

**ECONOMIC IMPACT OF AFFORDABLE HOUSING:  
NEW CONSTRUCTION, REHABILITATION AND ASSISTANCE PROGRAMS**

**Prepared for  
Utah Housing Coalition**

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**September 2004**

## **Introduction**

This study was undertaken by the Bureau of Economic and Business Research (BEBR) of the David Eccles School of Business, University of Utah at the request of the Utah Housing Coalition. The purpose of this study was to estimate the economic impact generated by affordable housing programs in 2003 on Utah's employment, earnings and tax revenues.

While the role that affordable housing programs play in improving the economic well-being of moderate and low income households in Utah is well established, the economic impact on jobs, wages and taxes is less well understood. In a single year affordable housing programs generate millions of dollars in new construction and rehabilitation activity, provide rental revenue to landlords and give down payment assistance to hundreds of households.

Section I of this study describes the methodology used to derive the economic impacts of affordable housing programs on the Utah economy. Section II discusses the economic impact by type of affordable housing program. Section III tallies the total economic impact by sector. And Section IV discusses the fiscal impacts from the increase in employment and earnings attributable to affordable housing programs.

There are a large number of federal, state and local agencies as well as non-profit organizations that participate in affordable housing programs. All of the major participants were interviewed regarding their 2003 activity by program type. Those interviewed were: Utah Housing Corporation, HUD, Rural Development, Olene Walker Housing Trust Fund (State and Federal allocations), Utah Division of Community Development, non-profit housing developers, housing authorities, entitlement cities (CBDG and HOME funds), Federal Home Loan Bank of Seattle and Redevelopment Agencies. This study relied on the cooperation of a significant number of individuals in these agencies and organizations. Their experience and willingness to spend considerable time discussing their programs and providing information on recent activity was essential for this work.

## Executive Summary

Each year affordable housing programs provide significant levels of housing assistance to moderate and low-income households in Utah. This assistance generates new construction activity, provides rental revenue for landlords, subsidizes rents for over 10,000 renters and gives hundreds of households down payment loans and grants. The economic impact of affordable housing programs is significant for the residential construction and real estate sectors and does have minor impact on the household sector. Those impacts, in terms of employment, wages and state and local tax collections are summarized below.

### *Total Economic Impact*

- In 2003 the total economic impact of the construction, rehabilitation and subsidy programs for affordable housing was 7,320 jobs and \$200 million in earnings. The total impact generated by each sector is shown below:

Sector	Employment*	Earnings (Millions)
Construction	6,125	\$180.5
Real Estate	1,100	\$17.2
Households	95	\$2.4
Total	7,320	\$200.1

\* Includes full and part-time jobs.

### *Economic Impact by Sector*

- In 2003 the direct economic impact on the construction sector of new construction and rehabilitation of affordable housing units in Utah was 3,025 jobs and \$88.4 million in wages, which accounts for about 7% of the employment and wages in the residential construction sector. The indirect and induced impacts created by direct construction activity results in an additional 3,100 jobs and \$92.1 million in wages for the Utah economy.
- Landlords, whether private owners or public owners (housing authorities), receive considerable revenue from a variety of affordable housing programs. The largest is HUD's Section 8 voucher program, which paid landlords \$43.5 million in rent in 2003. Other programs include Rural Development's rental assistance program, HUD's operating and capital funds assistance to housing authorities and competitive homeless funding. All of these programs provide landlords with revenue to pay debt service and operate and maintain their units. In 2003, the \$61 million in program payments generated 700 direct jobs and 400 indirect and induced jobs and \$6.2 million in direct wages and \$11 million in indirect and induced wages.
- In 2003 households received \$6.2 million in down payment assistance primarily from HUD and the Federal Home Loan Bank of Seattle. In most cases, this assistance was tantamount to a grant therefore the assistance was treated as a transfer payment or income to households. The spending of this additional household income generated about 95 jobs and \$2.4 million in income.

*Fiscal Impacts*

- Another measure of economic impact is state and local taxes generated by the increase in income earnings. The estimated income, sales and property tax generated by affordable housing programs in 2003 was \$20.4 million. This estimate was derived by applying an effective state and local tax rate of 10.2% to the \$200 million in income generated by affordable housing programs.

*Affordable Housing Programs by Type*

- In 2003 there was an estimated \$303.1 million in affordable housing activity. New construction accounted for the largest share with \$190 million in value. Voucher and tenant base rental assistance provided \$52 million in assistance, followed by rehabilitation of existing units at \$45 million, operating and capital funds for housing authorities at \$8.6 million and down payment assistance of \$6.2 million.

Type	Value (Millions)	% Share
New Construction	\$190.1	62.6%
Vouchers and TBRA	\$52.8	17.4%
Rehabilitation	\$45.4	14.9%
Operating and Capital Funds	\$8.6	2.8%
Down Payment Assistance	\$6.2	2.0%
Total	\$303.7	100.0%

*Sources of Funding*

- Federal funds, often passed through state or local agencies, account for almost all of the funding for affordable housing. The principal sources of state and local funding are the Olene Walker Housing Trust Fund, which receives about \$2 million annually in state appropriations and local Redevelopment Agencies, which set aside tax increment dollars for affordable housing projects. In both cases, these funding sources represent a small fraction of total funding for affordable housing programs in a given year. Nevertheless, state and local agencies, as the administrators of federal programs and funding, play an absolutely essential role in the development of affordable housing. Without the participation by the Olene Walker Housing Trust Fund a majority of affordable housing units would not be built, particularly in the rural and inner city areas, and those units built in suburban areas would be less affordable.
- Redevelopment Agencies as a source of funding for affordable housing have tremendous future potential. Generally, Redevelopment Agencies are required to set-aside 20% of the tax increment in a project area for affordable housing. However, in most cases this set-aside will not be financed for a number of years. Early in the development of a RDA project area most tax increment dollars are obligated to start-up and initial cost and the housing set-aside is deferred for several years. Consequently, to date, RDAs have not provided significant funding for affordable housing.

## I. Estimating Economic Impact Using RIMS II

The economic impact estimates presented in this study utilize a standard tool of regional economic impact analysis known as the Regional Input-Output Modeling Systems (RIMS II). Developed by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce, RIMS II provides a 480-sector input-output model of the Utah economy. This model tracks the flow of spending or input requirements through the Utah economy. The model then infers the amount of output required from each industrial sector to satisfy a company's purchase requirements.

In the analysis the total impact of spending for construction, rehabilitation and assistance programs for affordable housing includes direct, indirect and induced impacts. Direct impacts, for example, include purchases made by construction firms from other businesses and purchases of construction labor from Utah workers. Indirect impacts are the effects of secondary spending on the Utah economy. These indirect impacts result from spending that occurs when Utah suppliers purchase additional requirements from yet other Utah vendors. Indirect impacts also include "induced impacts." Induced impacts occur when employees of a construction company and employees of Utah companies that provide goods and services for construction of new affordable housing spend their earnings on goods from other Utah vendors.

RIMS II models the relationship between direct, indirect and induced purchase requirements for each industrial sector of the Utah economy. Given the direct purchases made by a construction company from specific industrial sectors, RIMS II estimates the corresponding indirect and induced requirements from all other sectors. The model then measures these requirements in terms of employment and earnings.

The sum of the direct, indirect and induced requirements represents the total economic impact of affordable housing expenditures (construction, rehabilitation and down payment assistance) in the Utah economy for 2003. The impacts estimated with the RIMS II multipliers provide information about the activities under study, not about alternative uses of resources.

### Methodology and Assumptions

To accurately assess the economic impacts it was first necessary to identify the amount of expenditures in each category of activity: new construction, rehabilitation and assistance programs. For example, all affordable housing programs that provided assistance to new construction were reviewed. One of the most significant programs is the Utah Housing Corporation's first time homebuyer programs. These programs offer a below-market 30-year fixed rate mortgage to qualifying low and moderate income households. The underlying assumption is that without the below-market rate the new home would not have been built. Thus a critical assumption, which was applied to all new construction and rehabilitation, was:

- (1) New construction and rehabilitation investment and expenditures would not have occurred without the assistance of the affordable housing program.

The total value in new construction and rehabilitation is used in calculating economic impacts. This value is a "leverage amount", which is generally several times the amount of assistance. For example, Olene Walker Housing Trust Fund may provide a \$200,000 low interest loan for the construction of a new \$4 million apartment project. However, not the entire \$4 million project cost generates new construction activity. Part of the project cost is the purchase of land. Land transactions are transfers of assets that don't generate economic impacts. Therefore, the cost of land was "backed out" of the total project costs. In acquisition/rehab projects only the expenditures devoted to rehab were used. Thus the following assumption:

(2) An adjusted project cost was used to calculate economic impacts. The adjusted cost is defined as the project's leveraged cost less cost of land and selected soft cost or about 80% of the leveraged or total project cost.

Various affordable housing programs provide down payment assistance. These programs generally allow the recipient to buy a new or existing home. Of course, if the recipient of down payment assistance purchases an existing home no construction employment or earnings is generated. In most cases there was no way to distinguish between down payment assistance for new or existing homes. Therefore the following assumption was used:

(3) Down payment assistance was assumed to be used for an existing home therefore the amount of the assistance was treated as a transfer payment, i.e. income. The leveraged amount of home purchased was not used in the calculations. This is consistent with the treatment of down payment assistance by the Olene Walker Housing Trust Fund.

A significant amount of affordable housing assistance is received in the form of HUD Section 8 vouchers and RD vouchers. Vouchers, in effect, are payments to landlords.

(4) Vouchers are assumed to be payments to landlords for the operation and maintenance of rental units.

There are three sectors affected by affordable housing programs. The new construction of single-family and apartment units and rehabilitation of residential units obviously impacts the residential construction sector. The down payment assistance programs are direct payments to the household sector and vouchers are payments to the real estate sector. Each sector has different economic impacts, which are reflected in their multipliers. These final demand multipliers (BEA RIMS II Multipliers) for Utah were adjusted to 2003.

**Table 1**  
**Final Demand Multipliers – 2003**  
**(Per \$1 Million)**

Type of Activity	Sector	Final Demand Multipliers	
		Earnings	Employment
Construction and Rehab.	Construction	.7655	26.0
Vouchers	Real Estate	.2809	17.4
Down Payment Assistance	Household	.3927	15.2

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

The final demand multiplier for each sector was applied to the value of construction, rehabilitation, voucher payments or down payment assistance. For example, the final demand multiplier for employment in the construction sector is 26.0. The direct, indirect and induced employment impacts are derived by applying the final demand multiplier to the value of construction activity. For example, if affordable housing programs generate \$100 million in construction activity then 2,600 total jobs (direct, indirect and induced) are created. In other words, for every \$1 million in construction activity 26 jobs are generated in the Utah economy.

To continue with the example, the final demand earnings multiplier is also applied to the \$100 million in construction activity to determine total direct, indirect and induced earnings. The \$100 million is

multiplied by .7655 to derive total earnings,  $.7655 \times \$100 \text{ million} = \$76.55 \text{ million}$  in total earnings. This is the total earnings resulting from the creation of 2,600 new jobs.

To determine the direct jobs for the construction industry it was necessary to divide the number of total jobs 2,600 by the direct effect multiplier. The direct effect multipliers for Utah for each of the relevant sectors are shown in Table 2. Direct effect multipliers are those multipliers most commonly referred to and familiar to the general public.

**Table 2**  
**Direct Effect Multipliers - 2003**

Type of Activity	Sector	Direct Effect Multipliers	
		Earnings	Employment
Construction and Rehab.	Construction	2.0432	2.022
Vouchers	Real Estate	2.7840	1.574
Down Payment Assistance	Household	Not applicable	Not applicable

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

In the example the total number of jobs generated from affordable housing programs was 2,600. To derive the direct number of new construction jobs generated by the affordable housing programs, 2,600 is divided by the construction sector's direct effect multiplier of 2.022. This yields 1,285 direct construction jobs from \$100 million in construction activity. The indirect and induced jobs created by the construction activity totals 1,315, or  $2,600 - 1,285 = 1,315$ . A similar methodology is used to derive the direct earnings impact for the construction sector. The \$76.55 million in earnings is divided by the direct effect earnings multiplier for construction of 2.0432. This yields \$36.6 million in direct construction wages and \$39.9 million in indirect and induced wages,  $\$76.5 \text{ million} - \$36.6 \text{ million} = \$39.9 \text{ million}$ .

The direct, indirect and induced multipliers for the real estate sector were derived using the same methodology. However, the household sector does not have direct effect multipliers. Households received, in effect, income from down payment assistance. The down payment assistance allows a household to spend money that would otherwise go for a down payment. In this respect the household sector is unique. It is the only sector that does not have direct effect multipliers. The indirect and induced impacts for household spending are captured in the final demand multipliers.

## II. Economic Impact by Type of Affordable Housing Program

### Construction and Rehabilitation

In terms of value, the most significant affordable housing programs are those that stimulate new residential construction and the rehabilitation of existing residential units. These programs resulted in \$235 million of construction activity in 2003; \$190 million in new residential construction and \$45 million in rehabilitation activity.

There are seven entities or groups that participated in new construction or rehabilitation of residential units. The list below identifies these groups and where applicable gives the major affordable housing programs used.

<i>Utah Housing Corporation</i>
First Time Home Buyer
Low Income Housing Tax Credit
Private Activity Bond Program
Crown, Echo Homes
<i>Rural Development</i>
Mutual Self-Help
Direct Loan
515 Rural Rental Housing Program
<i>Federal Home Loan Bank of Seattle</i>
Affordable Housing Program
<i>HUD</i>
HOME (entitlement cities)
CDBG (entitlement cities and small cities)
Section 202 Supportive Housing for Elderly
Section 811 Supportive Housing for People with Disabilities
<i>Olene Walker Housing Trust Fund</i>
Generally partners with other programs
<i>RDA</i>
20% set aside of tax increment
<i>Non-Profit Developers</i>
Use a mix of programs listed above

Many of the organizations above often join together to develop a new affordable housing project. For example, a new affordable apartment project could easily have three different participants involved in the financing and development of the project: a non-profit developer, Olene Walker Housing Trust Fund and low income housing tax credits. Consequently, care was taken to avoid double or triple counting the value of a project. Since the greatest likelihood of double counting was with apartment projects, each apartment project was identified to guarantee that it was used only once in the analysis. Thus, determining the unduplicated adjusted project cost was the key task for the analysis of new construction and rehabilitation activity.

Confusion regarding construction impacts can arise from statements by some organizations. For example, the Olene Walker Housing Trust Fund refers to its 11 to 1 match for state dollars invested in housing. This match measures the amount of money the trust fund invests in a specific project

compared to the total project cost, i.e. the leveraged amount for the project. Since the leveraged amount was used in the analysis whatever match the trust fund achieved is captured in the employment and earnings impacts.

The estimated number of unduplicated new and rehabilitated units and the leveraged value of the related construction activity is shown in Table 3.

**Table 3**  
**New Construction and Rehabilitation of**

Category	Value Millions	Total Units
New Construction	\$190.1	2,520
Single Family	\$53.0	575
Multi-family	\$137.3	1,945
Rehabilitation	\$45.4	2,100
Total	\$235.5	4,620

Source: Bureau of Economic and Business Research, David Eccles School of Business, University of Utah.

The total construction activity generated by affordable housing programs was \$235.5 million; \$190.1 million for new construction and \$45.4 million for rehabilitation. Over 70% of new construction activity was for multifamily units. The construction sector’s final demand multiplier is applied to the \$235.5 million to determine the total earnings and employment impacts.

The final demand earnings multiplier is .7665, which means that 76.6% of the value of the construction activity of \$235.5 million ends up in direct, indirect and induced wages. Therefore applying the final demand multiplier of .7665 to \$235.5 results in an estimated \$180.5 million in total earnings.

The construction sector’s final demand employment is 26, which means for every million dollars of construction activity 26 total direct, indirect and induced jobs are created. Therefore multiplying 235.5 (\$235.5 million divided by \$1 million) by 26 results in an estimate of 6,125 total jobs created by affordable housing construction activity.

To determine the direct earnings and employment impacts for the construction sector the total impacts are divided by the direct effect multipliers. The construction sector’s direct effect earnings multiplier is 2.043 and the direct effect employment multiplier is 2.022.

$$\begin{aligned} \$180.5 \text{ million divided by } 2.043 &= \$88.4 \text{ in direct construction earnings} \\ 6,125 \text{ jobs divided by } 2.022 &= 3,025 \text{ direct construction jobs} \end{aligned}$$

The new building and rehabilitation activity generated by affordable housing represents about 7% of employment and earnings in the construction sector.

The indirect and induced earnings and employment created by construction activity are derived by subtracting the direct earnings and employment from the total employment and earnings impacts. This procedure results in about \$92 million in indirect and induced earnings and 3,100 in indirect and induced employment, see Table 4.

**Table 4**  
**Direct, Indirect and Induced Impacts from Construction Activity**

Impacts	Earnings (million)	Employment
Direct	\$88.4	3,025
Indirect and Induced	\$92.1	3,100
Total	\$180.5	6,125

Source: Bureau of Economic and Business Research, David Eccles School of Business, University of Utah.

**Vouchers, Operating and Capital Funds**

Affordable housing programs not only stimulate new construction and rehabilitation of existing units but also provide an important source of revenue to private and public owners of affordable housing. The most important revenue source for owners of property is HUD’s voucher and project based programs, which paid property owners about \$50 million in Utah in 2003. Rural Development’s rental assistance program provided another \$2.8 million in payments to landlords. The HUD and RD payments are used by property owners for the operation, maintenance and debt service of their rental units.

In addition to vouchers HUD provides housing authorities with operating and capital funds, which are also used to operate and manage affordable housing programs and units. These payments in 2003 amounted to \$8.6 million in capital, competitive housing and emergency shelter funds. For the analysis, these operating and capital funds were considered as similar to voucher payments.

Thus vouchers, rental assistance and operating and capital funds were all treated as payments to the real estate sector. Therefore the final demand and direct effect multipliers for this sector were used to determine economic impacts. These multipliers were applied to the \$61.4 million in payments to the real estate sector; \$52.8 million in vouchers and \$8.6 million in capital and operating funds.

The final demand earnings multiplier for the real estate sector is .2809, which means that 28% of the value of the payments to real estate of \$61.4 million ends up in direct, indirect and induced wages. Therefore applying the final demand multiplier of .2809 to \$61.4 million results in an estimated \$17.2 million in total earnings.

The real estate sector’s final demand employment multiplier is 18, which means for every one million dollars of real estate operation and maintenance 18 direct, indirect and induced jobs are created. Therefore multiplying 61.4 (\$61.4 million divided by \$1 million) by 18 results in an estimate of 1,100 total jobs created by affordable housing construction activity.

To determine the direct earnings and employment impacts for the real estate sector the total impacts are divided by the direct effect multipliers. The real estate sector’s direct effect earnings multiplier is 2.7840 and the direct effect employment multiplier is 1.5740.

\$17.2 million divided by 2.7840 = \$6.2 in direct real estate O&M wages  
1,100 jobs divided by 1.5740 = 700 direct real estate O&M jobs

The indirect and induced earnings and employment created by construction activity are derived by subtracting the direct earnings and employment from the total employment and earnings impacts, which results in \$11 million in indirect and induced earnings and 400 indirect and induced jobs, see Table 5.

**Table 5**  
**Direct, Indirect and Induced Impacts from Real Estate O&M**

Impacts	Earnings (million)	Employment
Direct	\$6.2	700
Indirect and Induced	\$11	400
Total	\$17.2	1,100

Source: Bureau of Economic and Business Research, David Eccles School of Business, University of Utah.

### **Down Payment Assistance Programs**

Several affordable housing programs provide down payment assistance to moderate and low income households. This type of assistance is, in effect, a transfer payment from a government program to a household. This transfer of income, by reducing the household's down payment obligation, "frees up" income for consumption. Therefore, for the impact analysis the total amount of down payment assistance from affordable housing programs of \$6.2 million is treated as household income. The major down payment assistance programs are funded by the Federal Home Loan Bank of Seattle, HUD through HOME funds for both entitlement and small cities and state monies through the Olene Walker Housing Trust Fund.

Since down payment assistance was given to households the final demand multiplier for the household sector was applied to the \$6.2 million in down payment assistance. The final demand earnings multiplier for the household sector is .3927, which means that 39% of the value of the down payment assistance to households of \$6.2 million ends up in direct, indirect and induced earnings. Therefore applying the final demand multiplier of .3927 to \$6.2 million results in an estimated \$2.4 million in total earnings.

The household sector's final demand employment multiplier is 15, which means for every one million dollars of household income 15 direct, indirect and induced jobs are created. Therefore multiplying 6.2 (\$6.2 million divided by \$1 million) by 15 results in an estimate of 95 total jobs created by affordable housing down payment assistance programs.

No direct economic impacts are measured for the household sector. The earnings and income impacts for this sector represent the secondary round of spending created as the household spends additional income.

### III. Total Impact of Affordable Housing Programs

The total impact of affordable housing programs measures the combined direct, indirect and induced impacts generated by new construction, rehabilitation, capital and operating funding and down payment assistance. The direct impacts begin in the construction, real estate and households sectors and then spread throughout the economy in rounds of secondary and tertiary spending.

In 2003, the total economic impact of affordable housing programs on the Utah economy was \$200 million in earnings and 7,300 jobs. Affordable housing programs resulted in the new construction of 2,520 housing units in 2003. Seventy-seven percent or 1,945 of the new units were rentals while 575 units were new single-family homes. In 2003, there was \$45.1 million in rehabilitation spent on 2,100 residential units.

Affordable housing programs affecting the construction sector have by far the most significant impact on the Utah economy creating some 6,125 new full-time jobs and generated \$180.5 million in income. The impact of affordable housing programs on the real estate and household sectors are considerably smaller, see Table 6.

**Table 6**  
**Total Employment and Earnings Impacts of Affordable Housing Programs**

Sector	Employment	Earnings (Millions)
Construction	6,125	\$180.5
Real Estate	1,100	\$17.2
Households	95	\$2.4
Total	7,320	\$200.1

Source: Bureau of Economic and Business Research, David Eccles School of Business, University of Utah.

#### IV. Fiscal Impacts of Affordable Housing Programs

Another measure of the economic importance of affordable housing programs is demonstrated by the fiscal impacts they generate. Fiscal benefits arising from affordable housing programs in 2003 totaled \$20.9 million in state and local taxes. Tax revenues are generated by additional sales, property, income and license taxes paid by households with earnings attributable to affordable housing programs.

In 2002 the total personal income in the state of Utah was \$57.7 billion. The amount of taxes paid in 2002 by Utah households was \$5.9 billion, see Table 7 for detail of tax paid in Utah. Therefore, state and local taxes paid by households were 10.2% of total personal income, \$5.9 billion divided by \$57.7 billion.

**Table 7**  
**State and Local Taxes Paid in Utah – 2002**  
**(thousands)**

State and Local Taxes	Taxes Paid
Property	\$1,419,769
Sales and gross receipts	\$2,618,575
General sales	\$1,970,374
Selective sales	\$648,201
Motor fuel	\$336,411
Alcoholic beverage	\$26,080
Tobacco products	\$50,994
Public utilities	\$80,753
Other selective sales	\$153,963
Individual income	\$1,605,310
License taxes	\$147,640
Motor vehicle	\$85,734
Other taxes	\$123,859
Total	\$5,915,153

Source: State and Local Government Finances, U.S. Census Bureau.

Applying 10.2% to the total household earnings attributable to affordable housing programs will yield the state and local tax revenue impact. The household earnings from affordable housing programs were estimated in Section III to be \$200 million. These earnings include direct, indirect and induced earnings. Applying the 10.2% rate to the \$200 million in taxes yields tax revenues of \$20.4 million annually for state and local governments due to the increased earnings generated by affordable housing programs.