



The Economic Impact of MaineHousing's Investment in Affordable Multifamily Housing: State and Regional

A regional economic impact analysis of MaineHousing's Low Income Housing Tax Credit program in 2015 and 2016



Communications, Planning and Development

Summary

MaineHousing's investment in the Low Income Housing Tax Credit (LIHTC) program adds to the supply of much needed affordable housing in Maine. In the process additional funding from other sources is leveraged and a substantial and critical economic boost is given to the local, regional and statewide economy.

- Between 2015 and 2016 MaineHousing and its partners spent \$180 million on new construction, rehabilitation, and reuse projects through the LIHTC program with \$137 million coming from MaineHousing and another \$42 million from other sources. Combined this investment led to the construction of 29 housing projects with 1,119 affordable housing units for families and seniors.¹
- The 29 projects were distributed across nine counties and all seven regions represented in the economic impact model.
- In addition to the direct output generated by the expenditure of \$180 million, the investments led to an additional \$150 million in gross domestic product (GDP) as the expenditure made its way throughout the economy.
- An estimated 2,444 total jobs were created with 59% being in construction.
- The jobs created by MaineHousing's LIHTC program comprised an average of 17% of average annual residential construction employment. An area of employment that has yet to return to pre-recession levels.

Background

One of MaineHousing's strategic goals is to expand the supply of affordable housing opportunities for low and moderate income Maine residents and subsequently enhance their quality of life while furthering the development of more vibrant and productive communities. In addition to allocating tax credits through the LIHTC program, MaineHousing utilizes bond sales proceeds, federal grants and other funding to offer a wide range of affordable housing-related assistance including but not limited to:

- Below market interest rate mortgages for first time home buyers
- Energy and Housing services such as LIHEAP assistance and weatherization
- Rental assistance
- Affordable housing asset management with direct funding and operating subsidies for owners of affordable housing
- Helping people who are homeless achieve permanent stable housing

¹ Projects were selected for inclusion in this analysis based on the dates of their construction loan closing and the issuance of their certificate of substantial completion; projects that received a certificate of substantial completion in 2015 were included in the 2015 analysis and those that received it in 2016 were included in the 2016 analysis. The date range of construction loan closing to certificate issuance was chosen as the timeframe for this economic analysis because the majority of project related expenses are incurred during this period.

All these programs improve the economic well-being of low to moderate income Maine residents by reducing housing costs and freeing that money to be used for healthcare, transportation, food and education. They also provide stability to families and individuals as well as the community in which they live. All of these programs along with the construction, rehabilitation and reuse of multi-family housing stimulate economic activity.

MaineHousing Economic Impacts

To examine the economic impact of investments in low income multi-family housing, data on expenditures for new, rehabilitated, and reuse construction was provided to the Maine Center for Business and Economic Research (MCBER) located on the University of Southern Maine campus in Portland, Maine. MCBER used this data to produce an estimate of the number of jobs and economic activity that were supported in Maine by expenditures on multifamily housing.

The economic impacts were estimated using a set of economic models developed by Regional Economic Models Inc. (REMI) and maintained by MCBER that cover the entire state of Maine. The REMI models are considered among the best available for estimating the effects of economic events over time. Simulations of an economic event or activity, in this case MaineHousing's project related expenditures and investments, are compared against a baseline control forecast of the economy. The differences between the forecast control and simulation are interpreted as the economic impacts.

The REMI model maintained by MCBER is comprised of seven regions covering the entire state of Maine. These regions are based on aggregates of the state's 16 counties and are defined as follows:

1. Androscoggin-Franklin-Oxford
2. Aroostook
3. Cumberland
4. Hancock-Washington/Penobscot-Piscataquis
5. Kennebec-Somerset
6. Waldo-Knox/Lincoln-Sagadahoc
7. York

For the purposes of this analysis expenditure data only included spending directly related to the construction and development (professional and technical services) category of the projects and did not include real estate acquisition (land and property) costs or residual costs that do not have a defined spending category but are assumed to be associated with the acquisition and financing of the project. Project expenditure data was allocated by year based on proportioned shares of project expenditures and by REMI region.²

² Appendix 1: Model Inputs by region for Construction and Professional Technical Services (PTS)

Expenditures data was provided for three types of MaineHousing multi-family projects for each region³:

- Multifamily New Construction – Projects conceptualized, planned and constructed as multifamily housing.
- Multifamily Rehabilitation – Projects that take existing multifamily housing and rehabilitate it to meet recent codes, accessibility requirements, and overall standards of current multifamily housing living.
- Multifamily Reuse – These projects take an existing structure previously used for another purpose such as manufacturing or warehousing and convert it into multifamily housing.

The economic impact measures reported from these projects include employment, wages and salaries, total output, and gross domestic product. Employment outputs are reported as inclusive of the direct, indirect, and induced economic activity supported by project expenditures.⁴ Direct impacts refer to jobs supported by the initial rounds of project expenditures on construction and professional and technical services. These firms in turn make purchases of materials and other services to support operations which in turn support jobs at supplier firms. These are referred to as indirect impacts. Lastly, induced impacts refer to local economic demand supported by direct and indirect rounds of spending. Specifically, this refers to jobs supported by spending in the local economy on food, transportation, entertainment, and other more general purchases made with job earnings from the direct and indirect impacts.⁵

Property tax revenues are based on the current mil rates (2016-2017) and specific project valuation. Impacts are reported in aggregate by REMI region and reported for a single year only.

Analysis Results

As shown in Table 1, MaineHousing and leveraged source spending of \$180 million from 2015 – 2016 for the three project types resulted in 2,444 jobs that paid \$74 million in wages and salaries. Total output, the sum of private non-farm private industries, state and local government, federal civilian and military, and farm sectors economic output from the projects was \$259 million. Total GDP, the market value of goods and services produced by labor and property involved in the project was \$150 million.

The impact for each REMI region is detailed in Tables 2 – 8.

³ See Appendix 2, Types of Construction by Region, Expenditure and Unit Counts.

⁴ See Appendix 4, Definitions

⁵ See Appendix 3, Businesses and Employees Involved in Residential Construction

Table 1: New Construction, Rehabilitation and Reuse Projects Funded by MaineHousing and Other Sources, 2015 – 16

Maine (29 Projects, 1,119 Units)

MaineHousing and Other Sources of Funding				
Expenditures \$180 million				
Impact	Employment	Wages and Salaries (millions)	Total Output (millions)	GDP millions
Direct	1,429			
Indirect and Induced	1,015	\$74 million	\$259 million	\$150
Total	2,444			

Table 2: New Construction, Rehabilitation and Reuse Projects Funded by MaineHousing, 2015 - 16

Androscoggin-Franklin-Oxford Region (6 Projects, 278 Units)

MaineHousing and Other Sources of Funding				
Expenditures \$38.5 million				
Impact	Employment	Wages and Salaries (millions)	Total Output (millions)	GDP (millions)
Direct	283			
Indirect and Induced	168	\$12.6	\$43.8	\$25
Total	451			

Table 3: New Construction, Rehabilitation and Reuse Projects Funded by MaineHousing, 2015 - 16

Aroostook Region (1 Project, 28 Units)

MaineHousing and Other Sources of Funding				
Expenditures \$4.7 million				
Impact	Employment	Wages and Salaries (millions)	Total Output (millions)	GDP (millions)
Direct	51			
Indirect and Induced	24	\$1.8	\$6.6	\$3.8
Total	74			

Table 4: New Construction, Rehabilitation and Reuse Projects Funded by MaineHousing, 2015 - 16

Cumberland Region (6 Projects, 225 Units)

MaineHousing and Other Sources of Funding				
Expenditures		\$40.0 million		
Impact	Employment	Wages and Salaries (millions)	Total Output (millions)	GDP (millions)
Direct	241			
Indirect and Induced	271	\$21.0	\$64.0	\$38
Total	512			

Table 5: New Construction, Rehabilitation and Reuse Projects Funded by MaineHousing, 2015 - 16

Hancock-Washington/Penobscot-Piscataquis Region (6 Projects, 181 Units)

MaineHousing and Other Sources of Funding				
Expenditures		\$32.4 million		
Impact	Employment	Wages and Salaries (millions)	Total Output (millions)	GDP (millions)
Direct	299			
Indirect and Induced	184	\$13.4	\$47.6	\$27
Total	483			

Table 6: New Construction, Rehabilitation and Reuse Projects Funded by MaineHousing, 2015 - 16

Kennebec-Somerset Region (3 Projects, 131 Units)

MaineHousing and Other Sources of Funding				
Expenditures		\$24.4 million		
Impact	Employment	Wages and Salaries (millions)	Total Output (millions)	GDP (millions)
Direct	181			
Indirect and Induced	137	\$10.3	\$35.4	\$21
Total	318			

Table 7: New Construction, Rehabilitation and Reuse Projects Funded by MaineHousing, 2015 - 16

Waldo-Knox/Lincoln-Sagadahoc (1 Project, 36 Units)

MaineHousing and Other Sources of Funding				
Expenditures		\$5.4 million		
Impact	Employment	Wages and Salaries (millions)	Total Output (millions)	GDP (millions)
Direct	58			
Indirect and Induced	61	3.0	11.3	6.5
Total	119			

Table 8: New Construction, Rehabilitation and Reuse Projects Funded by MaineHousing, 2015 - 16

York Region (6 Projects, 240 units)

MaineHousing and Other Sources of Funding				
Expenditures		\$34.7 million		
Impact	Employment	Wages and Salaries (millions)	Total Output (millions)	GDP (millions)
Direct	317			
Indirect and Induced	171	\$12.3	\$50.4	\$29
Total	487			

The Need to Grow Construction Jobs

The residential building construction industry in Maine has lost a high percentage of jobs since 2007. The industry was hit particularly hard because it was so closely tied to the causes of the recession itself. Only the information sector lost a greater percentage of jobs. As Table 9 shows, between 2007 and 2010 the average number of residential building construction employees dropped 29% or 1,567 workers from peak pre-recession level to the bottom of the recession. During the recovery, post 2010, some of these jobs have come back. In construction alone, MaineHousing expenditures resulted in an average annual (2015 – 2016) 692 construction jobs statewide or comparatively speaking, 17% of the average annual residential construction employment of 4,088 in 2015. MaineHousing expenditures also generated jobs in other industry sectors and in particular professional and technical fields.⁶ Investing in housing has and can help put residential construction workers and others back to work where they are greatly needed.

⁶ See Appendix 6 for a breakdown of jobs by industry 2015 – 2016.

Table 9: Average Annual Employment for All Industries 2007 – 2015, Percentage Change, Maine

Industry Code	Industry Description	2007	2010	% Change 2007 - 2010	2015	% Change 2010 - 2015
10	Total - Private	503,147	478,858	-5%	500,805	5%
1011	Natural Resources and Mining	5,964	6,049	1%	6,540	8%
1012	Construction	31,003	24,316	-22%	26,466	9%
236	Construction of buildings	7,753	5,691	-27%	6,230	9%
2361	Residential building construction	5,356	3,789	-29%	4,088	8%
2362	Nonresidential building construction	2,397	1,902	-21%	2,142	13%
1013	Manufacturing	59,340	50,694	-15%	50,615	0%
1021	Trade, Transportation, and Utilities	125,835	116,861	-7%	118,937	2%
1022	Information	11,296	9,106	-19%	7,567	-17%
1023	Financial Activities	32,005	30,114	-6%	28,972	-4%
1024	Professional and Business Services	53,858	55,799	4%	64,386	15%
1025	Education and Health Services	107,019	110,165	3%	114,894	4%
1026	Leisure and Hospitality	60,323	59,651	-1%	63,975	7%
1027	Other Services	16,415	16,101	-2%	17,747	10%
10	Total Gov't	99,861	99,226	-1%	94,930	-4%

Source: Maine Bureau of Labor

Tax Base

In addition to employment, income and value added output, these projects contribute to the municipal tax base raising total municipal property valuation. Depending upon the decision of the respective municipality, this *may* result in additional tax revenue. Some municipalities may decide to adjust the municipal mil rate based on the added valuation, while others may choose to collect the additional tax revenue. Table 10 below provides a breakdown by REMI region of cumulative valuations and potential additional tax revenues based on calculations at current mil rates.⁷

Table 10: Valuation and Estimated Total Municipal Tax Revenue by REMI Region

REMI Region	Total Valuations	Total Tax Rev
Androscoggin-Franklin-Oxford	\$10,137,510	\$261,473
Aroostook	\$77,100	\$1,715
Cumberland	\$10,948,800	\$207,763
Hancock-Washington/Penobscot-Piscataquis	\$27,670,699	\$581,769
Kennebec-Somerset	\$6,180,100	\$122,304
Waldo-Knox/Lincoln-Sagadahoc	\$2,587,800	\$46,555
York	\$10,929,000	\$219,791

⁷ See Appendix 5 for a breakdown by project and town of tax revenue

Appendix 1:
Model Inputs for Construction and Professional Technical Services (PTS) by region

Model Inputs (In millions of dollars)			
Remi Region	Expenditure Category	2015	2016
Androscoggin-Franklin-Oxford	Construction	\$18.4	\$0.0
Androscoggin-Franklin-Oxford	PTS	\$5.7	\$0.0
Aroostook	Construction	\$1.6	\$1.6
Aroostook	PTS	\$0.5	\$0.5
Cumberland	Construction	\$13.3	\$8.6
Cumberland	PTS	\$3.9	\$2.0
Hancock-Washington/Penobscot-Piscataquis	Construction	\$9.1	\$14.3
Hancock-Washington/Penobscot-Piscataquis	PTS	\$1.9	\$2.9
Kennebec-Somerset	Construction	\$8.0	\$9.6
Kennebec-Somerset	PTS	\$1.6	\$1.6
Waldo-Knox/Lincoln-Sagadahoc	Construction	\$1.8	\$1.8
Waldo-Knox/Lincoln-Sagadahoc	PTS	\$0.5	\$0.5
York	Construction	\$11.9	\$9.4
York	PTS	\$3.3	\$2.3

**Appendix 2:
Types of Construction by Region, Expenditure and Count (2015 – 2016)**

Region	Expenditure/Units	New Construction	Acquisition/Rehab	Adaptive Reuse
State	Expenditure (millions)	\$46.6	\$89.2	\$44.1
	Units	246	655	218
Androscoggin-Franklin-Oxford	Expenditure (millions)	\$0.0	\$38.5	\$0.0
	Units	0	278	0
Aroostook	Expenditure (millions)	\$0.0	\$4.7	\$0.0
	Units	0	28	0
Cumberland	Expenditure (millions)	\$15.8	\$24.2	\$0.0
	Units	86	139	0
Hancock-Washington/Penobscot-Piscataquis	Expenditure (millions)	\$19.3	\$6.9	\$6.2
	Units	96	57	28
Kennebec-Somerset	Expenditure (millions)	\$0.0	\$5.1	\$19.3
	Units	0	36	95
Waldo-Knox/Lincoln-Sagadahoc	Expenditure (millions)	\$5.4	\$0.0	\$0.0
	Units	36	0	0
York	Expenditure (millions)	\$6.1	\$9.9	\$18.7
	Units	28	117	95

**Appendix 3:
Businesses and Employees Involved in Residential Construction (2012 Census)**

Maine Business and Employees Involved in Residential Construction					
NAICS Codes	Sector	Establishments	Sales (\$1,000)	Payroll (\$1,000)	Employees
	Total	8,860	8,054,879	1873507	50,611
236116	New multifamily housing construction (except for-sale builders)	4	n/a	2,338	83
236117	New housing for-sale builders	108	n/a	13,680	408
236118	Residential remodelers	614	236,656	49,250	1,644
238	Specialty trade contractors	3,086	2,311,828	632,285	16,426
238110	Poured concrete foundation and structure contractors	124	n/a	28,534	952
238120	Structural steel and precast concrete contractors	10	12,656	4,445	136
238130	Framing contractors	64	31,485	5,985	169
238140	Masonry contractors	176	64,085	18,481	600
238150	Glass and glazing contractors	12	n/a	4,569	128
238160	Roofing contractors	73	76,909	21,239	589
238170	Siding contractors	15	15,824	4,923	121
238210	Electrical contractors and other wiring installation contractors	560	369,150	107,587	2,562
238220	Plumbing, heating, and air-conditioning contractors	548	534,595	152,451	3,396
238310	Drywall and insulation contractors	136	n/a	29,388	849
238320	Painting and wall covering contractors	244	63,914	21,616	750
238330	Flooring contractors	63	20,828	4,573	147
238350	Finish carpentry contractors	183	79,745	15,865	499
238910	Site preparation contractors	557	492,822	120,108	3,177
5311101	Lessors of apartment buildings	142	142,186	21,219	634
5311109	Lessors of dwellings other than apartment buildings	98	37,840	5,588	300
5312101	Offices of residential real estate agents and brokers	423	175,897	25,166	711
531311	Residential property managers	173	89,555	40,976	1,226
53132	Offices of real estate appraisers	94	19,200	8,573	204
541191	Title abstract and settlement offices	46	25,033	9,601	193
54131	Architectural services	118	84,976	35,881	619
54132	Landscape architectural services	25	8,980	3,356	67
541613	Marketing consulting services	100	64,885	21,510	454
4421	Furniture stores	100	144,724	21,935	744
4441	Building material and supplies dealers	443	1,510,472	185,995	6,047
4442	Lawn and garden equipment and supplies stores	129	211,231	26,422	1,070
45393	Manufactured (mobile) home dealers	20	29,861	3,310	104
5222929	Mortgage bankers and loan correspondents	42	115,658	50,086	505
524126	Direct property and casualty insurance carriers	72	n/a	n/a	n/a
3211	Sawmills and wood preservation	83	590,525	71,155	1,926
321911	Wood window and door manufacturing	5	17,766	5,399	152
32199	All other wood product manufacturing	69	226,142	50,717	1,735
3273	Cement and concrete product manufacturing	48	225,019	40,466	989
33711	Wood kitchen cabinet and countertop manufacturing	53	24,432	8,835	295
	2012 Economic Census of Maine, US Census Bureau				

**Appendix 4:
Definitions**

Output category	Definition	Measurement Units
Total Employment	Total employment impacts generated by project spending on construction and professional and technical services, including direct, indirect, and induced rounds of spending.	Individuals (Jobs)
Direct Employment	Employment supported by the direct expenditures on construction and professional and technical services.	Individuals (Jobs)
Indirect and Induced Employment (Intermediate and local)	Employment supported by recurrent rounds of spending that stem from the initial project expenditures in construction and professional and technical services. These include the indirect or supply chain impacts (i.e. Jobs supported from purchases of materials and supplies to do the construction and provide professional services) and the induced impacts from workers supported through direct and indirect expenditures through spending in the local economy (i.e. food, entertainment, personal and household expenses, etc.)	Individuals (Jobs)
Wages and Salaries	The sum of Wages and Salaries for private non-farm industries, state and local government, federal civilian, federal military, and farm sectors.	Millions of Current Dollars
Total Output	The sum of economic output for private non-farm industries, state and local government, federal civilian, federal military, and farm sectors.	Millions of Fixed (2016) Dollars
Gross Domestic Product (GDP)	The market value of goods and services produced by labor and property in the United States, regardless of nationality.	Millions of Fixed (2016) Dollars

<p>Note on tax revenues</p>	<p>Municipal tax revenue is based on current mil rates and reported project valuation. An important caveat here is that ultimately the municipality decides how the Tax Increment Financing (TIF) revenue is spent, which may be given back to the developer. However, it is still municipal tax revenue generated and we include it here in the total. Second, while we show the potential additional valuation at existing mil rates, it is ultimately up to the municipality to decide whether to keep the mil rate the same or whether they make adjustments to the mil rate based on the new valuation. However, it is also assumed much of the new project valuation is included in the municipality's calculations of reported mil rates.</p>	<p>* Based on MH data and municipal tax assessor data * If added at current mil rates</p>
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**Appendix 5:
Breakdown by Project, Municipality and Tax Revenue**

Project	Municipality	Tax Revenue
Butler Payson	Portland	\$49,613
Chestnut Place	Lewiston	\$34,899
Cony Flatiron	Augusta	\$30,678
Edward Ernst Manor	Bangor	\$11,763
Gateway	Lewiston	\$48,127
Golden Park	Saco	\$30,831
Heritage Court	Auburn	\$43,444
Hodgkin's School	Augusta	\$47,316
Lincoln Green	Old Town	\$323,261
Lofts at Saco Falls	Biddeford	\$43,106
Maliseet’s	Houlton	\$1,715
Mission Hill	Biddeford	\$24,954
Northview	Dover-Foxcroft	\$33,084
Orchard Hills	Augusta	\$44,310
Pinecrest	Sabattus	\$15,913
Pleasant View	Lewiston	\$96,435
Ridgeland Gardens	South Portland	\$48,994
Ridgewood II	Gorham	\$25,781
River Landing	Topsham	\$46,555
Rosa True	Portland	\$8,345
Sebasticook	Newport	\$58,200
Somerset Place	Brewer	\$55,044
St. Andres	Biddeford	\$48,452
Steeple Square	Westbrook	\$52,245
Thomas Heights	Portland	\$22,786
Timber Ridge Apts	Sanford	\$46,929
Village Centre	Brewer	\$100,417
Wilton Senior	Wilton	\$22,656
Young Street	South Berwick	\$25,519

**Appendix 6:
Estimated Job Counts by Industry 2015 – 2016 and REMI Region as a Result
of MaineHousing Investments**

Category	Androscoggin-Franklin-Oxford	Aroostook	Cumberland	Hancock-Washington/Penobscot-Piscataquis	Kennebec-Somerset	Waldo-Knox/Lincoln-Sagadahoc	York
Forestry, Fishing, and Related Activities	0.4	0.0	1.1	0.5	0.4	0.2	0.7
Mining	1.5	0.2	0.8	0.7	0.2	0.3	1.7
Utilities	0.3	0.0	0.4	0.4	0.4	0.1	0.2
Construction	268.0	43.1	248.2	294.1	179.7	62.4	289.3
Manufacturing	8.1	0.9	10.1	5.9	4.7	3.2	8.4
Wholesale Trade	2.6	0.4	9.1	3.5	3.3	0.8	2.7
Retail Trade	31.2	5.0	44.3	35.1	26.4	9.9	35.0
Transportation and Warehousing	3.1	0.5	5.9	4.0	1.9	1.3	2.2
Information	0.7	0.2	2.8	1.3	0.8	0.2	0.5
Finance and Insurance	4.6	0.4	7.0	4.9	3.3	2.5	5.2
Real Estate and Rental and Leasing	3.4	0.5	10.9	4.8	3.2	1.8	4.2
Professional, Scientific, and Technical Services	68.3	13.4	63.6	53.7	35.3	15.3	77.7
Management of Companies and Enterprises	1.6	0.2	3.9	1.3	1.3	0.1	0.7
Administrative and Waste Management Services	8.4	0.9	14.8	8.4	5.9	2.9	6.2
Educational services; private	0.8	0.0	2.7	0.7	0.8	0.3	0.7
Health Care and Social Assistance	10.9	2.0	26.6	15.1	11.7	4.1	12.3
Arts, Entertainment, and Recreation	2.8	0.3	7.2	2.4	0.8	1.5	3.2
Accommodation and Food Services	8.4	1.5	18.3	11.6	7.7	3.8	10.8
Other Services, except Public Administration	9.0	1.5	16.6	12.4	9.2	4.9	10.6