prior Homeowners ^a		
	Total	Urban ^b	Rural ^b	Total	Urban ^c	Rural ^c
<u>High Development Case</u>						
1981	4,832	4,590	242	1,707	1,553	154
1982	4,988	4,539	249	1,877	1,708	169
1983	5,463	5,190	273	1,938	1,764	174
1984	5,588	5,390	279	2,185	1,988	197
1985	6,337 ^d	6,020 ^d	317	2,879	2,120	259
1986	8,581 ^d	8,152 ^d	429	2,674	2,438	241
1987	8,869 ^d	8,426 ^d	443	2,120	1,929	191
1988	6,825	6,484	341	1,845	1,679	166
1989	6,260	5,947	313	2,185	1,988	197
1990	6,305	5,990	315	2,194	1,997	197
<u>Low Development Case</u>						
1981	4,677	4,443	234	1,650	1,502	149
1982	4,802	4,562	240	1,860	1,694	167
1983	5,207	4,947	260	1,774	1,614	160
1984	5,037	4,785	252	1,786	1,625	161
1985	5,180	4,921	259	1,968	1,791	177
1986	5,616	5,335	281	2,018	1,836	182
1987	5,619	5,338	281	1,885	1,715	170
1988	5,382	5,113	269	2,003	1,823	180
1989	5,544	5,267	277	1,999	1,819	180
1990	5,386	5,117	269	1,948	1,773	175

^aFigures include in-migrants who previously owned a home prior to moving to Alaska.

^bThe allocation of first-time homebuyers between rural and urban Alaska remains constant at the 1981 experience of 95 percent urban and 5 percent rural. 15 percent of urban first-time homebuyers purchased mobile homes in 1981.

^cThe allocation of in-migrant prior homeowners to rural and urban Alaska remains constant at the 1981 experience of 91 percent urban and 9 percent rural.

^dIn our judgment, this surge in first-time homebuyers, associated with the potential construction of a natural gas pipeline, will be significantly reduced by supply constraints which would limit the growth to 30 percent of the prior year's experience.

urban as the census divisions which include Anchorage, Fairbanks, Kenai, Seward, Valdez, Kodiak, Matanuska-Susitna, Southeast Fairbanks, Sitka, Ketchikan, and Juneau.

We recognize that not everyone who works to purchase a home can afford to do so. Thus, the effective demand for housing is a function of both the type of housing wanted and the ability to purchase it. Simply stated, the ability to buy a house depends on the price of the house and one's income and/or wealth.

Tables 64 and 65 report both the actual incomes of homebuyers in 1981 and a summary distribution of housing prices. Both the Special Mortgage Purchase Program and the rural program serve similar income groups with the majority of mortgagees falling in the \$30-50,000 range. In contrast, the Home Ownership Fund Program serves principally homebuyers in the \$10-30,000 income groups, as does the mobile home program.

TABLE 64. THE DISTRIBUTION OF FIRST-TIME
HOMEOWNER'S INCOME BY TYPE OF PROGRAM

<u>Income</u>	<u>Special Mortgage Purchase Program</u>	<u>Home Ownership Program</u>	<u>Rural</u>	<u>Mobile Home</u>
\$10,000 >	-	.027	-	-
10,000-20,000	.008	.319	.050	.194
20,000-30,000	.142	.654	.175	.474
30,000-40,000	.346	0	.258	.242
40,000-50,000	.273	0	.225	.067
50,000-60,000	.144	0	.192	.017
60,000-70,000	.060	0	.058	.003
70,000 <	.027	0	.042	.003
TOTAL(S)	<u>1.00</u>	<u>1.00</u>	<u>1.00</u>	<u>1.00</u>

SOURCE: AHFC files, 1980 - 1981.

Very little information is available on the price dimension of supply. Our assumed price distribution is based on records of participation in the state's housing programs. As Table 65 shows, the price of almost half of new single-family homes in Anchorage exceeded \$120,000; whereas, the modal price for similar units in other places was in the \$90-100,000 range. Absent other comprehensive data sources on the price of the existing supply of housing, we use this price distribution to represent prices of the existing supply of housing.

Equipped with both price and income data, we can now move to the task of estimating effective demand; i.e., the number of potential homebuyers who can actually afford to buy a house. Before doing so, however, we introduce alternative assumptions about three critical variables, each of which affects a person's ability to buy a home. These are mortgage interest rates, changes in personal income, and change in the price of housing over the projection period. The purpose of these alternatives is to assess how sensitive mortgage demand is to changes in these three assumptions. Referred to as a sensitivity analysis and shown as Task 7, we actually used these scenarios to generate sets of alternative volumes of home sales.

Table 66 summarizes the assumptions built into each of the three alternative scenarios. The assumptions made in the high interest case essentially lower effective demand. Fewer people can afford to buy homes under this case. In contrast, the low interest case enables more homeowners to buy because the lower interest rates effectively lower the cost of housing, thereby making homes relatively more affordable.

Drawing upon the above-described price and income information, we can estimate the incomes required to purchase a minimum-priced home. Table 67 presents the threshold incomes, based on the state housing program's current lending standards, required to buy a \$60,000 home. Projected increases in both incomes and housing prices are based on national rates of inflation, with costs for new housing construction

TABLE 65. THE DISTRIBUTION OF HOUSING PRICES
IN ALASKA BY TYPE OF HOUSING, 1981

<u>Price</u>	<u>Type of Housing</u>			
	<u>Single Family</u>		<u>Condominium</u>	
	<u>New</u>	<u>Existing</u>	<u>New</u>	<u>Existing</u>
	<u>Anchorage</u>			
\$120,000 <	49.7	25.6	15.2	3.4
110-120,000	14.0	12.5	1.3	2.5
100-110,000	12.6	14.2	7.6	4.6
90-100,000	10.5	13.4	13.9	7.4
80-90,000	5.6	14.0	8.9	4.3
70-80,000	7.0	13.6	8.9	18.9
60-70,000	.6	5.0	25.3	25.1
50-60,000	-	1.3	15.2	21.4
< 50,000	-	.4	3.8	12.4
	<u>Other Places</u>			
\$120,000 <	20.9	10.2	-	-
110-120,000	6.7	8.0	-	-
100-110,000	12.1	8.0	20.0	12.8
90-100,000	20.5	13.3	10.0	7.7
80-90,000	15.1	17.1	-	2.6
70-80,000	18.0	18.6	40.0	12.8
60-70,000	4.7	14.4	20.0	30.8
50-60,000	2.1	7.1	-	17.9
< 50,000	.4	3.5	10.0	15.4

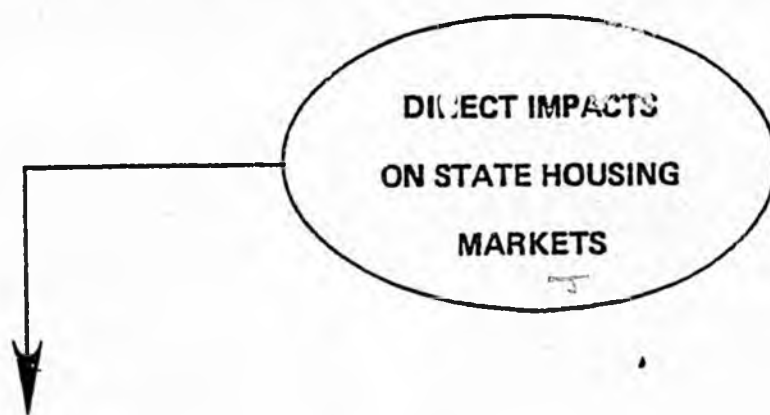
TABLE 66. THREE ALTERNATIVE SCENARIOS OF CHANGES
IN MORTGAGE RATES, PERSONAL INCOMES,
AND HOME SALES PRICES

	<u>Rate</u> ^a	<u>Income</u> ^b	<u>Price</u> ^c
1. Base	AHFC borrowing costs fall to 16.4 by 1986. Subsidized rate remains at 12.4. Remains constant for remainder of the period.	Household incomes grow at an annual rate of 1.78 over the period.	The minimum price of units rises at a rate of 1.08 over the period.
2. Low Interest Case	AHFC borrowing costs fall to 13.4 by 1986. Subsidized rate falls to 10.4 by 1986. Remains constant for remainder of period.	Same as base case.	Same as base case.
3. High Interest Case	AHFC borrowing costs rise to 18.4 by 1986. Subsidized rate remains at 12.4. Both rates increase by 1.5 by 1990.	Same as base case.	The minimum price of units rises at a rate of 1.09 over the period.

^aBased on interest rate projections for AA Corporate bonds found in Data Resources, Inc., U.S. Long Term Review, 1981. Base case is base of trend projection, high on optimistic and low on pessimistic.

^bIncome growth is that projected in moderate case in Goldsmith and Porter (1981).

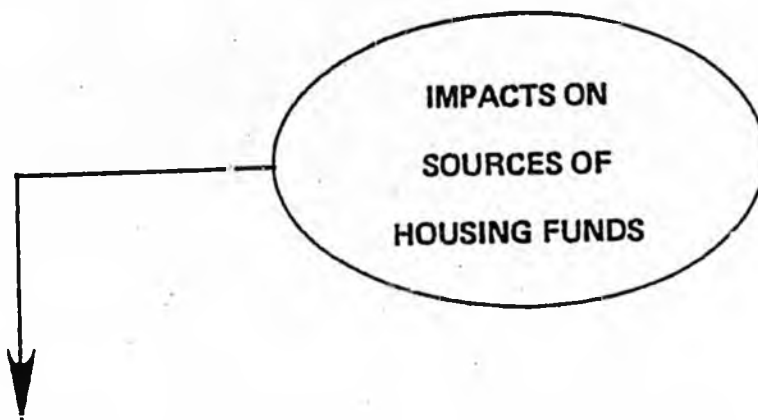
^cMinimum price of new housing is assumed to increase two percent faster than increase in prices in the base and high scenarios, and four percent faster in the low scenario. The two percent spread between consumer price increases and the price of new construction is based on (DRI 1981) trend projections.



1. The rise in housing prices between 1980 and 1981 appears to have been caused primarily by the state's growth of employment and population, not by the state's housing programs.
 - a. This growth first caused vacancies to fall rapidly and then began bidding up the price of the existing housing stock.
 - b. Although the price increase of a new home was not large measured over the two year period from 1979-1981, about 18 percent, because the past pipeline slowdown left an excess supply of housing in the state, the existing stock was undervalued relative to its replacement costs, and therefore, existing home prices rose by a greater proportion than prices of new homes. Price increases did not occur until vacancies reached marginal levels in the spring of 1981. At that time prices were bid up rapidly.
2. Population growth was sufficient to cause existing housing prices to rise up to their replacement costs by 1981, but state programs also had important effects.
 - a. The state's low interest loan programs appear to have caused the construction of new housing to have increased by about 33 percent, or about 1,000 units.
 - b. This increased demand represents homebuyers who otherwise would not have qualified for mortgages.

- c. Because of "churning," these 1,000 additional new homebuyers caused a total of about 4,000 total housing sales.
3. Renter households appear to have benefited from the state's low interest loan programs.
 - a. Even allowing for conversions, the programs appear to have caused net shifting from rental demand to homebuyer demand.
 - b. This reduced at least some of the pressure for rental units and helped hold rents from rising even faster than they did.
4. The price of new housing in Alaska rose during the 1980-1981 period, but only in proportion to the real costs of construction plus increases in the price of raw land.
 - a. Real construction costs appear to have increased by about 7 percent to 8 percent a year between 1979 and 1981.
 - b. While the price of raw land increased significantly over the period (about two and a half times), this cost is a small enough part of the total selling price of a new house that it is not particularly significant. Undeveloped land prices caused new housing prices to increase by about 2 percent to 3 percent a year.
5. In conclusion, the state's low interest loan programs do not appear to have had a significant impact on housing prices, but they have been important for:
 - a. Qualifying about 1,000 homebuyers who otherwise would probably not have been able to obtain mortgages;

- b. Increasing total housing sales by about 4,000 units;
- c. Increasing new housing construction by about 1,000 units;
- d. Contributing to the rapid (two and a half fold) increase in raw land values;
- e. And reducing slightly the upward pressure on rents, particularly in the Anchorage area.

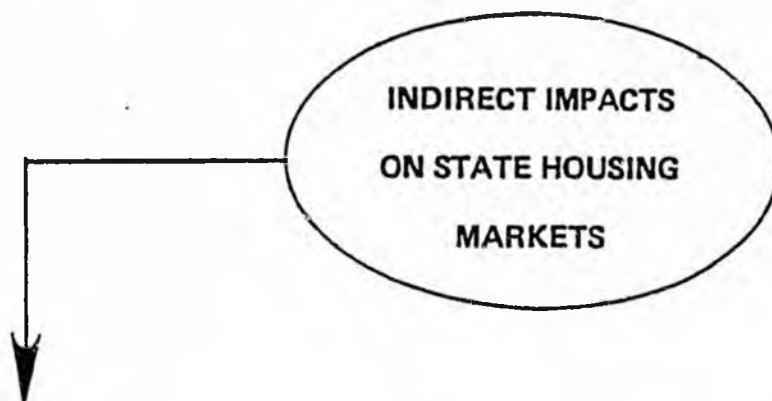


- 1. The state is not new to the residential mortgage market. Since 1976 it has been the largest purchaser of Alaska's residential mortgages.
 - a. National secondary lenders, on average, annually purchased about one fourth of the residential mortgages (\$100 million), while the state purchased the remainder (\$270 million) during the 1976-1979 period.
 - b. For the national secondary lenders, their 1976-1979 purchases increased their total Alaska mortgage portfolio by about eight percent.
 - c. State purchases of mortgages have been by the State Pension Fund, the Veterans Loan Fund, and the Alaska Housing Finance Corporation. The Alaska Permanent Fund and the Alaska

Department of Community and Regional Affairs purchased about 400 residential mortgages in 1981, representing three percent of the annual total.

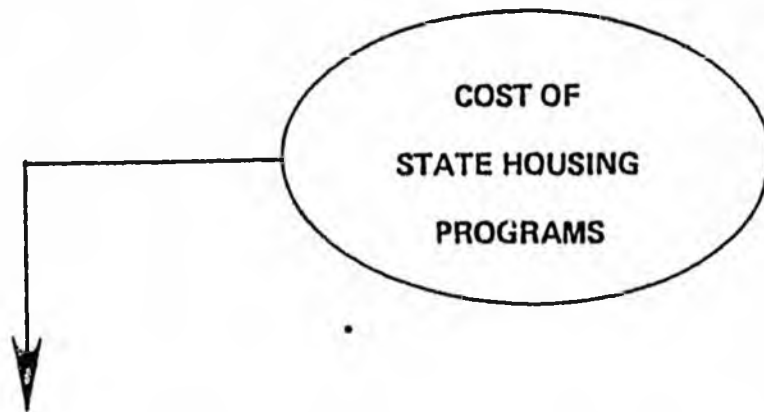
2. Since the state initiated the below market interest rate programs in July of 1980, the state's housing programs have become virtually the sole purchasers of residential mortgages. Thus in 1981, all \$780 million of residential mortgages were purchased by the state's housing programs. Those mortgages which AHFC could not purchase were bought by state pension funds.
3. Subsidized mortgage interest rates and population growth combined to double 1980's demand for residential mortgages in 1981. Residential mortgages had fallen from 6,800 in 1978 to 4,650 in 1980 before climbing to 9,000 in 1981.
 - a. In 1981, AHFC purchases increased by 250 percent over its 1980 purchases (3,600 mortgages up to 8,000), and the value of its purchases climbed from \$261.3 million in 1980 to \$700 million in 1981.
 - b. Part of AHFC's increase in purchases is attributable to its assumption of the Veterans Housing Program, which had purchased as many as 1,500 mortgages in 1978. The unusually low number of mortgages in 1980 also contributed to the apparent 1981 surge.
 - c. In essence, AHFC purchased in 1981 the equivalent of some \$200 million of residential mortgages, which in previous years had been purchased by national secondary lenders when AHFC offered no interest subsidy.
4. From July 1980 to October 1981, homeowner equity withdrawal for homebuyers who sold a home and bought another was on the order of \$60 million to \$90 million.

5. In summary, state and bond dollars were substituted for national secondary lender funds and, in smaller magnitudes, from savings and loan associations, mutual savings banks, and from homeowners' equity. However, it is important to keep in mind that the magnitude of this substitution was lessened by the fact that the state had already grown to be the dominant secondary lender.



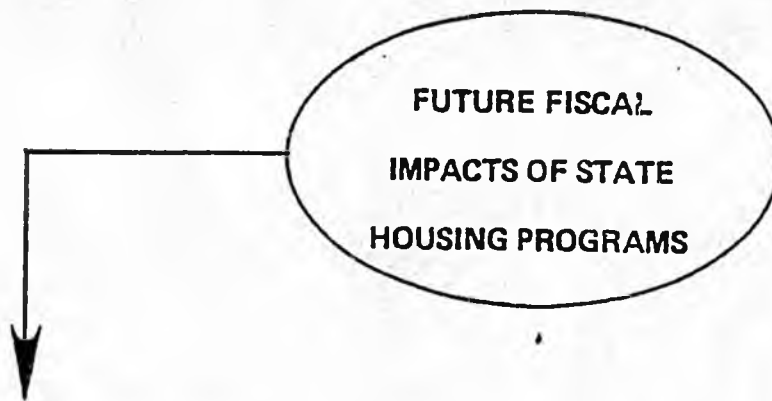
1. The construction and sale of new homes or the resale of existing homes affect all sectors of the economy that are linked to the housing market. These include land owners, building contractors, building suppliers, realtors, appraisers, home insurance salesmen, and mortgage/loan officers, to mention the more obvious ones. In the preceding section on direct impacts, we estimated that the state's housing programs stimulated the construction and sale of 1,000 new housing units and the resale of approximately 3,000 homes. Based on these direct impacts, we can estimate the order of the magnitude of indirect impacts.
 - a. Primary lending institutions are estimated to have collected about \$3.5 million of mortgage related fees and an additional \$4.6 million in construction loan fees and interest payments.
 - b. Realtors are estimated to have collected an additional \$16.5 million in real estate commissions.

- c. Appraiser, title search, and home insurance companies generated somewhere on the order of \$3.5 to 8.5 million of additional business.
- d. The value of the additional contract construction is estimated at \$20 million, which in terms of wages and salaries, generated an additional 800-900 full-time equivalent construction jobs.
- e. Wholesalers of building supplies are estimated to have realized a gain of \$33 to 44 million in the volume of their sales.
- f. Although each of the above indirect impacts generate a second round of impacts, generally referred to as a multiplier effect, we did not attempt to estimate the multipliers for each of these indirect impacts.



1. During the 16-month period, July 1980 through October 1981, the State of Alaska appropriated approximately \$667.1 million in support of its mortgage loan programs.
 - a. Of this total, approximately 43 percent (\$286.0 million) was in the form of transferred portfolio assets, and 57 percent (\$381.1 million) was in the form of appropriated funds.

- c. Averaged over the 16-month period, the average buydown for the State Assisted Mortgage Program was 4.2 percent, at a cost of \$17,800 for an average mortgage valued at \$88,500 with a ten year life.
 - d. Under the legislatively mandated formula linking bond market rates with mortgage market rates, the differential will be adjusted over the next several bond sales to a stable spread of 3 points. When this happens, the state's buydown subsidy cost will be at about \$12,900 for an average mortgage valued at \$88,500 with a ten year life.
3. Over the study period, AHFC gained experience in funds management, and required lower appropriations for each percentage point of interest bought down.
 - a. Comparing the last half of 1980 with the last half of 1981, AHFC could operate at the same level of costs and obligations as it did a year earlier with only about 60 percent of the appropriation level required per point of buydown.
4. All together, the State of Alaska incurred costs of about \$200 million buying down interest rates (at point spreads which varied program by program) over the 16-month period.
 - a. The State Mortgage Assistance Program (including the 1 percent Veterans buydown) accounted for about 84 percent of total costs.
 - b. The Home Ownership Assistance Program, which is targeted toward the low income, accounted for about 10 percent of total costs; all Rural Programs together, about 4 percent, and the Mobile Home Program, about 2 percent.



1. Population growth in the 1980s is projected to be comparable to that of the 1970's, ranging between a growth of 2.5-4.0 percent per year. The main difference between the two rates is that the higher rate assumes the construction of the NW natural gas pipeline whereas the lower rate does not.
2. Unlike the 1970s, the number of households in Alaska are not expected to increase at twice the rate of the general population in the 1980s. We project household formation rates in the range of 3.2-5.0 percent per year, with substantial variations in this annualized average during any given year, particularly between 1985-1987 should construction of the natural gas pipeline project initiate during this period.
3. The annual increase in additional homeowners, the equivalent of new housing units (excluding replacement), over our projection period ranges from about 2,700-3,800 per year, again with substantial year-to-year variations.
4. Total housing sales, which includes not only new housing sales, but also the turnover of existing homes, is projected to range on the annual average between 10,000 and 17,000 sales per year, again with large year-to-year variations.

5. Assuming AHFC's loan limits remain constant, we expect its share of the total primary and secondary market to fall from its current share of approximately 66 percent to about 50 percent by 1990. In contrast, we expect AHFC's share of both mobile home mortgages to grow from its current 50 percent share to 90 percent by 1990. Similar growth in AHFC's market share for rural home funds is also projected, i.e., from 60 percent in 1980 to 90 percent in 1990.

6. Consistent with our analysis of the state's housing program costs, we project fiscal impacts, as shown in our reprint of Table 69.

TABLE 69. FISCAL IMPACTS OF STATE HOUSING PROGRAMS

(millions of dollars)

	Appropriations				Bonded Indebtedness Accrued
	Total	Urban	Mobile Home	Rural ^a	
1986	\$280.8	\$127.8	\$75.5	\$77.5	\$1,165.2
1990	293.3	88.4	106.7	98.2	875.8

^a Assumed to be half AHFC and half DCRA appropriations.

SOURCE: ISER Projections

Concluding Remarks

One of the effects of the state's interest rate subsidy has been to make AHFC the primary decision maker in financing housing sales. Because the interest subsidy is only obtainable through AHFC (with the exception of CRA's comparatively small housing programs which also offer interest subsidies), financial institutions in the state, homebuyers, builders, and real estate developers must meet AHFC's rules and standards or forego the lower-interest money. This effectively precludes a developer who wants to build a particular kind of subdivision or a homebuyer trying to qualify for a loan from shopping at several sources (such as commercial banks, Savings and Loan Associations, Mutual Savings, FNMAE, and FHLMC).

In a competitive lending market, one lender may decide a project or homebuyer is credit worthy, while another may not. By funneling the mortgage subsidies through one organization, the state has also directed all home financing decisions into one organization.

As was discussed in Chapter Seven, the state, through its bond sales at AHFC, has been paying more for its borrowed funds than homebuyers would have paid to borrow money through FNMAE or FHLMC. This difference represents a loss to the state. A difference between FNMAE rates and the interest attainable by AHFC in the national bond markets is expected to continue; therefore, the state may wish to explore negotiating a cooperative "interest buydown" program with FNMAE and FHLMC. For example, the state could propose to buydown the interest rate paid by homebuyers by 3 percentage points for the first five or ten years of the life of the mortgage. The mortgages could then be sold to the national secondary lenders. Such an arrangement could result in lower costs to the state and to the state's homebuyers.

The mortgage interest rates of 1980 and 1981 have been at historically high levels, and these rates are expected to decline within the next two or three years to lower long-term rates. The state, by subsidizing mortgage rates, has kept interest rates closer to their expected long-term levels. By stabilizing interest rates, the state has maintained housing market activity and residential construction nearer their long-term equilibrium levels. Thus, home sales in Alaska have been sheltered from the effects caused by mercurial changes in national monetary policies and the associated escalation in interest rates.

APPENDIX A
ASSUMPTIONS USED IN 1981 ALASKA HOUSING PROGRAM STUDY

INDUSTRY

<u>PROJECT</u>	<u>EXPLANATION</u>	<u>LOW DEVELOPMENT</u>	<u>HIGH DEVELOPMENT</u>
<u>AGRICULTURE</u>	Various levels of development depending on State & Federal policies, combined with market conditions.	Slow decline in activity	Employment growth at 8% annual rate
<u>FISHERIES</u>	Constant employment in existing fishery. Development of bottom fishing to replace foreign fishing in 200 mile limit varies.	No development	50% replacement
<u>OIL, GAS, AND MINING</u>			
Trans-AK Pipeline	Construction of 4 additional pumping stations	Yes	Yes
Northwest Gas Pipeline	Construction of natural gas pipeline from Prudhoe Bay & associated facilities 1983-87		Yes
Prudhoe Bay Oil and Gas	Production from existing and newly developed fields resulting in increased permanent employment	Yes	Yes
Upper Cook Inlet Oil and Gas	Declining employment in oil production offset by employment growth in gas production	Yes	Yes
National Petroleum Reserve in AK	Development & production from 5 oil fields & construction of 525 miles of pipeline	Exploration but no development	Slow development
Outer Continental Shelf (OCS) petroleum and gas	Exploration, development & production based on current OCS lease schedule w/additional sales after 1985	Beaufort Sea production; no sales after 1985; 1 billion bbl discovered	3 lease sales after 1985; 7 billion bbl discovered & developed
Coal Development	Development of Beluga coal reserves for export & synfuel production	No	Eventual production of 4.4 million tons per year
U. S. Borax	Development of mining operation by 1993	No	No
Other Mining	Hardrock & other petroleum activities	Constant at current levels	7% annual growth of employment
<u>MANUFACTURING</u>			
Petroleum Refining	Construction of 100,000 barrel per day refinery at Valdez	No	Yes
Pacific LNG Project	Development of liquid natural gas project in the Anchorage area between 1985-87	No	Yes
Petrochemicals	Development of a project similar in concept to the Dow-Shell proposal	No	No
Food Processing	Development based on & correspondent to growth of fisheries	Grows to accommodate growth in fishing industry.	

Timber, Lumber, Pulp	Expansion to accommodate annual cut of 960 million to 1.3 billion board feet by 2000	960 million board feet	960 million board feet
Manufacturing for Local AK Use	Expansion of existing production as well as new manufacturing as a proportion of total employment	1% of total employment	2% of total employment
<u>TOURISM</u>	Annual growth rate of tourism	2%	4%
<u>GOVERNMENT</u>			
State Capital Move	State capital move to Willow beginning in 1983	No	No
Federal Government	Increases in civilian employment; military remains constant	Growth at historical rate of 0.5	Same as Low
State Government	Spending grows with population prices and incomes	Per capita spending unchanged	Per capita spending increases at same rate as per capita income

SOURCES: Alaska Economic Projections for Estimating Electricity Requirements for the Railbelt. Scott Goldsmith and Ed Porter, Institute of Social and Economic Research, October 1981.

APPENDIX B
HUD FAIR SHARE ALLOCATION SYSTEM

The Federal Department of Housing and Urban Development distributes most--80 percent--federal housing assistance funds for newly subsidized units according to the Fair Share System. Under this system, funds are allocated by HUD's national office to different parts of the country according to the amount of housing need in that area.

Need is measured by several variables: area population, poverty, substandard housing, overcrowding, and vacancies. Poverty is defined as the number of families with incomes below 50 percent of the median area income. Substandard housing is measured by the number of units lacking complete plumbing. Overcrowding is defined as the number of units with more than one person per room. The indicator regarding vacancies is known as the vacancy deficit; it is the number of new units needed to increase the vacancy rate in the area to 6 percent. The final variable included is the number of renter households who (1) spend more than 25 percent of their income on rent and (2) live in an overcrowded or substandard unit.

Each of these variables is given the same weight, and the amount of housing need in each area is calculated as a percentage of the national total housing need. If an area is determined to have 10 percent of the national need, that area is allocated 10 percent of the pool of housing assistance funds. There are 44 areas to which HUD Central Office allocates these funds, each having a HUD Area Office. Alaska is one of these 44 areas. Once the Anchorage HUD Area Office receives Alaska's allocation, this office allocates that money around the state.

The HUD Anchorage office designates allocation areas within the state. Each metropolitan area, as defined by the Census, is an allocation area; Anchorage is the state's only metropolitan area. The remainder of Alaska is divided into four allocation areas corresponding to the state's four judicial districts. The HUD area office determines the housing need in each area on the same basis as described above, and allocates HUD funds within the state according to need.

In any single year, however, one allocation area may receive a larger or smaller amount of assistance than its share. This occurs because the amount of funds available to Alaska in any one year may be too small to split up strictly according to need. Over the course of several years, however, HUD attempts to spend its funds around the state according to the distribution of need. The actual distribution of HUD spending also depends on the project applications received by HUD. If no acceptable applications are made by agencies in an area over the course of several years, that area will not receive its share of federal housing subsidies.

Please note that this allocation system applies to funding for units that are to be subsidized for the first time. Once that unit is contracted for or built, a continuing stream of federal subsidies is associated with it. HUD's commitment to continue the subsidies varies from five-to-forty years, depending on which program is used. The amount of money allocated to the state each year, then, does not include these continuing subsidies; it only includes funding for the first year for new units.

This description of the Fair Share System is by no means complete. More detailed information is available at HUD offices.

APPENDIX C

EARLY HOUSING PROGRAMS OF THE ALASKA STATE HOUSING AUTHORITY¹

Early Management

In the early 1940s the Federal Public Housing Administration constructed, pursuant to the Lanham Act, a total of 324 family dwelling units in Anchorage, Fairbanks, and Juneau for the purpose of housing war workers. Following its creation, the Authority assumed the management of these units although title remained with the United States Government. Besides these units, the Authority was contracted to manage veterans' housing projects by the cities of Anchorage and Fairbanks. Both the war housing--classified as temporary--and the veterans' housing projects have since been phased out of the Authority's operations.

Veterans' Housing

In the 1946 Territorial Legislature, a \$100,000 revolving fund was established for use by the Authority in making accommodations available to veterans of World War II who were enrolled in educational institutions in Alaska. Acting on this mandate, the Authority undertook construction of a 50-man dormitory for veterans at the University of Alaska. Upon completion, the Authority was responsible for its maintenance, and the University of Alaska for its management. Like the housing units, this dormitory has been phased out of the Authority's operations.

Alaska Housing Act

The Territorial Legislature directed the Housing Authority to recommend and seek passage of legislation, both territorial and federal, which would establish a program to remedy the Alaska housing shortage. Since the economics of Alaska were different from those of most states, the Authority examined the problem and in 1947 submitted

¹Adapted from the 1972 Annual Report of the Alaska State Housing Authority and Weicher, Housing Federal Policies and Programs; 1980.

suggested legislation to the U.S. Congress. With this proposal, assistance then came from the Housing and Home Finance Agency, the Department of the Interior, and other federal agencies. These agencies, with the Alaska Housing Authority, produced a plan which was introduced in Congress and the Territorial Legislature and later became the program of the Authority.

The 1949 Territorial Legislature approved legislative bills which would enable the Authority to activate provisions of a federal bill then ready for presentation to Congress. This legislation included an initial appropriation of \$250,000. When the federal legislation was approved, it included an initial appropriation of \$15,000,000 and was called the "Alaska Housing Act" (P.L. 52, 81st Congress).

The initial concept of the Alaska Housing Act recognized the limited home financing available in Alaska, the high construction costs resulting from hurried defense and war construction, and the absence of a self-sufficient construction industry. The purpose of the plan was to encourage adequate building industry and to establish the capacity to meet the increasing need for home construction.

The program included production of more than 6,000 dwelling units, encouragement of private financing (including a secondary financial market), and adjustment of existing Federal home mortgage insurance programs to the higher costs prevailing in the Territory. The Alaska Housing Act met these problems by:

1. Creating a \$15,000,000 revolving fund for the use of the Alaska Housing Authority, of which \$1,000,000 was set aside for a Remote Dwelling Program. (Later this fund was increased by \$4,000,000.)
2. Increasing FHA mortgage insurance limits up to one-third over the established limits under the National Housing Act.
3. Liberalizing mortgage purchasing privileges for the Federal National Mortgage Association in Alaska.

4. Allowing the Alaska Housing Authority to make loans from the revolving fund where private financing was not otherwise available.
5. Allowing direct construction by the Alaska Housing Authority of necessary dwelling units for any community where private sponsors were either unwilling or unable to undertake such housing construction.
6. Liberalizing certain mortgage insurance plans.
7. Calling upon private capital and all elements of the private building industry to participate in the construction of necessary housing in Alaska. By so doing, it accomplishes a two-fold purpose: (a) supplying necessary dwelling units and (b) promoting a self-sustaining building industry for strategic Alaska.

During the life of the Public Law 52 program, the original goal of the Authority was more than met. By 1953, 7,500 units had been constructed. This new housing construction represented an investment of \$10,000,000 by private enterprise. Prior to enactment of the Law, only eight single-family units had been built in Alaska under FHA regulations.

Low-Rent Public Housing Program

Preliminary work on the Housing Authority's low-rent program began in 1949. Initially, the Authority constructed 325 units: 50 in Juneau, 50 in Ketchikan, 75 in Fairbanks, and 150 in Anchorage. By 1953, all of the units had been completed, and they have been occupied continuously since that time. The program was reactivated in 1963 with an obvious statewide need for housing designed for the low-income families in urban areas. By 1972 an additional 326 units had been constructed by private firms under contract to the Authority. The total construction cost of these units was \$9,836,215. In addition, the Authority undertook comprehensive modernization of the original units at a cost of about \$3,000,000.

Middle-Income Program

The middle-income program, authorized by the Board of Directors in 1965, produced two projects: 32 in Wrangell and 24 units in Petersburg. The housing was built under the provision of Section 221(d)(3) of the National Housing Act and is permanently financed by the FNMAE at below-market rate interest. The project in Petersburg is no longer under management by the Authority.

In 1961, this program was created in an attempt to allow lower-income families to benefit from FHA insurance on the rented apartments. The FHA-insured mortgages on apartment projects owned by nonprofit sponsors or limited dividend corporations if the mortgages carried below-market interest rates. The low rates and absence of profit were expected to reduce rents, making these apartments affordable to those too poor to take advantage of the FHA homeownership insurance program, but with incomes too high to qualify for public housing. This "moderate-income" group generally could not afford the rents in unsubsidized new apartments. The program also included dollar mortgage limits per unit to insure that the program reached the targeted population.

To induce private lenders to lend at below-market rates, the Federal National Mortgage Association (FNMA) bought the loans from the lenders at face value. The net effect of the arrangement was that FNMA lent mortgage funds at low interest rates to private sponsors to build moderate-income housing.

The 221(d)(3) program was short-lived. Its initial budget impact was very large, making it politically vulnerable, even though the end cost to the government was much smaller due to principal and interest pay back. In addition, the interest subsidy proved inadequate in reducing rents to a level affordable to the target population. The subsidy did not result in very many units being constructed, and the program was scrapped in 1968 to be replaced by another program

(Section 236) using interest subsidies and FHA insurance. (This section derived from a discussion in Weicher: 38-40.)

Remote Dwelling Program

This program was established by Public Law 52. The program was based on home improvement loans, to a limit of \$500 per person, and a 5 percent interest rate. Loans were to be repaid to the Alaska Housing Authority over a period of six years and were character loans, requiring no collateral. As originally established, the Authority acted as agent in purchase and delivery of materials, while the borrower either built or improved his own dwelling. By the end of 1952, the Alaska Housing Authority had assisted in the erection or improvement of approximately 550 housing units in 30 villages from north of the Arctic Circle to as far south as the lower mouth of the Yukon River.

Native Village Program

In 1963, the Housing Authority was granted \$180,000 by the Federal Government to conduct a low-income housing demonstration project in remote native villages. The program called for experimental housing constructed in the three ethnological areas of the State--Southeastern Indian, Athabascan Indian, and Eskimo. The most ambitious project undertaken by this grant was the relocation of an entire village to a new site on the Yukon River, commonly called the Grayling Project. The Authority administered the grant and provided materials and technical assistance to the village to build 23 new homes. The mutual-help approach to construction was utilized. This experiment provided a basis for future grants and programs for Alaska Natives.

Remote Village Housing Program

Section 1004 of the Demonstration Cities and Metropolitan Development Act of 1966 authorized \$10,000,000 for grants and loans to the State of Alaska to assist in providing housing and related facilities

to remote Alaskans in accordance with a statewide plan approved by the Secretary of the Department of Housing and Urban Development. In 1967, because of a statewide plan formulated by the Authority with the cooperation of other state agencies, the program was established by law under the Office of the Governor, who was directed to designate the agency to carry out the program.

In 1968, Governor Hickel designated the Housing Authority as the agency to administer this program. The State Legislature authorized appropriations equal to 10 percent of actual federal appropriations. Congress appropriated \$1,000,000 in fiscal 1969, and with 10 percent of the \$1,000,000 in State matching funds, 160 houses were constructed in ten villages, using Native labor working under experienced construction supervisors. Similar amounts were appropriated and made available in fiscal 1970, and 175 houses were constructed in eight villages.

Since Congress made no further appropriations for that purpose, the State Legislature appropriated \$1,000,000 in fiscal 1971 as a substitute for the federal funds so that the program might continue uninterrupted, and 111 houses were completed. The State Legislature also authorized the sale of \$3,000,000 in general obligation bonds for construction of additional housing in the remote areas. Half of the authorized bonds were issued and their proceeds made available to the Authority for use in 1971.

During 1971, the Department of Housing and Urban Development funded 200 units under a 100 percent federally funded Mutual Help Program. Ten villages were selected and the program was completed in 1974. The program operated in the same manner as the original 1969 and 1970 program, except for the method of funding.

Turnkey III

The Turnkey III program was the first homeownership program targeted specifically to low-income families. It operated the same way that the current Mutual Help for Indians program works, with the homebuyers' equity building up gradually. The major differences between the programs are in participant contributions and payments and in the fact that this program was not limited to Natives.

APPENDIX D
STATE HOUSING RELATED PROGRAMS

Pioneers Homes

The primary goal for the Alaska Pioneers Homes is to provide a comfortable living environment for elderly citizens of the state. Services provided to residents include physical and mental health care and social activities in residential care and nursing care accommodations.

Any persons who have lived in Alaska continuously for at least fifteen years immediately preceding their application are entitled to admission at little or no cost. Persons not considered destitute, but meeting the fifteen-year residency requirement, may be admitted upon payment for the cost of their care and support, currently \$275 per month. In addition, any person with a total of 30 years state residency cannot be disqualified due to absences from the state if the absences are determined to be reasonable by the Commissioner of Administration and if the applicant is otherwise qualified.

The Department of Administration operates Pioneers Homes in Sitka, Palmer, Fairbanks, and Anchorage, providing residential care for 340 persons and nursing care for 178. A new home in Ketchikan was scheduled for completion in December 1981, with 19 resident and 30 nursing facilities. A new nursing wing at the Anchorage Pioneers Home will be ready for occupancy in May 1982, providing 96 additional nursing beds. This program also funds the Kotzebue Senior Citizens Center, which is operated by a private corporation. The Center provides social, recreational, and nutritional services and has 16 beds for ambulatory residents.

Senior Citizens Tax Relief

This program was initiated to reduce the financial pressures on senior citizens of housing-related taxation. Property taxation can contribute to the unwilling relocation of their residences for the state's elderly, especially for those with fixed incomes. Exemption from local property taxes for homeowners and tax equivalency payments for renters and deferment of special water and sewer assessments are the three housing-related items under this program.¹

Eligible citizens, 65 years of age or older, apply to their local government for the exemptions and deferments. The local government is reimbursed for lost revenues by the State Assessors Office. The property tax exemption and renters equivalency amounts are totally forgiven. A special assessment deferment becomes a lien on the property which is due and payable when the property comes into the ownership of an ineligible taxpayer.

Veterans Loan Fund

The State of Alaska had a direct loan program for veterans and national guardsmen, administered by the now-defunct Division of Veterans Affairs. The program was funded by direct state appropriations. Most of the loans made were for residential mortgages, but they could also be used to finance farms, businesses, education, fishing, mining, personal use, or for investment in rental property.

From fiscal year 1977 to fiscal year 1980, \$213,869,600 was loaned for single-family mortgages. In 1978, the Department of Revenue purchased most of the loans made by the Division of Veterans Affairs. No new applications were accepted, and the program was discontinued because of its large impact on the state budget. The Department of Revenue continues to service outstanding veterans loans, most of which were purchased by the Alaska Housing Finance Corporation.

¹Motor vehicle tax exemption is the only nonhousing tax relief provided under this program.

Residential Energy Conservation Program

This program, administered by the Division of Power and Energy Development, was initiated in October 1980. Program goals are two-fold: to conserve energy and to reduce housing costs by reducing home heating costs. There are no program eligibility restrictions; both renters and homeowners can benefit. All program costs are funded by direct state appropriations.

State funds are used for several purposes. The state trains and contracts with home energy auditors, who inspect homes to determine their energy characteristics. State funds are used to pay for all but \$10 of the cost of an audit; the resident pays that \$10. The state makes grants or refunds to the home resident for the cost of taking energy conservation measures that are recommended by the auditor, for amounts up to \$300 for single-family, detached homes, or \$200 for homes in multifamily structures. In addition to grants and refunds, the Division of Business Loans offers loans up to \$5,000 at five percent interest for energy improvements recommended by the audit.

In the first year of the program, 8,000 homes were audited in 24 communities. More than 2,700 residents received grants and refunds, totaling \$798,308. It is estimated that about 98 billion BTUs will be saved the first year because of energy conservation measures the program financed. This is equivalent to 710,000 gallons of fuel oil; and at an estimated cost of \$1.25 per gallon, this would equal \$887,000 saved over the first year after the measures have been installed (Appropriate Energections, October 1981). Program administrators anticipated conducting 24,054 audits between September 1981 and January 1982.

State Mobile Home Loan Program

From May to October 1980, the state had a Mobile Home Loan Program, administered by the Department of Revenue. Loans were made for

a 25-year term at 11.75 percent interest, with a 10 percent down-payment required. In the six months of activity, 203 loans were made totaling \$5,763,000. This program was discontinued when the Alaska Housing Finance Corporation initiated its Mobile Home Loan Program (Alexander).

Housing Program Debt Service

The state has a continuing obligation to pay off the bonds it issued to finance certain housing programs. The Pioneers Home and Senior Citizen Housing Development programs are current programs with ongoing debt service costs. There was also a Remote Housing Program in the early 1970s for which payments are still being made.

State Institutional Investors

The State of Alaska has also invested significant amounts in housing through institutional investors such as state pension funds and the Permanent Fund. These investors act much like national secondary mortgage market institutions, purchasing residential mortgages originated by direct lending institutions. They invest in loans at or close to market interest rates. Recently they have served homebuyers who do not qualify for AHFC low-interest loans. The State Pension Funds, for example, buy 30-year loans to owner-occupants with at least 10 percent equity, carrying 15 3/4 percent interest and meeting FNMA guidelines.

Since 1977, the State Pension Funds have purchased \$299,600,000 in residential mortgages. The Permanent Fund began investing in mortgages in 1981; in the first nine months of that year, it purchased \$10,400,000 in loans.

STATE SPENDING IN HOUSING AND HOUSING-RELATED PROGRAMS
(000)

<u>Program</u>	<u>FY 1982</u>	<u>FY 1981</u>	<u>FY .980</u>	<u>FY 1979</u>	<u>FY 1978</u>
<u>Pioneers Homes</u> Operating	\$13,910.8	\$11,716.4	\$11,381.8	\$10,344.9	\$9,178.0
<u>Senior Citizens</u> <u>Tax Relief</u> Operating	2,236.0	3,103.0	2,735.1	2,510.9	2,141.6
<u>Veterans Housing Loans</u> \$ Volume Loaned	0.0	0.0	5,082.4	79,926.5	82,949.4
<u>Residential Energy</u> <u>Conservation</u> Operating & Capital	20,000.0	Not Available			
<u>State Mobile Home Loans</u> \$ Volume Loaned	0.0	0.0	5,763.0		
<u>Debt Service</u> Pioneers Home	2,481.8	1,471.3	1,322.8	1,134.8	1,029.2
Senior Citizen Housing	1,750.4	1,295.8	880.3	313.9	66.3
Remote Housing	239.8	246.1	227.6	230.3	238.0
<u>Institutional Investors</u> Pension Funds (\$ Volume Purchased)		58,600.0	62,400.0	61,200.0	59,000.0
Permanent Fund (\$ Volume Purchased)		10,400.0			

	<u>FY 1977</u>	<u>FY 1976</u>
Pioneers Homes	7,494.6	
Senior Citizens Tax Relief	1,525.0	
Veteran Housing	45,911.3	40,182.4
<u>Debt Service</u>		
Pioneers Homes	900.7	
Senior Citizens' Housing	0.0	
Remote Housing	223.0	
Pension Funds	58,400.0	

SOURCES: Executive Budget, Fiscal Years 1978, 1980, 1981, and 1982.

Alaska Budget in Brief, FY 1982.

Bill Pelto, Division of Budget and Management.

Richard Alexander, Department of Revenue.

APPENDIX E
INFORMATION NEEDS FOR HOUSING PROGRAM EVALUATION

Introduction

Many methods of program evaluation have been developed. Each is primarily a product of the different decision making situations in which they are applied. Different decision making situations include evaluating present or proposed actions; evaluating capital investments or operating programs; and evaluating one particular program or a number of programs designed to reach the same goal.

Independent of the type of evaluation, the primary goal of this type of exercise is to allocate public funds in a way that is most beneficial to the political constituency. This concept is similar to the economists concern with efficiency, the attempt to reach a particular outcome at the least resource cost. Cost-benefit analysis is program evaluation conducted in this strictest sense. Program evaluation may differ from the strict concern with efficiency for two reasons. First, the particular public agency may not bear the burden of all the cost; their concern is only with efficiency in terms of costs they bear. Secondly, the political process may define particular goals which prevent the most efficient approach. Given these constraints, the purpose of project evaluation is the most beneficial allocation of public funds.

Basic Concepts

A set of basic concepts should be consistently applied in any type of program evaluation. These concepts provide consistency both within a particular evaluation and across different evaluations. Consistency across evaluations is important since the alternate evaluations could be used to select the best method of achieving a particular objective or to select from competing users for a fixed amount of public resources.

The following basic concepts should apply in any program evaluation (see Devanney, et al, 1976).

1. Make the client group explicit. Any particular public action will generate costs and benefits for a number of groups. In a program evaluation, the costs and benefits to a specific group are considered and effects to other groups are ignored. For example, when public housing is provided through federal grants, these federal funds are not costs to the state.
2. Make the greatest use of market prices. Since the changes which result from public actions affect many different types of resources, applying market prices to these resources allows their comparison. When applying prices to outcomes and costs, three concerns are important. First, prices may not reflect the value to the public of certain resources. Prices may ignore social cost and benefits. Secondly, prices are not independent of the present income distribution and distributional consequences must be treated explicitly. Finally, this does not mean outcomes which cannot be valued with a market price should be ignored.
3. Value net rather than gross changes. The benefits created by a public action include only the net change. For example, if one effect of the action is to create jobs, the total number of jobs measures the benefits of the action only in certain cases. If the workers hired would have been unemployed, then the jobs are a benefit. To the extent workers would have been employed, these jobs are not a benefit.
4. Make explicit distributional effects. Public actions will affect different groups in the community differently. Certain groups may bear a greater share of the costs than the share of benefits they receive. Policy makers may consider these distributional consequences in addition to the overall efficiency effects.

5. Make the baseline explicit. The effects of public action are determined by comparing what will (or did) happen with the action to what would happen without the action. The baseline describes what would have happened without the program; it is the scenario to which the program effects are compared. For example, when examining the effects of the AHFC program, the baseline is what would have happened in the program year without the program, not what happened in the previous year.

Uncertainty

A program evaluation is conducted under conditions of uncertainty. The source of uncertainty lies primarily in the description of what would have happened or what will happen. This uncertainty is primarily an information problem.

The information problem is of two general types. First, projection of events which either will or would have taken place is an important part of estimating program effects. Knowledge of how the important systems work is necessary. Uncertainty can arise if the workings of these systems is not clearly understood. The second type of information problem concerns data. Data problems exist most importantly when we attempt to understand what happened because of a program. Missing data prevents the development of a complete picture of what happened.

Information Needs For Housing Program Evaluation

In this section, we will describe the information gaps we found in doing the evaluation of the housing programs. We concentrate on those gaps we feel are most important. The housing information needs can be grouped into three classes: program data, housing market data, and housing market analysis. Each of these is described briefly below:

1. Program data. In our study, we found a surprising amount of data collected by the programs. A good deal of demographic data was available in an easily accessible form (much of it accessible by computer). Helpful additional information would include:
 - a. Racial information for the borrower or renter.
 - b. Prior housing information for borrower or renter, including prior housing type, location, and amount sold for.
 - c. A similar complete set of demographic and housing data on unsuccessful applicants.

2. Market data. The primary constraint to completing our analysis was data on housing markets. Anchorage is the only market for which very complete information exists. Other urban markets have only limited information. Housing market data on rural markets is non-existent. Housing market data consists of information on prices, new construction, sales, and quality of the existing stock.

Another type of market data which is needed is information on the population not served by the programs. Except for census years, this information is not available. This type of information would be extremely important, for example, when trying to measure the housing demand effect of the programs, since demographic factors importantly influence demand.

3. Housing market analysis. Finally, certain systems which affect housing need to be better understood. The supply side of the housing market is not very well understood. As we have shown, important impacts depend on the supply response. This side of the market includes bankers, builders, land developers, and those sectors of industry which supply inputs to these groups.

An especially important component of the supply side is the conversion of housing between rental and owner housing. The conversion factor is important for estimating the net effect of the program on new construction.

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