

HOUSING AS A LEVER FOR ECONOMIC RECOVERY

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1 INTRODUCTION

Economic conditions have dominated local and national news in recent months; flagging home prices, consumer demand, and securities markets have broadly impacted households and organizations. Changes in the mortgage industry and predatory lending practices have combined to couple economic stress with foreclosure and vacancy in many neighborhoods, reinforcing a cycle of diminished employment levels, spending and longer-term investment.

The State of Minnesota is currently facing a substantial deficit of \$4.8 billion or more in the coming biennium.¹ Global Insight Incorporated, the State's macroeconomic forecasting consultant, is projecting a 2.5% fall in the state's gross domestic product during calendar year 2009.² Accompanying the recession is reduced public revenue, at a time when state and local government spending is needed most to support local industry, fund workforce retraining, and stabilize housing.

State policy makers are faced with a series of choices. Important among these are an evaluation of the roles of state and local government, and how their activities are most equitably and effectively funded. On a more immediate basis, policy makers have made repeated public remarks that unilaterally raising taxes or cutting programs does not represent a solution to the budget problem, and many legislators appear to believe significant amounts of both approaches will be required.

The 2009 legislative session represents an opportunity to examine what kinds of state investments most effectively stimulate economic activity, and to focus on retaining or adding to funding levels for such investments. Adding public investment in housing produces jobs, spending that will accelerate economic recovery and generate public revenues.

This report draws from regional and national studies, establishing three key findings:

- Public investments in housing leverage private capital; a 2008 analysis by the Minnesota Housing Finance Agency (MHFA) indicates a commitment of \$1,310 in private funding for every \$1,000 investment by the agency.³ Financial leverage broadens the impact that state housing investments bring to bear as a stimulus measure.
- Housing investments are an effective vehicle to stimulate spending and revenue creation; analyses show that \$1 million invested in housing generates \$1.75 million to

¹ National Governors Association, "State Budget Update," December 2008. Available online at <http://www.nga.org/Files/pdf/NGAECONREVIEW.PDF>.

² Minnesota Department of Management and Budget, "State Revenues Below Forecast," January 2009. Available online at <http://www.finance.state.mn.us/fu-update-current/309-fupdates-current/3057-update-jan09>.

³ Ton, Hoang and Thompson, Owen. Minnesota Housing Finance Agency, "The Economic Impact of the Minnesota Housing Finance Agency, 2008." February, 2009.



\$2.1 million in economic activity,⁴ resulting in income, sales, property and other tax revenues.

- Studies reviewed in this report indicate the job creation potential in housing as well; an investment of \$1 million (in public funding leveraged with private capital) in housing generates 14 jobs according to the MHFA analysis, and up to 21 jobs in other studies.

These benefits are in addition to other substantial public and private benefits of safe housing and homeownership: Wealth creation, solidified tax base and reduced student mobility, among many others. Continued, stable investment in housing is an important recovery measure, which will create jobs, stimulate spending and generate public revenues for the State of Minnesota and local communities.

2 REPORT APPROACH AND COMPOSITION

The purposes of the report include:

- Provide a review of existing national and local research that addresses the impact of housing construction and rehabilitation on spending, income, job creation and public revenue.
- Digest this information for use by policy makers and advocates in Minnesota.

MHFA has, over the last year, been developing analysis of certain agency activities and the resulting economic impact.⁵ This report, through the goals listed here, is consistent with and complementary to the MHFA report released in early 2009.

3 WHAT WE KNOW ABOUT ECONOMIC IMPACT OF HOUSING CONSTRUCTION AND REHABILITATION

3.1 Direct, Indirect and Induced Impacts

The construction and rehabilitation of housing units generates economic activity in a range of forms. Projects create job opportunities for workers in the construction industry, as well as those involved in the manufacturing activities that support and supply housing: Wood products for framing, flooring and trim; concrete, equipment for heating and cooling, new or recycled roofing products. Generally, job creation is accounted for using full-time equivalents (“FTEs”); one FTE equals a full-time job for one year.

- Amounts paid to workers employed in the building of a housing unit, and the total value of products purchased for this purpose, are considered *direct impacts*.

⁴ Includes direct, indirect and induced spending, as defined in Section 3 of the report.

⁵ Specifically, the MHFA study considers construction of new housing, rehabilitation of existing housing, and rental assistance.



- Business to business sales required to produce materials for housing construction are characterized as *indirect economic impacts*. For example, sale of windows by Minnesota manufacturers provides working capital for other business to business transactions, providing additional stimulation related to housing construction and rehabilitation.
- Earnings of workers employed in the building and rehabilitation of housing are also considered in many studies. Effects associated with workers' spending of earnings are known as *induced economic impacts*.

3.2 Public Revenues

The construction of new housing units or rehabilitation and improvement of existing units provides additional property value and taxable spending, generating revenue for the public. In Minnesota, the primary public revenue sources that flow from housing development include taxes on income, sales, and property, as well as mortgage and deed taxes and associated fees. These sources will be described individually in Section 4 below.

3.3 National Analyses

The National Association of Home Builders (NAHB) produces analyses of economic impacts of home construction and rehabilitation on a national and regional scale. The results of the organization's most recent analysis of a typical U.S. metropolitan area are summarized below; the study considered both single-family and multi-family construction impacts, in the year of construction and in subsequent years. Findings for economic activity and local public revenues – including sales taxes and fees, and excluding state and federal taxes on property or income – are shown below adjusted to 2008 dollars.

Findings of NAHB Analysis, 2005							
Housing Type	Market Value of Unit	Year of Construction			Aggregate of Subsequent Five Years		
		FTEs Created	Economic Activity	Local Public Revenue	FTEs Supported	Present Value of Economic Activity	Present Value of Local Public Revenue
Single-family construction	\$312,800	2.84	\$176,212	\$18,983	0.63	\$157,657	\$31,463
Multi-family construction	\$123,280	1.33	\$76,753	\$7,796	0.52	\$154,598	\$22,384

In 2008 Dollars

The construction of a single-family home with a national-average market value at completion, generates 2.84 FTEs, \$171,246 in economic activity, and \$18,983 in local public revenue (taxes and fees). In the subsequent five years, construction of the home continues to support 0.63 FTEs, and over time generates economic activity with a present value of



\$153,214 in 2008 dollars. Also, in the next five years, the construction generates local public revenues with a present value of \$30,577.

NAHB in 2008 produced a related study of the economic benefits of housing construction, viewed from a national perspective. While related, the 2008 study's inclusion of federal tax revenues and national impacts make it less applicable to Minnesota's current stimulus discussion.⁶

Oregon Housing and Community Services ("OHCS"), the state's primary housing agency, conducted a study in 2005 of three housing developments built in the cities of Portland, Eugene and Prineville.⁷ Using IMPLAN⁸ software, the agency identified impacts in the three communities studied, which are expressed below in 2008 dollars.

Findings of OCHS Analysis, 2005				
Community	Project Investment	Economic Activity	Economic Activity/ Project Cost	FTEs
Eugene	\$8,235,252	\$17,672,850	2.14x	173
Portland	\$15,262,666	\$32,082,125	2.10x	301
Prineville	\$5,160,758	\$10,878,877	2.10x	110
<i>In 2008 Dollars</i>				

The Oregon study notes that state funds are leveraged to stimulate construction of projects such as the three sampled. Like MHFA, OHCS uses funding through grants and tax credits, and financing via bond issues and low-interest loans to stimulate the development of quality affordable housing. The report indicates that each dollar of state agency capital invested is typically coupled with \$5 to \$7 in private investment. Combined with this leverage, that projects typically stimulate roughly 2.10x of construction cost in the form of economic activity translates to another, impressive metric: Each dollar of OCHS capital invested leads to \$10 to \$15 of economic activity statewide.

The Tennessee Housing Development Agency ("THDA") in 2008 conducted a statewide assessment of economic impacts of housing finance activities undertaken in 2007.⁹ The findings of the agency's analysis, which used the IMPLAN input/output model, are

⁶ Fei Liu, Helen, and Emrath, Paul. "The Direct Impact of Home Building and Remodeling on the U.S. Economy." HousingEconomics.com, October, 2008.

⁷ Oregon Housing and Community Services. "Housing as an Economic Stimulus: The Economic and Community Benefits of Affordable Housing Development." Available online at http://www.oregon.gov/OHCS/DO_EconomicStimulus.shtml.

⁸ IMPLAN is an economic impact assessment software package developed, maintained and sold by the Minnesota IMPLAN Group. IMPLAN is among a small number of software products widely used to undertake input-output economic analysis, which uses data from the Bureau of Economic Analysis to calculate the consequences of decisions on economic activities across industries.

⁹ Arik, Hulya. "Economic Impact of THDA Activities in Calendar Year 2007 on the Tennessee Economy." Tennessee Housing Development Agency, 2008. The analysis is available online at <http://www.thda.org/Research/tnregions/acisfull.pdf>.



described in the table below in 2008 dollars. The analysis considered THDA program activities ranging from grants and tax-exempt bonding authority, to rental assistance.

Findings of THDA Analysis, 2008			
Impact	Economic Activity	Economic Activity/ Program Cost	FTEs
Direct	\$899,902,689	1.00x	6,431
Indirect	\$291,357,234	0.32x	1,782
Induced	\$381,998,757	0.42x	2,454
Total	\$1,573,258,680	1.75x	10,667
<i>In 2008 Dollars</i>			

Additional studies undertaken outside of Minnesota suggest a comparable picture of the economic benefits of housing construction and rehabilitation. One study of Philadelphia illustrated that between 1978 and 1998, 874 projects facilitated total investment of \$1.56 billion, creating 25,090 direct jobs (equaling 1.6 jobs per \$100,000) and 55,825 total jobs (translating to 3.6 jobs per \$100,000).¹⁰ The Center for Community Change has estimated that a package of \$5 billion for housing construction could generate 184,300 jobs, representing creation of 3.7 jobs per \$100,000.¹¹

While not treated separately by the studies described above, the particular impacts of rehabilitation merit specific mention. A 2003 report by the U.S. Environmental Protection Agency noted that building rehabilitation including residential, commercial and other uses, yielded economic output nationwide of \$1.84 trillion during the period 1990-99. At the same time, the agency estimated the number of construction jobs generated by rehabilitation to be 1.91 million per year.¹² Like new construction, rehabilitation of existing housing offers prospects for significant job creation and economic ripple effects, as well as shoring up housing stock.

¹⁰ Rypkema, Donovan D. and Wiehagen, Katherine. "The Economic Benefits of Preserving Philadelphia's Past." Preservation Alliance for Greater Philadelphia, 1998. The analysis particularly focused on use of the federal Rehabilitation Investment Tax Credit ("RITC"). The report does not indicate in what year's dollar value the investment of \$1.56 billion is expressed. If 1998 dollars were used, this figure would equal \$2.06 billion in 2008 dollars.

¹¹ Cited in Pelletiere, Danilo. "Housing as Economic Stimulus." National Low Income Housing Coalition, excerpted from "2008 Advocates' Guide to Housing and Community Development Policy," 2008.

¹² U.S. Environmental Protection Agency, "The Redevelopment Sector." Office of Policy, Economics and Innovation, draft report, 2003. Cited in Wernstedt, Kris. "Overview of Existing Studies on Community Impacts of Land Reuse." U.S. Environmental Protection Agency National Center for Environmental Economics, 2003. Also cited in Mattera, Philip and LeRoy, Greg. "The Jobs Are Back in Town: Urban Smart Growth and Construction Employment." Good Jobs First, November 2003, 17.



3.4 Minnesota and Regional Analyses

In 2008, the Minnesota Housing Finance Agency (“MHFA”) sponsored an analysis undertaken using the IMPLAN modeling software to evaluate the economic impact of the agency’s activities, akin to the THDA report.¹³ The table included here describes the impacts of the activities of MHFA and its partners, identified in the analysis:

Findings of MHFA Analysis, 2009				
Impact	Economic Activity	Economic Activity/ Program Cost	Jobs	Public Revenue
Direct	\$260,613,434	1.00x	1,750	
Indirect	\$107,535,517	0.41x	802	
Induced	\$128,032,502	0.49x	1,139	
Total	\$496,181,453	1.90x	3,692	\$22,867,566
<i>In 2008 Dollars (jobs figures are rounded)</i>				

Financial involvement of MHFA in the two years following May 15, 2006 generated total direct, indirect and induced economic activity of \$496 million, a total of 3,690 jobs, and tax and fee revenues to Minnesota taxing authorities of almost \$23 million. When the financial leverage of private partners is considered in the analysis – a critical characteristic of housing finance – the MHFA study found total direct, indirect and induced economic activity of \$1.15 billion, public revenues of \$51.7 million, and 8,700 jobs created by MHFA-related projects and programs. The MHFA report considered a broad range of agency activities including bricks-and-mortar activity as well as rental assistance; as is noted in the report, the multiplier effects (for spending and employment) of housing construction are higher than for rental assistance or other programs.

An analysis authored by Maxfield Research and GVA Marquette Advisors in 2001 presents additional useful findings on the economic impact of housing construction.¹⁴ The study coupled projections for workforce demands and affordable housing supply, identifying demand for an additional 31,700 units of housing in the five year period starting in 2001. To achieve this goal, the authors found, a subsidy of \$1.5 billion (in 2008 dollars) would be required over five years. The study’s projected aggregate benefits of building the 31,700 units are shown below:

Findings of Maxfield/GVA Analysis, 2001	
Benefit	Value
Local Construction Wages	\$1,627,955,000
Public Fees and Assessments	\$303,308,000
Total	\$1,931,263,000
<i>In 2008 Dollars</i>	

¹³ Ton and Thompson, 2009.

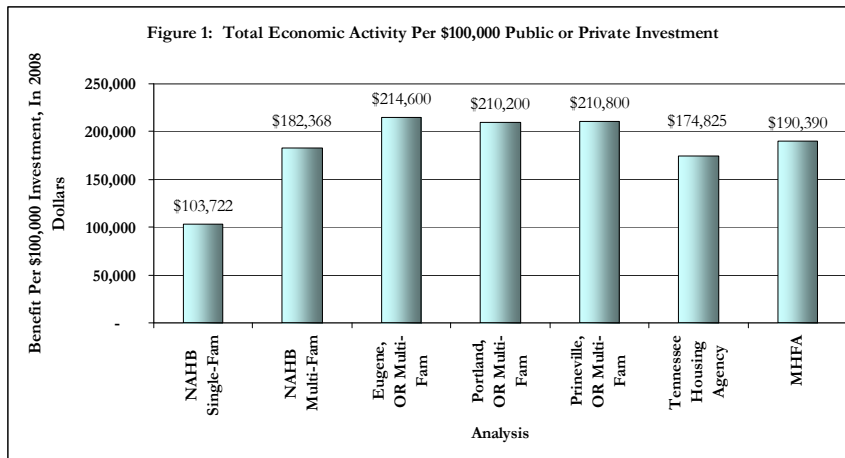
¹⁴ Maxfield Research and GVA Marquette Advisors. “Workforce Housing: The Key to Ongoing Regional Prosperity.” September, 2001.



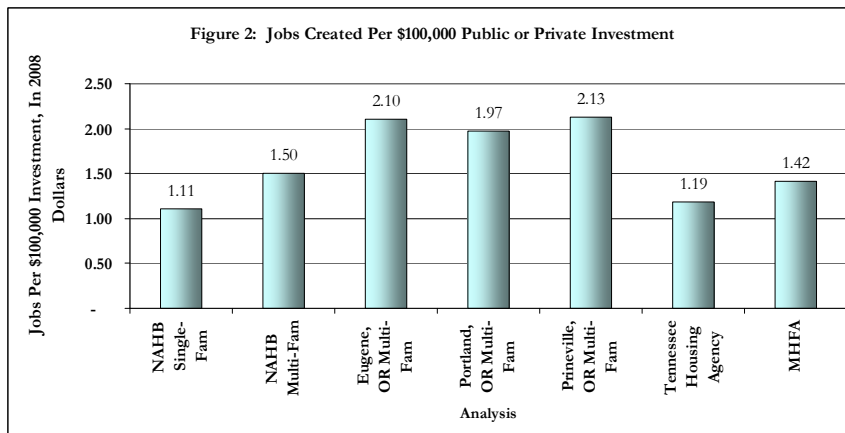
The report found that as a result of a \$1.5 billion investment in housing, resulting construction wages and public revenue would amount to \$1.6 billion over five years.

The focus of the Maxfield/GVA analysis is gauging economic benefits of attracting new workers to the Minneapolis-St. Paul region through a workforce housing strategy. As a result, the emphasis of the report is illustrating economic activity projected to flow not only from housing construction, but from the decision of new taxpaying workers to live in the region. For this reason, indirect and induced benefits of housing construction are not separated from the benefits of having a larger supply of workers in the regional economy. While the analysis is not explicit concerning job creation, it does cite wage levels for one

construction FTE as \$33,500 (2001 dollars). This translates to a cost per FTE of \$44,811 in 2008 dollars.¹⁵



The findings of these studies, with the exception of the Maxfield/GVA report¹⁶, can be summarized by Figures 1-2. The graphs illustrate the impact of an investment of \$100,000 in housing; such an investment is comprised of private capital leveraged by a smaller public participation; as noted above, the 2008 MHFA report presents findings that \$1,310 of private funding is



¹⁵ Dividing the local construction wages of \$1,351,120,000 by the FTE wage of \$33,500 leads to an employment projection of 40,330 FTEs over the five-year period. The cost per job, using the \$1.5 billion subsidy figure, is \$37,191 in 2001 dollars, or \$44,811 in 2008 dollars.

¹⁶ The Maxfield/GVA report is not included in the graphs due to its approach of gauging economic impact as loss, presuming housing inventory is not expanded. The studies represented in the graphs measure the economic impact of past housing investment.



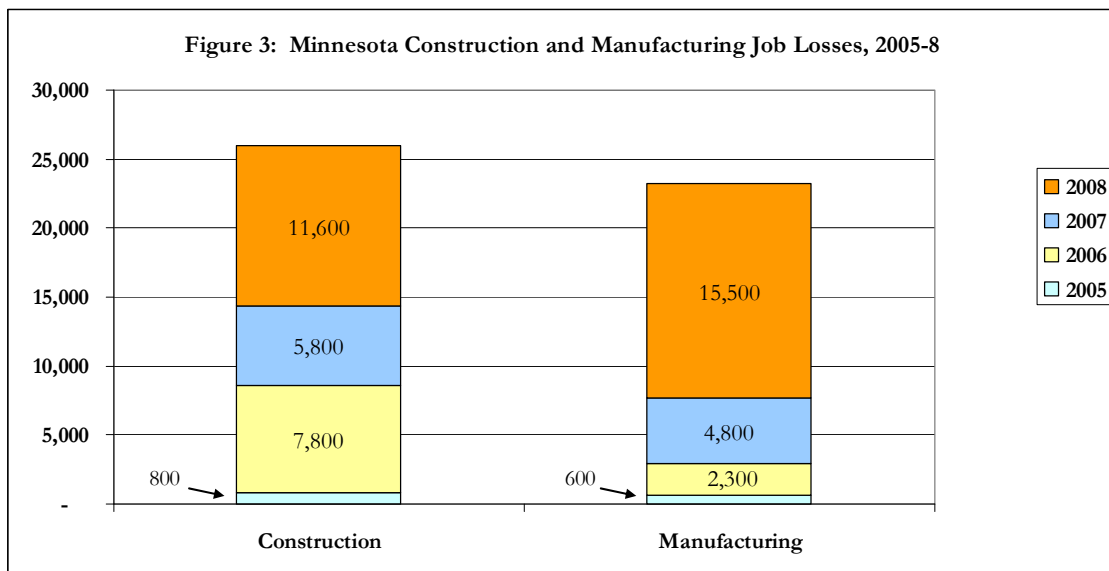
leveraged by each \$1,000 in direct agency investment. Figure 1 represents the quantity of direct, indirect and induced economic activity identified by the analyses cited here. Figure 2 represents the quantity of jobs created by the same investment in housing.

The common focus of many of the studies summarized here is construction of single- and multi-family housing units. The MHFA study includes construction-related agency activities, as well as programs such as rental assistance that are associated with less spinoff than construction or rehabilitation. In areas across the state, rehabilitation of existing housing stock represents a significant need. A nonstatistical survey of local builders active in housing rehabilitation suggests that existing home renovation projects are typically more labor-intensive than new construction, so that on-site labor costs represent up to 10% more of total multifamily project cost than with building of new homes.¹⁷

The studies summarized above together establish the potential for housing investment to stimulate economic activity and job growth. Certain characteristics of Minnesota’s economy also make this state a strong candidate for housing-related stimulus measures.

3.5 Relevant Characteristics of Minnesota’s Economy

Preliminary data for December, 2008 indicate that nationally, over 800,000 jobs have been shed by the construction industry in the previous twenty-four months, and the unemployment rate of construction workers has risen from 6.9% to 15.3% during the same period.¹⁸ The unemployment rate in the manufacturing sector – including wood products



¹⁷ Minnesota Housing Partnership, survey of home builders, January 2009.

¹⁸ U.S. Department of Labor, Bureau of Labor Statistics, workforce statistics for construction (NAICS code 23). Tables available online at <http://www.bls.gov/iag/tgs/iag23.htm>.



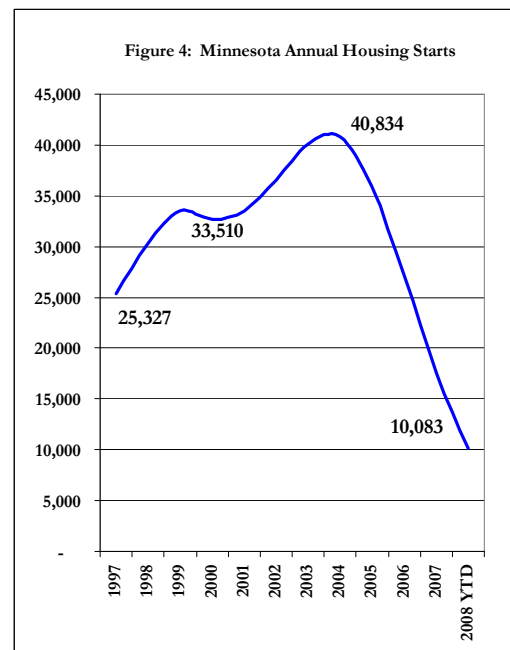
and construction-related products – has risen from 4.0% to 8.3% as well.¹⁹

While the Minnesota economy varies in some respects from the national average, the state has experienced substantial job losses in construction and manufacturing since 2005. While statewide, Minnesota expanded by 17,900 jobs between December, 2004 and December, 2008, the construction industry shed over 25,000 jobs during the same period. In 2008 alone, Minnesota lost 11,600 construction jobs and 15,500 manufacturing jobs.²⁰ As shown in Figure 3, the cumulative job losses in these sectors of Minnesota’s employment base approach 50,000 since December, 2004.

Within the manufacturing sector, Minnesota’s wood products industry is vital and represents a share of the state economy larger than the U.S. average. Increasing demand for wood building materials, which housing investment is certain to do, will support jobs in Greater Minnesota and the state’s competitive advantage in the manufacturing of wood products. Employment in this sector peaked in 2005, and in the two subsequent years, more than 2,700 wood product manufacturing jobs have been eliminated.²¹

Job stabilization activities in the construction and wood products industries could be particularly valuable in light of the anemic lending environment and the dramatic slowdown of housing starts in Minnesota. Annual data for housing starts in the state confirm the fall in construction activity, as illustrated graphically in Figure 4.²²

Minnesota’s economy is diverse. While an asset, economic diversity may also serve to cloud the debate about how most effectively to manage the state budget gap or distribute prospective funds available from a federal stimulus package. For different but related reasons, the construction and wood products industries represent levers to boost economic activity quickly and efficiently in Minnesota, and housing investments are a way to use the prominence of each sector as leverage for economic recovery.



¹⁹ Ibid. Table available online at <http://www.bls.gov/iag/tgs/iag31-33.htm>.

²⁰ Minnesota Department of Employment and Economic Development, Minnesota Seasonally Adjusted Nonagricultural Wage and Salary Employment (CES) data.

²¹ Gross Domestic Product for US for Comparison, data series from the U.S. Department of Labor, Bureau of Economic Analysis. Available online at <http://www.bea.gov/regional/gsp/>

²² U.S. Census Bureau, data for new housing units authorized. Available online at <http://www.census.gov/const/C40/Table2/tb2u200811.txt>



Growing emphasis on energy-efficient building materials and methods also presents an opportunity to Minnesota's housing industry. The Minnesota Legislature established an explicit priority for job creation in industries related to managing climate change, and formed the Green Jobs Task Force during the 2008 session.²³ A recent task force report cited figures compiled by the United States Green Building Council (USGBC), indicating that "buildings are responsible for 72% of electricity consumption, 39% of energy use, 38% of all carbon dioxide (CO₂) emissions, 40% of raw materials use, 30% of waste output (136 million tons annually), and 14% of potable water consumption."²⁴ The focus of the task force is boosting the number of Minnesota's "green jobs," hence the recommendations focus on how to maximize job growth in the manufacturing of energy-conserving products. The manufacturing of such products is one prospective area of job growth, as is the need for skilled installers and builders of homes incorporating such measures. While this report does not explore the environmental benefits of more energy-efficient housing, state investments in green housing could produce the economic and job creation benefits described here, while addressing the environmental problems cited by the USGBC.

4 STATE AND LOCAL GOVERNMENT REVENUES FROM HOUSING

The State of Minnesota and its local governments – most notably cities, counties and school districts – benefit from housing construction and rehabilitation in a variety of ways, including via tax revenues. State and local governments levy taxes on income, sales and property, as well as on elements of the purchase of a home. Each of these tax bases is enhanced by continued and additional investment in housing stock. A brief review of each source is provided here.

Workers involved in housing construction and rehabilitation are subject to income tax levied by the State of Minnesota, as are those engaged in production of materials required for these purposes. Workers earning an average annual construction wage in Minnesota, if the sole breadwinner, will fall into the sixth or seventh decile (incomes between \$37,560 and \$47,192) identified in the Minnesota Tax Incidence Study.²⁵ According to the study, earners at these levels pay an effective income tax equal to 3.0% of their total income, which is used in the proforma analysis included in Section 4.1. Under Minnesota law, local governments are not empowered to levy income tax.

The state levies sales tax on materials purchased for housing construction and rehabilitation. The current state sales tax rate is 6.50%, which will increase to 6.875% on July 1, 2009 to reflect changes approved by Constitutional amendment in the 2008 election. Housing-

²³ See <http://www.mngreenjobs.com/> for task force membership and reports.

²⁴ Minnesota Green Jobs Task Force, "Green Jobs in Minnesota: Analysis and Action Plan," December 2008, 36.

²⁵ Minnesota Department of Revenue, "2007 Minnesota Tax Incidence Study," March 2007 (most recent available), 29. 2007 figures compiled by the Bureau of Labor Statistics indicate the mean annual wage for a construction laborer in Minnesota to be \$40,790 (\$41,972 in 2008 dollars), and mean annual wages for workers in the construction and extraction field as a whole to be \$48,760 (\$50,174 in 2008 dollars).



related exemptions from the state sales tax include used manufactured homes and materials for disabled veteran housing. Services including architecture and technical consulting relating to housing are also exempt.²⁶ Certain cities in Minnesota are authorized to collect additional sales taxes, generally of 0.5% or less, on building materials and other items with the exception of food and clothing.

Property taxes are collected by both the state and local governments. Minnesota's property tax system is based on the classification of property into a lengthy list of uses and ownership terms. Housing is perhaps the most finely classified property type, with twenty different rates of taxation, ranging from 0.45% for blind or disabled homesteads, 0.55% on certain agricultural and homesteaded resort property, to 1.25% for most rental housing and any portion of homestead property exceeding \$500,000.²⁷ Adding value to property via new or renovated buildings creates additional tax capacity over which to spread state and local property levies, providing a material benefit for the public.

Mortgage registry and deed taxes are also levied by the state, based on the principal amount of mortgage debt and home price, respectively. The current state mortgage registry tax rate is 0.23% of mortgage balance, and the state deed tax rate is 0.33% of the sale price.

As described in Section 3 above, housing investment generates direct, indirect and induced effects. At a sale transaction, the state collects mortgage and deed tax revenue. Each layer of "spinoff" spending creates additional tax revenue in the form of income and sales taxes, representing a benefit to the state and to local government units. Moreover, the additional value of real estate creates a broader base for property tax levies by the state, cities, counties and school districts.

4.1 Methods for Five-Year Proforma for Selected Minnesota Community

The proforma analysis included in the appendix of this report represents an application of study findings and tax provisions reviewed above, to estimate the benefits of housing construction. The table illustrates the impact of building a new, single-family home in the City of Sartell in central Minnesota. According to an annual comparison, Sartell's effective property tax rate of 1.14% is relatively close to the medians for Greater Minnesota (1.05%) and the Metro (1.066%) and provides a fairly typical example.²⁸ For the purposes of this estimate, we have used a final home value equal to 85% of the City's 2007 median of

²⁶ Minnesota Department of Revenue, "State of Minnesota Tax Expenditure Budget, Fiscal Years 2008-2011." Report is available online at http://www.taxes.state.mn.us/taxes/legal_policy/other_supporting_content/2008_tax_expenditure_links.pdf

²⁷ Depending on its use and ownership, property tax for a parcel may be levied using a single or multiple rates. Detailed class rate information is available online at http://www.taxes.state.mn.us/property_tax_administrators/other_supporting_content/Class%20Rates%2008-09.pdf

²⁸ "2008 Citizens League Property Tax Review," available online at www.citizensleague.org.



\$162,048, to reflect declines in home prices exceeding 15% in parts of the state.²⁹ The multipliers used for indirect and induced economic activity are taken from the MHFA 2008 analysis.

Using the factors listed at the top of the table, the proforma modeling indicates that total spending generated by the home construction is projected to be \$328,000 over five years. Nearly two FTEs are expected to be created by the construction activity, sustaining two-thirds of an FTE elsewhere in the economy. It also suggests that building a new home will generate tax revenue of roughly \$8,400 for local governments, and \$15,000 for the State of Minnesota.

The findings included here show, as a percentage of development cost, a higher percentage of returns to the public via wage and job creation, and public revenues than identified by the MHFA analysis. This difference is primarily due to the five-year horizon of this proforma; the MHFA report uses a biennial horizon, consistent with state budgeting.

Minnesota's local communities stand to benefit substantially through investment in housing. Additional infrastructure demanded by new housing, while not itemized here, represents another form of investment in economic activity, as well as a public cost.

5 REVIEW OF OTHER STIMULUS APPROACHES

Housing is not the only strong candidate as an effective vehicle for stimulating economic activity. Most frequently, transportation investments are cited as a suitable tool for creating economic stimulus and recovery; investments in K12 facilities are also commonly discussed. Each of these areas provides substantial economic and social benefits to the people of Minnesota. Rehabilitation and construction of school buildings, for example, supports student development in buildings that may have reduced energy costs, cleaner air, and access to technology. The buildings also play a significant role in community life, as polling places, sites for adult education or civic groups. The evidence described above suggests that housing will serve well as one of the sectors included in stimulus plans, along with potential investments in transportation and education.

5.1 Transportation

An analysis undertaken by the U.S. Department of Transportation examined a rail transit project using three modeling software packages – IMPLAN, REMI and Rims II.³⁰

²⁹ Minnesota State Demographic Center, "Minnesota Housing Prices, 2006-7," July, 2008. Report is available online at <http://www.demography.state.mn.us/documents/MinnesotaHousingPrices20062007.pdf>. Price decline information from Case-Shiller index data.

³⁰ USDOT, Office of Research and Special Programs. "Analyzing the Economic Impact of Transportation Projects Using Rims II, IMPLAN and REMI." October, 2000. REMI is a package developed and owned by Regional Economic Models, Inc., a private firm headquartered in



Projecting construction costs of \$43 million and ten-year operating costs of \$8.5 million (for a total of \$51.5 million in 2000 dollars, or \$62.0 million in 2008 dollars), the analysis projected the following impacts over ten years, which have been converted to 2008 dollars:

Findings of U.S. DOT Rail Transit Analysis, 2000 (10-year impact)				
Modeling Package	Economic Activity	Economic Activity/ Project Cost	Jobs	Jobs Per \$100,000 Investment
IMPLAN	\$95,752,898	1.54x	753	1.21
REMI	\$112,605,981	1.81x	1,056	1.70
Rims II	\$109,284,992	1.76x	1,124	1.81
<i>In 2008 dollars</i>				

The multiplier effects of 1.54x – 1.81x found by the U.S. DOT study are comparable to the findings of the housing analyses summarized earlier in this report. A 1993 report by the Congressional Research Service explored economic activity and job creation resulting from highway construction. The report found that for each dollar invested in new highway infrastructure, \$2.43 in additional economic output would result.³¹

5.2 Construction and Renovation of K12 Education Facilities

Deferred maintenance and health concerns about education buildings in Minnesota are also important elements of the budget shortfall discussion. An economic impact analysis of California’s Kindergarten-University Public Education Facilities Bond Act, a \$12.3 billion measure passed in 2004, supports claims that construction and renovation of school buildings yield significant economic impact over the course of two years.³²

Findings of California K12 Facilities Analysis, 2003 (2-year impact)				
Impact	Economic Activity	Economic Activity/ Project Cost	Jobs	Jobs Per \$100,000 Investment
Direct	\$14,027,364,445	1.00x	96,319	0.68
Indirect	\$4,997,939,882	0.36x	40,384	0.80
Induced	\$6,846,600,938	0.49x	62,644	0.91
Total	\$25,871,905,265	1.85x	199,347	0.77
<i>In 2008 dollars</i>				

The 21st Century School Fund, an organization of organized labor, the National School Boards Association and others, has suggested that a \$20 billion, one-time federal contribution to school districts to reduce deferred maintenance with “bricks and mortar” projects could generate close to 250,000 skilled maintenance jobs, with nearly \$6 billion

Massachusetts. Rims II is an input-output software package developed by the Bureau of Economic Analysis housed at the U.S. Department of Commerce.

³¹ Cantor, David. “Highway Construction: Its Impact on the Economy.” Congressional Research Service Report 93-21E, January 6, 1993, p.1. Cited in Mattera and LeRoy, 29.

³² Fountain, Robert. “Economic Analysis of the Impacts of Proposition 55 on the California Economy,” prepared for Californians for Accountability and Better Schools, November, 2003.



available for materials and supplies, representing the generation of 1.78 FTEs per \$100,000 investment.³³

The literature regarding the economic impact of school building construction and renovation, and transportation investments, is not comprehensive. One significant distinction between housing investments and either of these alternatives is the material amount of private capital leveraged by state and local support for housing. Transportation and education facilities, by contrast, are characterized by little or no leverage of private funds; instead, they rely on federal, state and local public sources. This results in less potential to stimulate economic activity and job creation than offered by housing investment.

6 CONCLUSION

Minnesota's budget predicament will challenge policy makers and advocates to examine the relative costs and benefits of retaining, reducing or supplementing resources for state funding priorities. The literature concerning economic impact of housing, while not voluminous, does indicate that residential construction and rehabilitation are powerful tools for economic recovery. Reductions in existing support for housing will inhibit economic activity across Minnesota, including in areas most dependent on industries such as wood products manufacturing. Conversely, making additional investments in housing – in addition to fostering the many social benefits associated with safe, affordable places to live – will assist in restoring Minnesota to economic and fiscal health.

³³ Filardo, Mary. "Federal Economic Stimulus for School Construction: Building the Economy by Building for Our Children's Future." November, 2008.



APPENDIX: PROFORMA DEMONSTRATION OF ECONOMIC IMPACT

ANALYSIS OF CONSTRUCTION OF MEDIAN-VALUE SINGLE-FAMILY HOME IN SARTELL, MN						
Assumptions		Tax Rates ¹²				
Investment in New Median-Price Single-Family Home	137,741 ¹	State Sales Tax			6.500%	
Percent of Total Cost - Labor and Other Nonmaterial Costs	70.00% ²	Local Sales Tax			0.500%	
Percent of Total Cost - Materials Costs	30.00%	County Property Tax			47.497%	
Average Annual Appreciation	0.00%	City Property Tax			31.655%	
Multipliers ³		School District Property Tax			34.528%	
Indirect Spending	0.41x	Other Property Tax			1.628%	
Induced Spending	0.49x	State General Property Tax			0%	
Jobs Created ⁴	1.95	State Mortgage Tax			0.23%	
Jobs Sustained Over 5 Years ⁵	0.63	State Deed Tax			0.33%	
Loan to Value Ratio	90.00%					
	Present Value	Year				
		1	2	3	4	5
Labor						
Jobs Created		1.95	-	-	-	-
Jobs Sustained		-	0.63	0.63	0.63	0.63
Total Jobs		1.95	0.63	0.63	0.63	0.63
Mean annual salary for Minnesota construction laborer		\$41,973	\$41,973	\$41,973	\$41,973	\$41,973
Mean annual salary for Minnesota - all occupations		\$44,062	\$44,062	\$44,062	\$44,062	\$44,062
Total Wages Generated	\$192,894	\$81,858	\$27,759	\$27,759	\$27,759	\$27,759
Present Value of Wages Generated	\$182,053	\$81,858	\$26,630	\$25,547	\$24,508	\$23,511
Project Spending						
Direct Spending		\$137,741	-	-	-	-
Indirect Spending		\$56,474	-	-	-	-
Induced Spending ⁶		\$67,493	\$18,598	\$18,598	\$18,598	\$18,598
Total Spending	\$336,100	\$261,708	\$18,598	\$18,598	\$18,598	\$18,598
Present Value of Project Spending	\$328,837	\$261,708	\$17,842	\$17,116	\$16,420	\$15,752
Public Revenues						
<i>Local Units</i>						
City of Sartell Property Tax Revenue		\$436	\$436	\$436	\$436	\$436
Stearns County Property Tax Revenue		\$654	\$654	\$654	\$654	\$654
Sartell-St. Stephen School District Tax Revenue		\$476	\$476	\$476	\$476	\$476
Other Jurisdictions Property Tax Revenue		\$22	\$22	\$22	\$22	\$22
Local Sales Tax ⁷		\$517	\$93	\$93	\$93	\$93
Total Local Revenues	\$8,830	\$2,105	\$1,681	\$1,681	\$1,681	\$1,681
Present Value of Local Revenues	\$8,173	\$2,105	\$1,613	\$1,547	\$1,484	\$1,424
<i>State of Minnesota</i>						
State General Property Tax Revenue		-	-	-	-	-
State Sales Tax ⁸		\$6,715	\$604	\$604	\$604	\$604
State Mortgage Tax		\$285	-	-	-	-
State Deed Tax		\$455	-	-	-	-
Income Tax on Wages ⁹		\$2,456	\$833	\$833	\$833	\$833
Total State Revenues	\$15,659	\$9,910	\$1,437	\$1,437	\$1,437	\$1,437
Present Value of State Revenues	\$15,098	\$9,910	\$1,379	\$1,323	\$1,269	\$1,217
Notes						
(1) Reflects 85% of median sales price in Stearns County; Jan-Sept. 2007 (most recent available), Minnesota State Demographer's Office.						
(2) For first year, assumes materials represent 30% of total development cost; non-materials costs including labor represent 70%.						
(3) Uses findings from MHFA analysis.						
(4) Uses MHFA program cost per job of \$70,627, derived from dividing direct MHFA involvement by total jobs created.						
(5) NAHB, 2005 analysis.						
(6) Bureau of Labor Statistics, May 2007; expressed in 2008 dollars; no inflation is projected.						
(7) Present value calculation uses ten-year average yield for ten-year Treasury note (4.24%), reflecting industry standard discount rate.						
(8) Estimate uses Bureau of Labor Statistics mean annual salary for all Minnesota occupations in 2008 dollars, of \$44,061, and multiplies by two-thirds to estimate after-tax income.						
(9) Assumes 30% of the spending associated with the project is subject to the local sales tax rate of 0.5% in first year, and 50% thereafter.						
(10) Assumes materials subject to sales tax comprise 30% of total home price, and that 50% of indirect and induced spending is subject to sales tax.						
(11) Uses effective income tax rate of 3.00%; source is Minnesota Department of Revenue, 2007 Minnesota Tax Incidence Study.						
(12) Property tax rates for local governments represent the levy as a proportion of net tax capacity. In the case of Sartell, the county, city, school district and other levies total 115.3% of net tax capacity. The analysis also presumes class rates of 1.00-1.25% for single-unit residence.						



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