Fiscal Letter

THE PLANNING CENTER

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July 13, 2007

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Subject: The affect of Cordevista on Storey County

Dear Storey County Planning Commission

Based on my understanding of the Cordevista project, the proposed development should not have a negative fiscal affect on County finances.

We are concerned with two general types of costs, capital and operational. For the operational costs, provided that Storey County's current budget is not masking some major fiscal crisis, then the current level of tax revenues is in equilibrium with the current expenditures and levels of service. As long as the average house value in Cordevista project equals or is higher than the average house value in Storey County, then the new development will generate equal or larger revenues than the current operational equilibrium in the County budget.

For the capital costs, provided that the proposed development supplies all of the necessary capital investment for infrastructure-construction of roads, water, and sewer-then it will impose no new debt liabilities on the County's finances.

Sincerely,

Stephen Gunnells, AICP
Senior Economist

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The Evidence Is In: Housing Pays for Itself

The Builders Association of Western Nevada recently unveiled a housing impact study for Douglas County that shows housing has a huge economic impact on our community. Elliot Eisenberg, a senior economist from the National Association of Home Builders (NAHB) in Washington, D.C., presented the study to local media, government officials and community leaders earlier this week.

The NAHB study compares the benefits to the costs of all new home construction in Douglas County in 2006 on all political jurisdictions in Douglas County. Eisenberg found that economic impact of home building in Douglas County is not only very large, but that single family construction and multifamily construction (not covered in this article) pay for themselves within the first year because the ongoing economic benefits accumulate significantly faster than the ongoing costs.

Eisenberg says, "The surplus, or net tax to local governments, accumulates fast enough so that, even if local government undertakes all capital investment before the homes are built, the surpluses can be used to pay off the debt entirely by the end of the 1st year."

Benefits to Douglas County, NV:

The one-year local economic benefits of building 451 single family homes include:

$132.8 million in local income,
$13.3 million in taxes and other revenue for local governments, and
3,109 local jobs.

These are one-year impacts that include both the direct and indirect impact of the construction activity itself, and the impact of local residents earning money from the construction activity and spending part of it within the local economy.

The same 451 homes also generate additional, annually recurring local economic benefits including:

$19.5 million in local income,
$2.2 million in taxes and other revenue for local governments, and
497 local jobs.

These are ongoing, annual benefits resulting from the new homes being occupied, and the occupants paying taxes and participating in the local economy year after year.

These numbers were reached assuming that a new single-family home built in Douglas County:

- costs $508,693;
- is built on a lot costing an average of $68,365 (purchase price the developer or builder pays for raw land);
- requires the builder and developer to pay $16,820 in permit and special fees, and
- incur an average annual property tax payment of $3,048.

Costs to Local Government

The Census of Governments provides information on the amount local governments in Douglas County, NV spend on various government functions. The results for each new single family house built in Douglas County are shown in Figure 1.

"Not surprisingly, local governments tend to spend more on education than any other single item," Eisenberg says. "Even so, there are several factors in most parts of the country that tend to reduce education costs per housing unit."

A major one is simply the number of children present in the units. According to the American Housing Survey, there is only a little over one school-aged child for every two households in the U.S.; so education costs per housing unit are lower than costs per pupil, simply because there is, on average, less than one pupil in each household.

In addition to current expenses, providing services to residents requires local governments to undertake capital investment for schools, other buildings, equipment and roads. The NAHB study estimates the size of these investments from a traditional economic model, where costs are a function of labor and capital. The results for each new single family home built in Douglas County are shown in Figure 2.

Comparing Costs to Revenues

To summarize the results, in the first year, building 451 single family homes results in

- an estimated $14.4 million in tax and other revenue for local governments,
- $387,000 in current expenditures by local government to provide public services to the net new households at current levels, and
- $5.7 million in capital investment for new structures and equipment undertaken by local governments.

In each year after the first, the same 451 single-family homes create $2.2 million in tax and other revenue for local governments and $773,000 in local government expenditures needed to continue providing services at current levels. The difference is a $1.4 million "operating surplus" that can be used to service or pay down the debt.

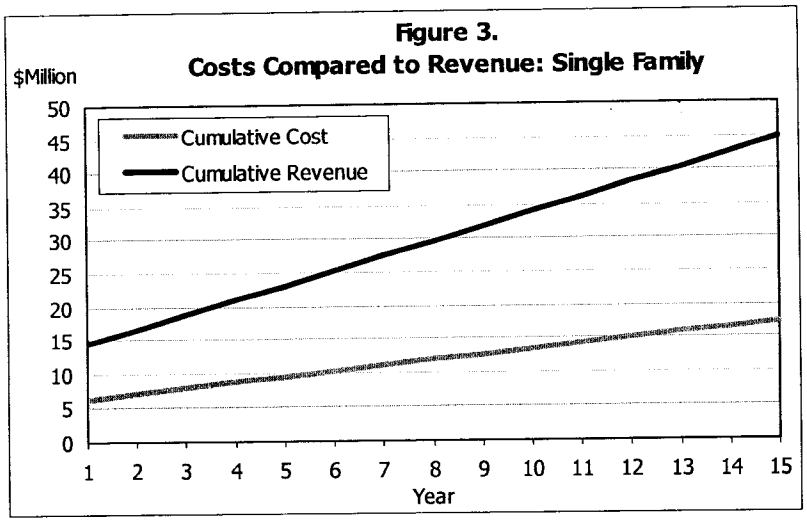
"It is important to point out that the operating surplus is the subsidy from new construction to existing construction," Eisenberg says. "Without this large annual subsidy, property taxes would either be higher than they are, public services would be of lower quality than they are, or some combination of both.

After 15 years, the 451 single family homes will generate a cumulative $44.8 million in revenue compared to only $17.3 million in costs, including annual current expenses, capital investment, and interest on debt (Figure 3).

A complete report with more detail, the complete results for multifamily construction, and a technical explanation of the cost model is available in the report: The Local Impact of Home Building in Douglas County, Nevada: Comparing Costs to Revenue for Local Government and its associated appendix. Contact Rick DeMar at (775) 882-4353 or rdemar@bawn.org to get a copy.

Figure 1	
Single Family	Single Family
Education	$904
Fire Protection	$415
Water Supply	$123
Sewerage	$209
Recreation and Culture	$62
Total	$1,713

Figure 2	
	Single Family
Schools	$7,624
Sewer systems	$3,883
Water supply	$708
Other structures	$290
Equipment	$237
Total	$12,744



Nevada Small Business Development Center
Geographic Information Services

June 4, 2007

RE: Economic & fiscal impacts of new residential construction in Douglas County.

To Whom It May Concern,

In May of 2007 a report released by the National Association of Home Builders (NAHB) analyzes the economic and fiscal impact of new residential construction. The Bureau of Business & Economic Research (BBER) at the University of Nevada Reno was contracted to calculate the residential construction costs and permit fees that were fed into the NAHB impact model. The resulting study indicates that the net impacts of new residential construction contribute significant amounts of revenue to the local economy and governments on an annual and on-going basis. The resulting study also indicates that limiting residential construction well below the ten-year average of residential construction (572 units per year) as the Sustainable Growth Initiative (SGI) proposes will negatively impact the revenues of the local governments, new expenditures made by the construction industry and new households, and the employment base that serves the new residential construction and new households in Douglas County.

Another report produced by Meridian Business Advisors ("Analysis of the Fiscal Impact of the Sustainable Growth Initiative on Douglas County Governments" – September 2006) also details the negative fiscal impacts of implementing the SGI proposal. After ten years under the SGI proposal, MBA projects a $14.6 million shortfall within Douglas County's general fund. Similarly, the NAHB model projects a $13.6 million shortfall in overall Douglas County tax revenues after ten years of SGI building permit limitations (it should be noted that the MBA study assumed 280 permits per year and the NAHB study assumed 317 permits per year under the SGI proposal).

As a result, based on our interpretations of the MBA & NAHB studies, the Bureau of Business & Economic Research (UNR) supports the conclusion that new residential construction contributes significantly to the economic and fiscal well-being of Douglas County. Moreover, if proposals are adopted to limit the number of housing permits issued in Douglas County on an annual basis, we agree that tax revenues for the local governments will significantly decrease and negatively impact the local government budgets as reported by the two studies.

Questions related to the Bureau of Business & Economic Research's conclusions regarding economic and fiscal impacts of new residential construction and their involvement with the NAHB report may be directed to my contact information below.

Respectfully,

Brian Bonnenfant
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NAHB

THE LOCAL IMPACT OF HOME BUILDING IN DOUGLAS COUNTY, NEVADA

COMPARING COSTS TO REVENUE FOR LOCAL GOVERNMENTS

Prepared by the Housing Policy Department

May 2007

National Association of Home Builders
1201 15th Street, NW
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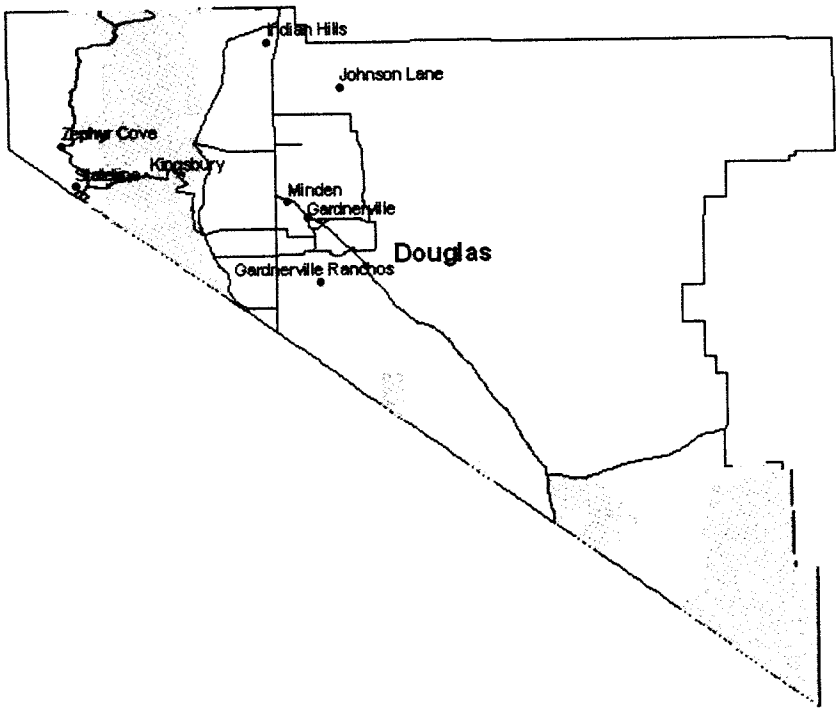
202-266-8398

Introduction

Home building generates local economic impacts such as income and jobs for local residents, and revenue to local governments. It also typically imposes costs on local governments—such as the costs of providing primary and secondary education, police and fire protection, and water and sewer service. Not only do these services require annual expenditures for items such as teacher salaries, they typically also require capital investment in buildings, other structures, and equipment that local governments own and maintain.

This report presents estimates of the local impacts of home building in Douglas County, Nevada (see Figure 1). The report presents estimates of the impacts of building 451 single family and 76 multifamily housing units, based on the level of construction in the county in 2006.

Figure 1. Douglas County, Nevada



The local economic benefits generated by this level of home construction activity are reported in a separate NAHB document.[1] This report presents estimates of the costs—including current and capital expenses—that new homes impose on jurisdictions in the area and compares those costs to the revenue generated. The results are intended to answer the question of whether or not, from the perspective of local government, residential development pays for itself.

The comprehensive nature of the NAHB model requires a local area large enough to include the labor and housing market in which the homes are built. Local benefits in the model, including revenue generated for local governments, include the ripple impacts of spending and taxes paid

[1] "The Local Impact of Home Building in Douglas County, Nevada: Income, Jobs and Taxes Generated," completed by NAHB in May 2007.

by construction workers and new residents, which occur in an economic market area. For a valid comparison, costs should be calculated for the same area.

Outside of metropolitan areas as defined by the U.S. Office of Management and Budget (OMB), NAHB has determined that a county will usually satisfy this criterion. Douglas County does not appear anywhere on OMB's current list of metropolitan areas. In this report, wherever the term local is used, it refers to the entire county.

Costs Compared to Revenue: Total

This section summarizes results for both single family and multifamily construction. Detail by structure type follows, but for many purposes a combined analysis of both types may be most appropriate. Market areas generally require a mix of housing types to accommodate residents of different income levels, different occupations, and who are at different stages in their professional careers. Although it's possible to analyze single family and multifamily construction separately, such an approach does not reflect the typically integrated character of residential development.

- In the first year, the 451 single family and 76 multifamily housing units built in Douglas County result in an estimated
  - **$16.1 million** in tax and other revenue for local governments[2]
  - **$426,000** in current expenditures by local government to provide public services to the net new households at current levels
  - **$6.3 million** in capital investment for new structures and equipment undertaken by local governments

  The analysis assumes that local governments finance the capital investment by borrowing at the current municipal bond rate of 4.40 percent.[3]

- In a typical year after the first, the single family and multifamily units result in
  - **$2.4 million** in tax and other revenue for local governments
  - **$853,000** in local government expenditures to continue providing services at current levels

  The difference is an "operating surplus" that is available to service or pay down debt.

- In this case, the operating surplus is sufficient to service and pay off all debt incurred by investing in structures and equipment at the start of the first year by the end of the first year. After that, future operating surpluses will be available to finance other projects or reduce taxes. After 15 years, the homes will generate a cumulative **$49.3 million in revenue** compared to only **$19.1 million in costs**, including annual current expenses, capital investment, and interest on debt (Figure 2).

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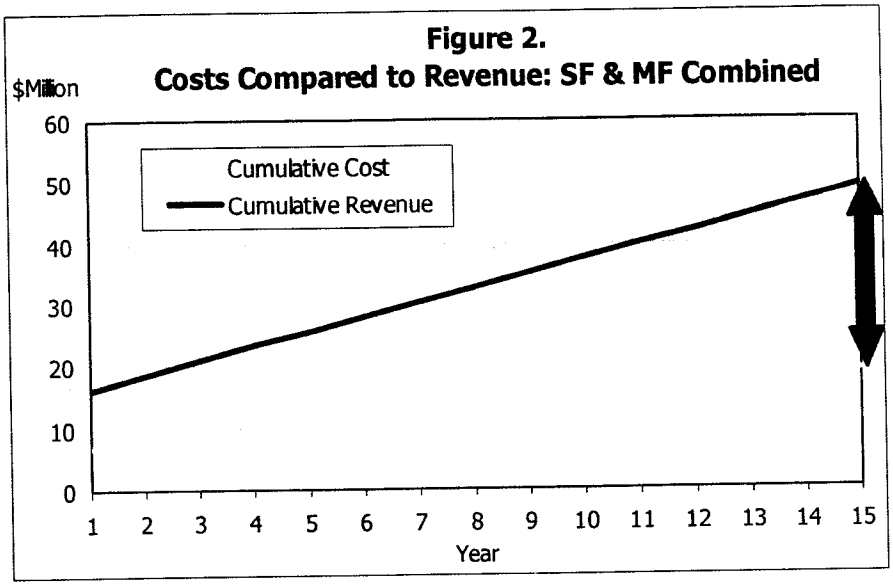
[2] This assumes that homes are occupied at a constant rate during the year, so that the year captures one-half of the ongoing, annual revenue generated as the result of increased property taxes and the new residents participating in the local economy.

[3] The analysis assumes that there is currently no excess capacity, that local governments invest in capital before the homes are built, and that no fees or other revenue generated by construction activity are available to finance the investment, so that all capital investment at the beginning of the first year is financed by debt. This is a conservative assumption that results in an upper bound estimate on the costs incurred by local governments. For information about the particular interest rate on municipal bonds used, see page 2 of the technical appendix.



Costs Compared to Revenue: Single Family Construction

This section summarizes results for single family construction only. The relevant assumptions about the single family homes built (e.g., price, property taxes, and construction-related fees) are contained in the NAHB report, *The Local Impact of Home Building in Douglas County, Nevada: Income, Jobs and Taxes Generated.*

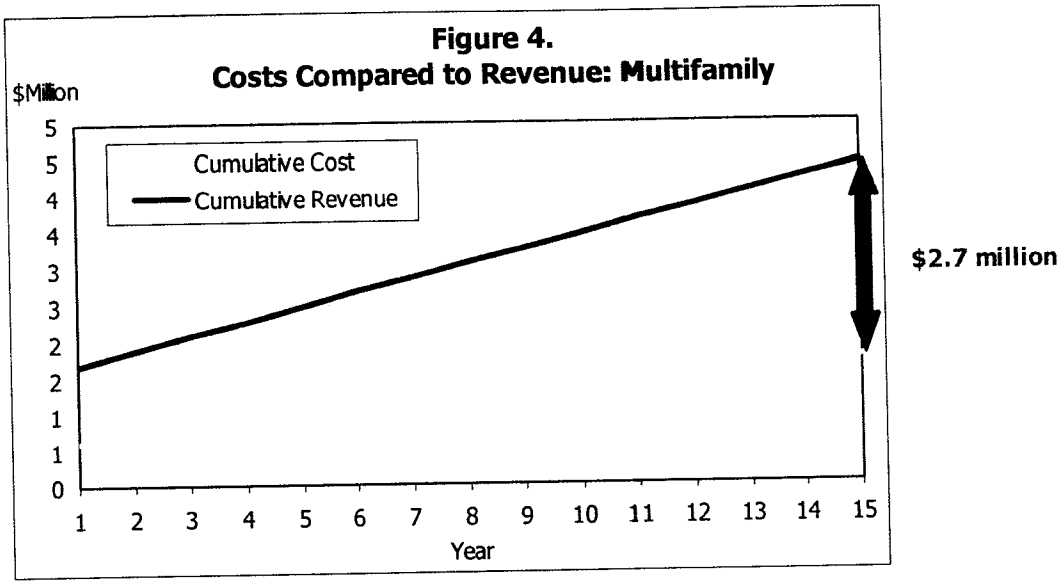
- In the first year, the 451 single family homes built in Douglas County result in an estimated
  - **$14.4 million** in tax and other revenue for local governments
  - **$386,000** in current expenditures by local government to provide public services to the net new households at current levels
  - **$5.7 million** in capital investment for new structures and equipment undertaken by local governments

  The analysis assumes that local governments finance the capital investment by borrowing at the current municipal bond rate.

- In a typical year after the first, the 451 single family homes result in
  - **$2.2 million** in tax and other revenue for local governments
  - **$773,000** in local government expenditures needed to continue providing services at current levels.

  The difference is an "operating surplus."

- The operating surplus in the first year is sufficient to service and pay off all debt incurred by investing in structures and equipment at the start of the first year by the end of the first year. After that, the operating surpluses will be available to finance other projects or reduce taxes. After 15 years, the homes will generate a cumulative **$44.8 million in revenue** compared to only **$17.3 million in costs**, including annual current expenses, capital investment, and interest on debt (Figure 3).



Method Used to Estimate Costs

The method for estimating local government revenue generated by home building is explained in the NAHB documents, *The Local Impact of Home Building in Douglas County, Nevada: Income, Jobs and Taxes Generated.* and *NAHB's Local Impact of Home Building Model: Technical Documentation.* This section describes how costs are estimated.

The general approach is to assume local jurisdictions supply residents of new homes with the same services that they currently provide, on average, to occupants of existing structures. The amount that any jurisdiction spends is available from the Census of Governments, where all units of government in the U.S. report line item expenses, revenues, and intergovernmental transfers once every five years to the Governments Division of the U.S. Census Bureau. Census of Governments accounts can be aggregated for every local government in Douglas County and then used to produce total annual expenses per single family and multifamily housing unit (Table 1):

Table 1.
Total Annual Local Government Expenses per Housing Unit
(in 2006 Dollars)

	Single Family	Multifamily
Education	$904	$526
Fire Protection	$415	$309
Water Supply	$123	$64
Sewerage	$209	$109
Recreation and Culture	$62	$46
Total	$1,713	$1,055

Not surprisingly, cost per housing unit varies substantially across the major service categories. Education accounts for the largest share of annual expenses, but the shares for fire protection, sewerage, and water supply are also substantial.

Both water supply and sewerage expenses are allocated based on gallons of water consumed per day by single family and multifamily households. Education is allocated based on average number of children age 5 through 18. The other government services listed in Table 1 are assumed to be proportional to population, so costs associated with those services are allocated based on household size.[4]

There are several factors present in most parts of the country that tend to reduce education expenses per housing unit. The first is the average number of school-aged children present in the units. According to the American Housing Survey, there is, on average, only a little over one school-aged child for every two households in the U.S. The number is about 0.6 per household for single family and under 0.4 per household for multifamily. So education costs per housing unit are lower than costs per pupil, simply because there is less than one pupil per household.

Beyond that, a share of households typically send their children to private schools. According to the National Center for Education Statistics (NCES), the share is 12.6 percent of all school-aged children nationally. As public monies are very rarely used to pay for private instruction, this tends to further reduce K-12 public school expenses, although the extent to which that occurs varies from place to place. Moreover, according to the NCES another 1.7 percent of students nationwide, ages 5 to 17, with a grade equivalent of kindergarten through grade 12, are homeschooled, which further acts to reduce the cost of public education.

Finally, state governments in the form of intergovernmental transfers pay for some public school expenses. In the latest Census of Governments, local governments in aggregate across Douglas County spent about $50 million in current expenses on education. But over 72 percent of this was offset by $36 million in state-to-local intergovernmental transfers for education.

In addition to current expenses, providing services to residents requires that local governments make capital expenditures for items such as schools and other buildings, equipment, and other structures.

Table 2.
Local Government Capital per Housing Unit
(in 2006 Dollars)

	Single Family	Multifamily
Schools	$7,624	$4,435
Sewer systems	$3,883	$2,032
Water supply	$708	$371
Other structures	$290	$216
Equipment	$237	$176
Total	$12,744	$7,232

[4]Information about water consumption comes from *Analysis of Summer Peak Water Demands,* a study undertaken by the City of Westminster, Colorado Department of Water Resources and Aquacraft, Inc. Water Engineering and Management. Information about household size and number of children comes from the American Housing Survey, conducted by the U.S. Census Bureau for the Department of Housing and Urban Development.

Estimating these costs is more complicated than estimating current expenses. The basic procedure is to estimate a traditional economic model, where costs are a function of labor and capital, with state level data, for which information about the capital stock can be derived (for more detail, see the technical appendix). The results are then applied to a local area, where information is available for every variable except capital. The local capital stock then emerges as a residual in the calculation. As with current expenses, the amount of capital in each category is the amount necessary to accommodate an average single family or average multifamily housing unit (Table 2).

To implement these numbers, several conservative assumptions are made to avoid understating costs. In contrast to the way current expenses were handled, intergovernmental transfers are generally not taken into account here—it is assumed that local governments undertake all capital investment without any help from the states. It is further assumed that none of this demand for capital can be met through current excess capacity. Instead, local governments invest in new structures and equipment at the start of the first year, before any homes are built. To the extent that this is not true—that, for instance, some revenue from impact or other fees is available to fund part of the capital expenditures—interest costs would be somewhat lower than reported here.

To compare the streams of costs and revenues over time, we assume that half of the current expenses and half of the ongoing, annual revenues are realized in the first year. This would be the case if construction and occupancy took place at an even rate throughout the year. Revenues in the first year also include all of the one-time construction impacts such as impact and permit fees.

The difference between revenues and current expenses in a given year is an operating surplus. At the start of the first year, capital investment is financed through debt by borrowing at the current municipal bond interest rate,[5] and the interest accrues throughout the year. Each year after that, the operating surplus is used first to pay the interest on the debt, if any exists, then to pay off the debt at the end of the year. The results are shown for the 451 single family homes in Table 3, for the 76 multifamily units in Table 4, and for single family and multifamily combined in Table 5.

The difference between revenues (the third column) and all costs is net income to local governments (the last column). For both single family and multifamily construction, net income is positive every year, beginning with the first. Moreover, revenues are sufficient to pay off all debt by the end of the first year for either single family or multifamily construction analyzed separately, as well as for the combined case that analyzes single family and multifamily construction together. After the first year, net income generated by the 451 single family and 76 multifamily units combined is roughly $1.5 million per year.

Net income for both structure types falls slightly in year 11, because capital equipment purchased at the start of the first year becomes worn out and needs to be replaced by that time. All other capital investment consists of structures of various types, which have service lives much longer than a single decade.

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[5]The interest rate on municipal bonds is the monthly Bond Buyer 20-year General Obligation Municipal Bond Index available on the Federal Reserve Board's Web site: http://www.federalreserve.gov/releases/h15/data/Monthly/H15_SL_Y20.txt.

Table 3. Results for 451 Single Family Homes

Year	Current Expenses	Revenue	Operating Surplus	Capital Investment Start of Year	Debt Outstanding End of Year	Interest on the Debt	Net Income
1	386,500	14,399,815	14,013,315	5,748,000	0	252,958	8,012,357
2	773,000	2,173,389	1,400,389	0	0	0	1,400,389
3	773,000	2,173,389	1,400,389	0	0	0	1,400,389
4	773,000	2,173,389	1,400,389	0	0	0	1,400,389
5	773,000	2,173,389	1,400,389	0	0	0	1,400,389
6	773,000	2,173,389	1,400,389	0	0	0	1,400,389
7	773,000	2,173,389	1,400,389	0	0	0	1,400,389
8	773,000	2,173,389	1,400,389	0	0	0	1,400,389
9	773,000	2,173,389	1,400,389	0	0	0	1,400,389
10	773,000	2,173,389	1,400,389	0	0	0	1,400,389
11	773,000	2,173,389	1,400,389	107,000	0	0	1,293,389
12	773,000	2,173,389	1,400,389	0	0	0	1,400,389
13	773,000	2,173,389	1,400,389	0	0	0	1,400,389
14	773,000	2,173,389	1,400,389	0	0	0	1,400,389
15	773,000	2,173,389	1,400,389	0	0	0	1,400,389

Table 4. Results for 76 Multifamily Housing Units

Year	Current Expenses	Revenue	Operating Surplus	Capital Investment Start of Year	Debt Outstanding End of Year	Interest on the Debt	Net Income
1	40,000	1,689,774	1,649,774	548,000	0	24,116	1,077,658
2	80,000	196,242	116,242	0	0	0	116,242
3	80,000	196,242	116,242	0	0	0	116,242
4	80,000	196,242	116,242	0	0	0	116,242
5	80,000	196,242	116,242	0	0	0	116,242
6	80,000	196,242	116,242	0	0	0	116,242
7	80,000	196,242	116,242	0	0	0	116,242
8	80,000	196,242	116,242	0	0	0	116,242
9	80,000	196,242	116,242	0	0	0	116,242
10	80,000	196,242	116,242	0	0	0	116,242
11	80,000	196,242	116,242	13,000	0	0	103,242
12	80,000	196,242	116,242	0	0	0	116,242
13	80,000	196,242	116,242	0	0	0	116,242
14	80,000	196,242	116,242	0	0	0	116,242
15	80,000	196,242	116,242	0	0	0	116,242

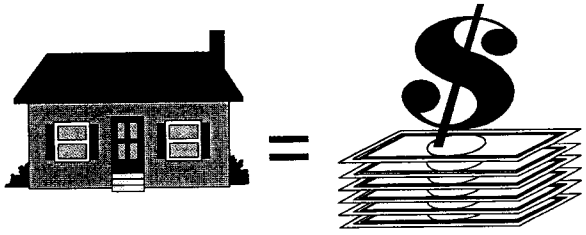
Table 5. Combined Results for 451 Single Family and 76 Multifamily Units

Year	Current Expenses	Revenue	Operating Surplus	Capital Investment Start of Year	Debt Outstanding End of Year	Interest on the Debt	Net Income
1	426,500	16,089,589	15,663,089	6,296,000	0	277,074	9,090,015
2	853,000	2,369,630	1,516,630	0	0	0	1,516,630
3	853,000	2,369,630	1,516,630	0	0	0	1,516,630
4	853,000	2,369,630	1,516,630	0	0	0	1,516,630
5	853,000	2,369,630	1,516,630	0	0	0	1,516,630
6	853,000	2,369,630	1,516,630	0	0	0	1,516,630
7	853,000	2,369,630	1,516,630	0	0	0	1,516,630
8	853,000	2,369,630	1,516,630	0	0	0	1,516,630
9	853,000	2,369,630	1,516,630	0	0	0	1,516,630
10	853,000	2,369,630	1,516,630	0	0	0	1,516,630
11	853,000	2,369,630	1,516,630	120,000	0	0	1,396,630
12	853,000	2,369,630	1,516,630	0	0	0	1,516,630
13	853,000	2,369,630	1,516,630	0	0	0	1,516,630
14	853,000	2,369,630	1,516,630	0	0	0	1,516,630
15	853,000	2,369,630	1,516,630	0	0	0	1,516,630

NAHB

THE LOCAL IMPACT OF HOME BUILDING IN DOUGLAS COUNTY, NEVADA

INCOME, JOBS, AND TAXES GENERATED



Prepared by the Housing Policy Department

May 2007

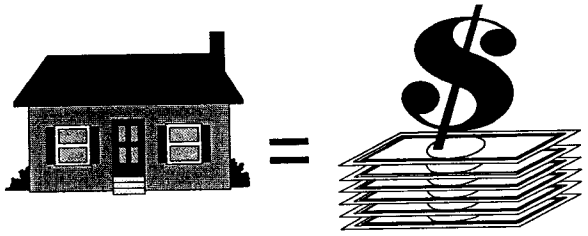
National Association of Home Builders
1201 15th Street, NW
Washington, DC 20005
202-266-8398

VH0602

NAHB
NATIONAL ASSOCIATION
OF HOME BUILDERS

THE LOCAL IMPACT OF HOME BUILDING IN DOUGLAS COUNTY, NEVADA

INCOME, JOBS, AND TAXES GENERATED



CONTENTS

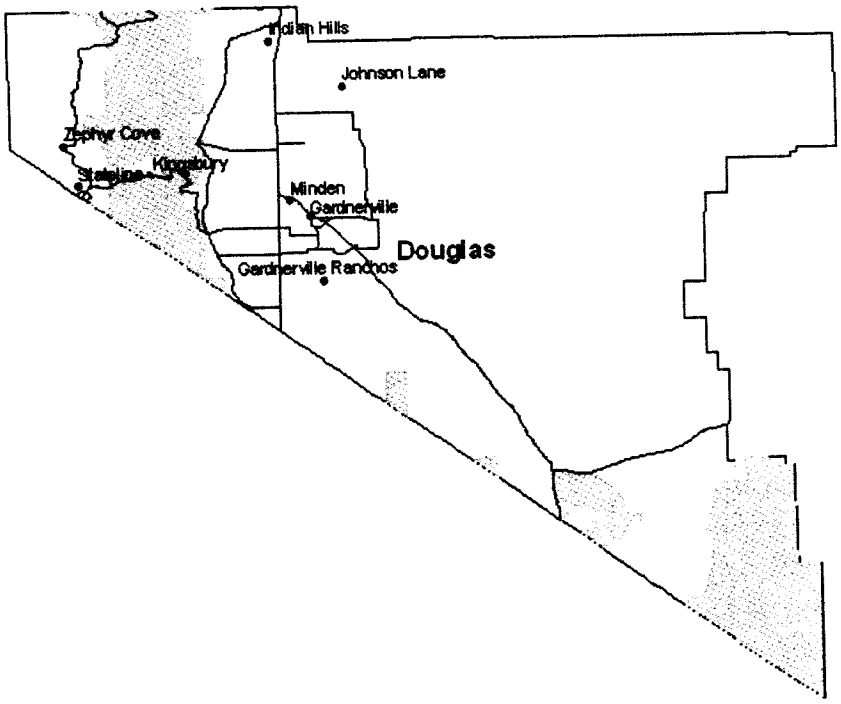
VH0603

EXECUTIVE SUMMARY

Home building generates substantial local economic activity, including new income and jobs for residents, and additional revenue for local governments. The National Association of Home Builders has developed a model to estimate the economic benefits. The model captures the effect of the construction activity itself, the ripple impact that occurs when income earned from construction activity is spent and recycles in the local economy, and the ongoing impact that results from new homes becoming occupied by residents who pay taxes and buy locally produced goods and services. In order to fully appreciate the positive impact residential construction has on a community, it's important to include the ripple effects and the ongoing benefits. Since the NAHB model was initially developed in 1996, it has been successfully applied to construction in over 350 projects, local jurisdictions, metropolitan areas, non-metropolitan counties, and states across the country.

This report presents estimates of the local impacts of home building in Douglas County, Nevada. The comprehensive nature of the NAHB model means that the local area over which the benefits are spread must be large enough to include the places where construction workers live and spend their money, as well as the places where the new home occupants are likely to work, shop, and go for recreation. Outside of metropolitan areas as defined by the U.S. Office of Management and Budget (OMB), NAHB has determined that a county will usually satisfy this criterion. Douglas County does not appear anywhere on OMB's current list of metropolitan areas.

Douglas County, Nevada



In this report, wherever the term local is used, it refers to the entire county. The report presents estimates of the impacts of building 451 single family and 76 multifamily housing units, based on the level of construction activity in Douglas County in 2006.

The NAHB model produces impacts on income and employment in 16 industries and local government, as well as detailed information about taxes and other types of local government revenue. The key results are summarized below. Additional details are contained in subsequent sections.

Single Family Construction

- The estimated one-year local impacts of building 451 single family homes in Douglas County include
  - $132.8 million in local income,
  - $13.3 million in taxes and other revenue for local governments, and
  - 3,109 local jobs.

  These are **local impacts**, representing income and jobs for residents of Douglas County, and taxes (and other sources of revenue, including permit fees) for all local jurisdictions within the county. They are also **one-year impacts** that include both the direct and indirect impact of the construction activity itself, and the impact of local residents who earn money from the construction activity spending part of it within the local area.

- The additional, annually recurring impacts of building 451 single family homes in Douglas County include
  - $19.5 million in local income,
  - $2.2 million in taxes and other revenue for local governments, and
  - 497 local jobs.

  These are **ongoing, annual local impacts** that result from the new homes being occupied, and the occupants paying taxes and otherwise participating in the local economy year after year. In order to fully understand the impact residential construction has on a community, it's important to consider the ongoing benefits as well as the one-time effects.

- The above impacts were calculated assuming that new single family homes built in Douglas County have an average price of $508,693; are built on a lot for which the average value of the raw land is $68,365; require the builder and developer to pay an average of $16,820 in impact, permit, and other fees to local governments; and incur an average property tax of $3,048 per year. These numbers were provided by the Bureau of Business and Economic Research at the University of Nevada, Reno.

Multifamily Construction

- The estimated one-year local impacts of building 76 multifamily units in Douglas County include
  - $8.5 million in local income,
  - $1.6 million in taxes and other revenue for local governments, and
  - 215 local jobs.

  These are **local impacts**, representing income and jobs for residents of Douglas County, and taxes (and other sources of revenue, including permit fees) for all local jurisdictions within the. They are also **one-year impacts** that include both the direct and indirect impact of the construction activity itself, and the impact of local residents who earn money from the construction activity spending part of it within the local area.

- The additional, annually recurring impacts of building 76 multifamily units in Douglas County include
  - $3.1 million in local income,
  - $196,000 in taxes and other revenue for local governments, and
  - 67 local jobs.

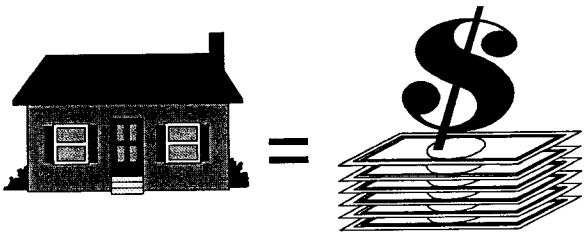
  These are **ongoing, annual local impacts** that result from the new homes being occupied, and the occupants paying taxes and otherwise participating in the local economy year after year.

- These impacts were calculated assuming that new multifamily units built in Douglas County each have an average market value of $165,320; embody an average raw land value of $29,174; require the builder and developer to pay an average of $16,680 in impact, permit, and other fees per unit to local governments; and incur an average annual property tax of $961 per unit. As with the assumptions underlying the single family impact estimates, these numbers were provided by the Bureau of Business and Economic Research at the University of Nevada, Reno.

NAHB

THE LOCAL IMPACT OF HOME BUILDING IN DOUGLAS COUNTY, NEVADA

INCOME, JOBS, AND TAXES GENERATED



DETAILED TABLES ON SINGLE FAMILY CONSTRUCTION

VH0607

IMPACT OF BUILDING 451 SINGLE FAMILY HOMES IN DOUGLAS COUNTY, NEVADA

SUMMARY

Total One-Year Impact: Sum of Phase I and Phase II:

Local Income	Local Business Owners' Income	Local Wages and Salaries	Local Taxes[1]	Local Jobs Supported
$132,761,000	$38,890,000	$93,871,000	$13,313,000	3,109

Phase I: Direct and Indirect Impact of Construction Activity:

Local Income	Business Owners' Income	Local Wages and Salaries	Local Taxes[1]	Local Jobs Supported
$87,819,000	$24,844,000	$62,975,000	$11,669,000	2,015

Phase II: Induced (Ripple) Effect of Spending the Income and Taxes from Phase I:

Local Income	Business Owners' Income	Local Wages and Salaries	Local Taxes[1]	Local Jobs Supported
$44,942,000	$14,046,000	$30,896,000	$1,644,000	1,095

Phase III: Ongoing, Annual Effect that Occurs When New Homes are Occupied:

Local Income	Local Business Owners' Income	Local Wages and Salaries	Local Taxes[1]	Local Jobs Supported
$19,520,000	$6,072,000	$13,448,000	$2,173,000	497

[1] The term local taxes is used as a shorthand for local government revenue from all sources: taxes, fees, fines, revenue from government-owned enterprises, etc...

IMPACT OF BUILDING 451 SINGLE FAMILY HOMES IN DOUGLAS COUNTY, NV
***PHASE I*--DIRECT AND INDIRECT IMPACT OF CONSTRUCTION ACTIVITY**

A. Local Income and Jobs by Industry

Industry	Local Income	Local Business Owners' Income	Local Wages and Salaries	Wages & Salaries per Full-time Job	Number of Local Jobs Supported
Construction	$61,188,000	$15,814,000	$45,373,000	$32,000	1,428
Manufacturing	$172,000	$21,000	$152,000	$31,000	5
Transportation	$469,000	$54,000	$416,000	$20,000	21
Communications	$867,000	$306,000	$561,000	$47,000	12
Utilities	$500,000	$356,000	$145,000	$54,000	3
Wholesale and Retail Trade	$9,241,000	$1,413,000	$7,828,000	$26,000	307
Finance and Insurance	$1,653,000	$188,000	$1,465,000	$54,000	27
Real Estate	$1,501,000	$1,308,000	$192,000	$31,000	6
Personal & Repair Services	$781,000	$713,000	$68,000	$35,000	2
Services to Dwellings / Buildings	$401,000	$134,000	$267,000	$22,000	12
Business & Professional Services	$10,076,000	$3,876,000	$6,200,000	$35,000	178
Eating and Drinking Places	$180,000	$98,000	$82,000	$13,000	6
Automobile Repair & Service	$236,000	$203,000	$33,000	$33,000	1
Entertainment Services	$58,000	$20,000	$39,000	$31,000	1
Health, Educ. & Social Services	$7,000	$3,000	$4,000	$26,000	0
Local Government	$0	$0	$0	$35,000	0
Other	$488,000	$337,000	$151,000	$37,000	4
Total	$87,819,000	$24,844,000	$62,975,000	$31,000	2,015

Note: Business & professional services include architectural and engineering services. The "other" category consists mostly of landscaping services, and the production of greenhouse and nursery products.

B. Local Government General Revenue by Type

TAXES:		USER FEES & CHARGES:	
Business Property Taxes	$105,000	Residential Permit / Impact Fees	$7,586,000
Residential Property Taxes	$0	Utilities & Other Govt. Enterprises	$329,000
General Sales Taxes	$3,364,000	Hospital Charges	$0
Specific Excise Taxes	$1,000	Transportation Charges	$0
Income Taxes	$0	Education Charges	$130,000
License Taxes	$0	Other Fees and Charges	$87,000
Other Taxes	$68,000	TOTAL FEES & CHARGES	$8,132,000
TOTAL TAXES	$3,537,000	TOTAL GENERAL REVENUE	$11,669,000

IMPACT OF BUILDING 451 SINGLE FAMILY HOMES IN DOUGLAS COUNTY, NV
***PHASE II*-INDUCED EFFECT OF SPENDING INCOME AND TAX REVENUE FROM PHASE I**

A. Local Income and Jobs by Industry

Industry	Local Income	Local Business Owners' Income	Local Wages and Salaries	Wages & Salaries per Full-time Job	Number of Local Jobs Supported
Construction	$623,000	$103,000	$519,000	$32,000	16
Manufacturing	$155,000	$19,000	$136,000	$31,000	4
Transportation	$407,000	$48,000	$359,000	$20,000	18
Communications	$2,440,000	$952,000	$1,488,000	$47,000	32
Utilities	$1,162,000	$548,000	$614,000	$54,000	11
Wholesale and Retail Trade	$6,020,000	$984,000	$5,036,000	$22,000	230
Finance and Insurance	$1,902,000	$250,000	$1,652,000	$46,000	36
Real Estate	$6,708,000	$5,848,000	$860,000	$31,000	28
Personal & Repair Services	$2,655,000	$1,397,000	$1,258,000	$24,000	53
Services to Dwellings / Buildings	$619,000	$207,000	$412,000	$22,000	19
Business & Professional Services	$3,917,000	$1,589,000	$2,328,000	$31,000	76
Eating and Drinking Places	$1,714,000	$340,000	$1,374,000	$13,000	103
Automobile Repair & Service	$1,236,000	$603,000	$633,000	$44,000	14
Entertainment Services	$770,000	$278,000	$492,000	$25,000	19
Health, Educ. & Social Services	$4,599,000	$806,000	$3,793,000	$31,000	121
Local Government	$8,525,000	$0	$8,525,000	$35,000	246
Other	$1,489,000	$73,000	$1,416,000	$21,000	66
Total	$44,942,000	$14,046,000	$30,896,000	$28,000	1,095

Note: Business & professional services include architectural and engineering services. The "other" category consists mostly of landscaping services, and the production of greenhouse and nursery products.

B. Local Government General Revenue by Type

TAXES:		USER FEES & CHARGES:	
Business Property Taxes	$535,000	Residential Permit / Impact Fees	$0
Residential Property Taxes	$0	Utilities & Other Govt. Enterprises	$734,000
General Sales Taxes	$0	Hospital Charges	$0
Specific Excise Taxes	$3,000	Transportation Charges	$0
Income Taxes	$0	Education Charges	$68,000
License Taxes	$0	Other Fees and Charges	$106,000
Other Taxes	$197,000	TOTAL FEES & CHARGES	$908,000
TOTAL TAXES	$736,000	TOTAL GENERAL REVENUE	$1,644,000

IMPACT OF BUILDING 451 SINGLE FAMILY HOMES IN DOUGLAS COUNTY, NV
***PHASE III*-ONGOING, ANNUAL EFFECT THAT OCCURS BECAUSE UNITS ARE OCCUPIED**

A. Local Income and Jobs by Industry

Industry	Local Income	Local Business Owners' Income	Local Wages and Salaries	Wages & Salaries per Full-time Job	Number of Local Jobs Supported
Construction	$393,000	$68,000	$325,000	$32,000	10
Manufacturing	$82,000	$10,000	$72,000	$31,000	2
Transportation	$170,000	$19,000	$151,000	$20,000	7
Communications	$1,293,000	$506,000	$788,000	$47,000	17
Utilities	$693,000	$329,000	$363,000	$54,000	7
Wholesale and Retail Trade	$3,289,000	$538,000	$2,751,000	$22,000	126
Finance and Insurance	$1,174,000	$149,000	$1,025,000	$46,000	22
Real Estate	$1,915,000	$1,669,000	$245,000	$31,000	8
Personal & Repair Services	$1,080,000	$592,000	$488,000	$24,000	20
Services to Dwellings / Buildings	$362,000	$121,000	$241,000	$22,000	11
Business & Professional Services	$2,066,000	$847,000	$1,219,000	$31,000	39
Eating and Drinking Places	$910,000	$180,000	$730,000	$13,000	55
Automobile Repair & Service	$739,000	$368,000	$371,000	$42,000	9
Entertainment Services	$412,000	$145,000	$267,000	$25,000	11
Health, Educ. & Social Services	$2,462,000	$459,000	$2,004,000	$31,000	64
Local Government	$1,327,000	$0	$1,327,000	$35,000	38
Other	$1,153,000	$70,000	$1,084,000	$21,000	50
Total	$19,520,000	$6,072,000	$13,448,000	$27,000	497

Note: Business & professional services include architectural and engineering services. The "other" category consists mostly of landscaping services, and the production of greenhouse and nursery products.

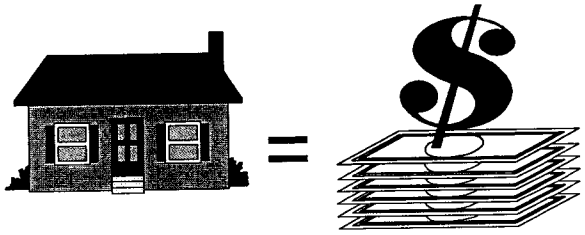
B. Local Government General Revenue by Type

TAXES:		USER FEES & CHARGES:	
Business Property Taxes	$253,000	Residential Permit / Impact Fees	$0
Residential Property Taxes	$1,190,000	Utilities & Other Govt. Enterprises	$558,000
General Sales Taxes	$0	Hospital Charges	$0
Specific Excise Taxes	$2,000	Transportation Charges	$0
Income Taxes	$0	Education Charges	$29,000
License Taxes	$0	Other Fees and Charges	$49,000
Other Taxes	$92,000	TOTAL FEES & CHARGES	$637,000
TOTAL TAXES	$1,537,000	TOTAL GENERAL REVENUE	$2,173,000

NAHB

THE LOCAL IMPACT OF HOME BUILDING IN DOUGLAS COUNTY, NEVADA

INCOME, JOBS, AND TAXES GENERATED



DETAILED TABLES ON MULTIFAMILY CONSTRUCTION

VH0612

IMPACT OF BUILDING 76 MULTIFAMILY UNITS IN DOUGLAS COUNTY, NEVADA

SUMMARY

Total One-Year Impact: Sum of Phase I and Phase II:

Local Income	Local Business Owners' Income	Local Wages and Salaries	Local Taxes[1]	Local Jobs Supported
$8,479,000	$1,871,000	$6,608,000	$1,592,000	215

Phase I: Direct and Indirect Impact of Construction Activity:

Local Income	Business Owners' Income	Local Wages and Salaries	Local Taxes[1]	Local Jobs Supported
$5,105,000	$974,000	$4,131,000	$1,484,000	131

Phase II: Induced (Ripple) Effect of Spending the Income and Taxes from Phase I:

Local Income	Business Owners' Income	Local Wages and Salaries	Local Taxes[1]	Local Jobs Supported
$3,374,000	$897,000	$2,477,000	$108,000	84

Phase III: Ongoing, Annual Effect that Occurs When New Homes are Occupied:

Local Income	Local Business Owners' Income	Local Wages and Salaries	Local Taxes[1]	Local Jobs Supported
$3,111,000	$1,352,000	$1,759,000	$196,000	67

[1] The term local taxes is used as a shorthand for local government revenue from all sources: taxes, fees, fines, revenue from government-owned enterprises, etc...

IMPACT OF BUILDING 78 MULTIFAMILY UNITS IN DOUGLAS COUNTY, NV
***PHASE I*--DIRECT AND INDIRECT IMPACT OF CONSTRUCTION ACTIVITY**

A. Local Income and Jobs by Industry

Industry	Local Income	Local Business Owners' Income	Local Wages and Salaries	Wages & Salaries per Full-time Job	Number of Local Jobs Supported
Construction	$3,655,000	$447,000	$3,208,000	$32,000	101
Manufacturing	$7,000	$1,000	$6,000	$31,000	0
Transportation	$16,000	$2,000	$14,000	$20,000	1
Communications	$47,000	$17,000	$29,000	$47,000	1
Utilities	$24,000	$16,000	$7,000	$54,000	0
Wholesale and Retail Trade	$352,000	$54,000	$298,000	$26,000	12
Finance and Insurance	$70,000	$8,000	$62,000	$49,000	1
Real Estate	$80,000	$70,000	$10,000	$31,000	0
Personal & Repair Services	$41,000	$39,000	$2,000	$29,000	0
Services to Dwellings / Buildings	$26,000	$9,000	$18,000	$22,000	1
Business & Professional Services	$752,000	$281,000	$470,000	$34,000	14
Eating and Drinking Places	$6,000	$6,000	$0	$13,000	0
Automobile Repair & Service	$15,000	$13,000	$2,000	$28,000	0
Entertainment Services	$2,000	$1,000	$1,000	$28,000	0
Health, Educ. & Social Services	$0	$0	$0	$28,000	0
Local Government	$0	$0	$0	$35,000	0
Other	$12,000	$11,000	$1,000	$24,000	0
Total	$5,105,000	$974,000	$4,131,000	$32,000	131

Note: Business & professional services include architectural and engineering services. The "other" category consists mostly of landscaping services, and the production of greenhouse and nursery products.

B. Local Government General Revenue by Type

TAXES:		USER FEES & CHARGES:	
Business Property Taxes	$6,000	Residential Permit / Impact Fees	$1,268,000
Residential Property Taxes	$0	Utilities & Other Govt. Enterprises	$18,000
General Sales Taxes	$175,000	Hospital Charges	$0
Specific Excise Taxes	$0	Transportation Charges	$0
Income Taxes	$0	Education Charges	$8,000
License Taxes	$0	Other Fees and Charges	$5,000
Other Taxes	$4,000	TOTAL FEES & CHARGES	$1,299,000
TOTAL TAXES	$185,000	TOTAL GENERAL REVENUE	$1,484,000

IMPACT OF BUILDING 76 MULTIFAMILY UNITS IN DOUGLAS COUNTY, NV
***PHASE II*-INDUCED EFFECT OF SPENDING INCOME AND TAX REVENUE FROM PHASE I**

A. Local Income and Jobs by Industry

Industry	Local Income	Local Business Owners' Income	Local Wages and Salaries	Wages & Salaries per Full-time Job	Number of Local Jobs Supported
Construction	$40,000	$7,000	$33,000	$32,000	1
Manufacturing	$10,000	$1,000	$9,000	$31,000	0
Transportation	$26,000	$3,000	$23,000	$20,000	1
Communications	$156,000	$61,000	$95,000	$47,000	2
Utilities	$74,000	$35,000	$39,000	$54,000	1
Wholesale and Retail Trade	$384,000	$63,000	$322,000	$22,000	15
Finance and Insurance	$121,000	$16,000	$106,000	$46,000	2
Real Estate	$428,000	$374,000	$55,000	$31,000	2
Personal & Repair Services	$170,000	$89,000	$80,000	$24,000	3
Services to Dwellings / Buildings	$40,000	$13,000	$26,000	$22,000	1
Business & Professional Services	$250,000	$101,000	$149,000	$31,000	5
Eating and Drinking Places	$109,000	$22,000	$88,000	$13,000	7
Automobile Repair & Service	$79,000	$39,000	$40,000	$44,000	1
Entertainment Services	$49,000	$18,000	$31,000	$25,000	1
Health, Educ. & Social Services	$294,000	$51,000	$242,000	$31,000	8
Local Government	$1,048,000	$0	$1,048,000	$35,000	30
Other	$95,000	$5,000	$90,000	$21,000	4
Total	$3,374,000	$897,000	$2,477,000	$29,000	84

Note: Business & professional services include architectural and engineering services. The "other" category consists mostly of landscaping services, and the production of greenhouse and nursery products.

B. Local Government General Revenue by Type

TAXES:		USER FEES & CHARGES:	
Business Property Taxes	$34,000	Residential Permit / Impact Fees	$0
Residential Property Taxes	$0	Utilities & Other Govt. Enterprises	$49,000
General Sales Taxes	$0	Hospital Charges	$0
Specific Excise Taxes	$0	Transportation Charges	$0
Income Taxes	$0	Education Charges	$5,000
License Taxes	$0	Other Fees and Charges	$7,000
Other Taxes	$13,000	TOTAL FEES & CHARGES	$61,000
TOTAL TAXES	$47,000	TOTAL GENERAL REVENUE	$108,000

IMPACT OF BUILDING 76 MULTIFAMILY UNITS IN DOUGLAS COUNTY, NV
***PHASE III*-ONGOING, ANNUAL EFFECT THAT OCCURS BECAUSE UNITS ARE OCCUPIED**

A. Local Income and Jobs by Industry

Industry	Local Income	Local Business Owners' Income	Local Wages and Salaries	Wages & Salaries per Full-time Job	Number of Local Jobs Supported
Construction	$34,000	$5,000	$29,000	$32,000	1
Manufacturing	$11,000	$1,000	$10,000	$31,000	0
Transportation	$35,000	$4,000	$31,000	$20,000	2
Communications	$137,000	$51,000	$85,000	$47,000	2
Utilities	$54,000	$25,000	$28,000	$54,000	1
Wholesale and Retail Trade	$393,000	$64,000	$328,000	$22,000	15
Finance and Insurance	$129,000	$16,000	$113,000	$46,000	2
Real Estate	$867,000	$756,000	$111,000	$31,000	4
Personal & Repair Services	$238,000	$125,000	$113,000	$23,000	5
Services to Dwellings / Buildings	$44,000	$15,000	$30,000	$22,000	1
Business & Professional Services	$290,000	$115,000	$175,000	$30,000	6
Eating and Drinking Places	$138,000	$27,000	$110,000	$13,000	8
Automobile Repair & Service	$119,000	$59,000	$59,000	$41,000	1
Entertainment Services	$79,000	$28,000	$51,000	$25,000	2
Health, Educ. & Social Services	$329,000	$57,000	$273,000	$31,000	9
Local Government	$114,000	$0	$114,000	$35,000	3
Other	$103,000	$3,000	$99,000	$22,000	5
Total	$3,111,000	$1,352,000	$1,759,000	$26,000	67

Note: Business & professional services include architectural and engineering services. The "other" category consists mostly of landscaping services, and the production of greenhouse and nursery products.

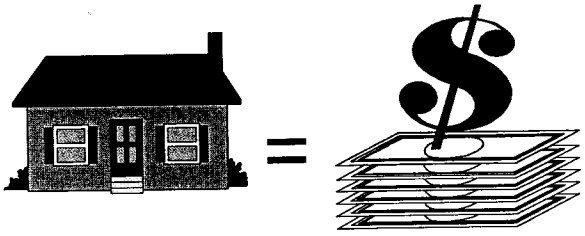
B. Local Government General Revenue by Type

TAXES:		USER FEES & CHARGES:	
Business Property Taxes	$45,000	Residential Permit / Impact Fees	$0
Residential Property Taxes	$60,000	Utilities & Other Govt. Enterprises	$61,000
General Sales Taxes	$0	Hospital Charges	$0
Specific Excise Taxes	$0	Transportation Charges	$0
Income Taxes	$0	Education Charges	$5,000
License Taxes	$0	Other Fees and Charges	$8,000
Other Taxes	$16,000	TOTAL FEES & CHARGES	$74,000
TOTAL TAXES	$122,000	TOTAL GENERAL REVENUE	$196,000

NAHB

THE LOCAL IMPACT OF HOME BUILDING IN DOUGLAS COUNTY, NEVADA

INCOME, JOBS, AND TAXES GENERATED



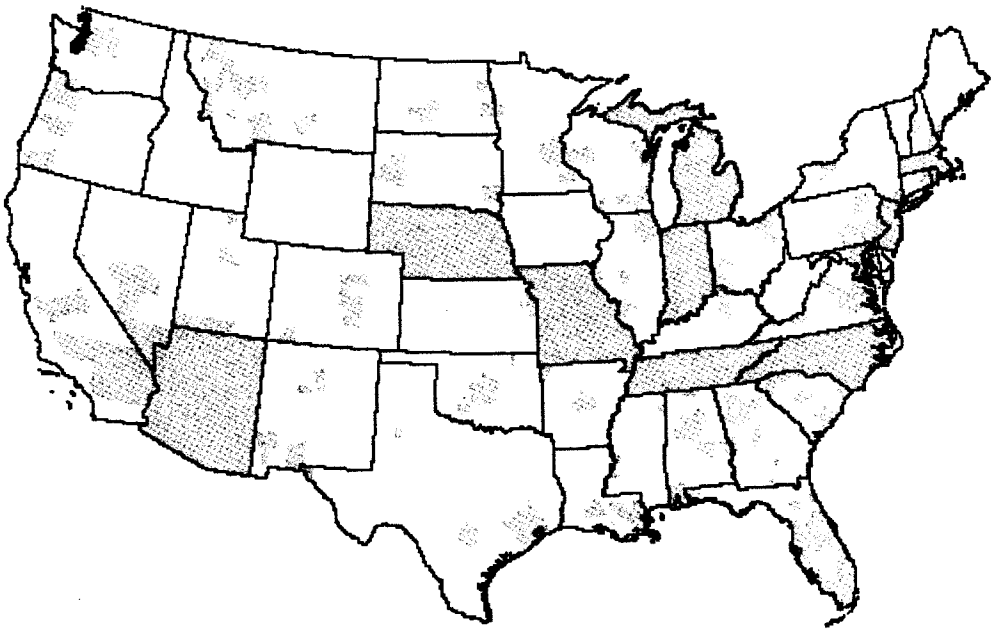
BACKGROUND AND A BRIEF DESCRIPTION OF THE MODEL USED TO ESTIMATE THE ECONOMIC BENEFITS

VH0617

The Housing Policy Department of the National Association of Home Builders (NAHB) maintains an economic model that it uses to estimate the local economic benefits of home building. Originally developed in 1996, the model was at first calibrated to a typical metropolitan area using national averages, but from the beginning was capable of being adapted to a specific local economy by replacing key housing market variables. The initial version of the model could be applied to single family construction, multifamily construction, or a combination of the two.

In March of 1997, NAHB began customizing the model to various areas around the country on a routine basis, primarily at the request of its local affiliated associations. By February of 2007, the Housing Policy Department had produced over 350 of these customized reports analyzing residential construction in various metropolitan areas, non-metropolitan counties, and states across the country (darker shaded areas in the map below).

Areas Covered by Previous NAHB Local Impact Studies



The reports have analyzed the impacts of specific housing projects, as well as total home building in areas as large as entire states. In 2002, NAHB developed new versions of the model to analyze active adult housing projects and multifamily development financed with the Low-Income Housing Tax Credit. In 2005 a version of the model that analyzes residential remodeling was added to the mix.

Results from NAHB's local impact model have been used by outside organizations such as universities, state housing authorities and affordable housing agencies:

- The Shimburg Center for Affordable Housing at the University of Florida used results from the NAHB model to establish that "the real estate taxes paid year after year are the most obvious long-term economic benefit to the community. Probably the second most obvious long-term economic benefit is the purchases made by the family occupying the completed home." www.shimberg.ufl.edu/pdfs/Newslett-June02.pdf

- The Center for Applied Economic Research at Montana State University used "results from an input-output model developed by the National Association of Home Builders to assess the impacts to local areas from new home construction." The results show that "the construction industry contributes substantially to Montana's economy accounting for 5.5 percent of Gross State Product." www.msubillings.edu/caer/The%20Impact%20of%20Home%20Construction%20in%20Montana.pdf

- The Housing Education and Research Center at Michigan State University also adopted the NAHB approach: "The underlying basis for supporting the implementation of this [NAHB] model on Michigan communities is that it provides quantifiable results that link new residential development with commercial and other forms of development therefore illustrating the overall economic effects of residential growth." www.canr.msu.edu/cm/herc/h5over.html

- The Center for Economic Development at the University of Massachusetts found that "Home building generates substantial local economic activity, including income, jobs, and revenue for state and local governments. These far exceed the school costs-to-property-tax ratios. ...these factors were evaluated by means of a quantitative assessment of data from the National Association of Home Builder's Local Impact of Home Building model" www.donahue.umassp.edu/publications/housing/7-economicco.html

- Similarly, the Association of Oregon Community Development Organizations decided to base its analysis of affordable housing on the NAHB model, stating that "This model is widely respected and utilized in analyzing the economic impact of market rate housing development," and that, compared to alternatives, it "is considered the most comprehensive and is considered an improvement on most previous models." www.aocdo.org/docs/EcoDevoStudyFinal.pdf

- The Boone County Kentucky Planning Commission included results from the NAHB model in its 2005 Comprehensive Report. The Planning Commission used values from the impact model to quantify the increase in local income, taxes, revenue, jobs, and overall local economic impacts in the Metro Area as a result of new home construction. http://www.boonecountyky.org/pc/2005CompPlan.aspxv

A Brief Description of the Model

The NAHB model is divided into three phases. Phases I and II are one-time effects. Phase I captures the effects that result directly from the construction activity itself and the local industries that contribute to it. Phase II captures the effects that occur as a result of the wages and profits from Phase I being spent in the local economy. Phase III is an ongoing, annual effect that includes property tax payments and the result of the completed unit being occupied.

Phase I: Local Industries Involved in Home Building

The jobs, wages, and local taxes (including permit, utility connection, and impact fees) generated by the actual development, construction, and sale of the home. These jobs include on-site and off-site construction work as well as jobs generated in retail and wholesale sales of components, transportation to the site, and the professional services required to build a home and deliver it to its final customer.

Phase II: Ripple Effect

The wages and profits for local area residents earned during the construction period are spent on other locally produced goods and services. This generates additional income for local residents, which is spent on still more locally produced goods and services, and so on. This continuing recycling of income back into the community is usually called a ***multiplier*** or ***ripple*** effect.

Phase III: Ongoing, Annual Effect

The local jobs, income, and taxes generated as a result of the home being occupied. A household moving into a new home generally spends about three-fifths of its income on goods and services sold in the local economy. A fraction of this will become income for local workers and local businesses proprietors. In a typical local area, the household will also pay 1.25 percent of its income to local governments in the form of taxes and user fees, and a fraction of this will become income for local government employees. This is the first step in another set of economic ripples that cause a permanent increase in the level of economic activity, jobs, wages, and local tax receipts.

Modeling a Local Economy

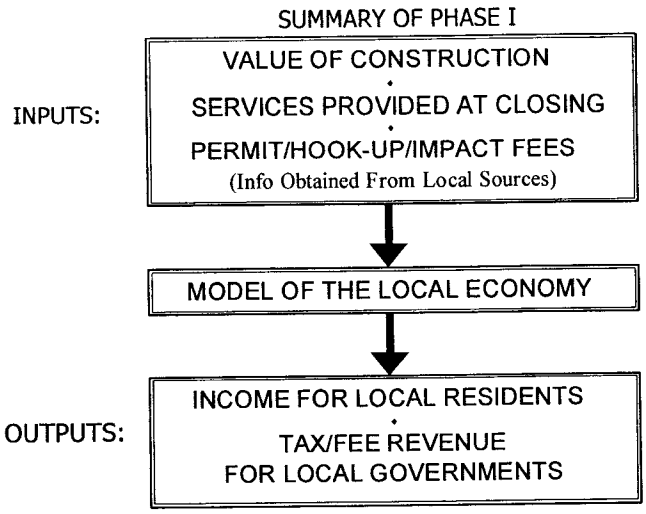
The model defines a local economy as a collection of industries and commodities. These are selected from the detailed benchmark input-output tables produced by the U.S. Bureau of Economic Analysis. The idea is to choose goods and services that would typically be produced, sold, and consumed within a local market area. Laundry services would qualify, for example, while automobile manufacturing would not. Both business-to-business and business-to-consumer transactions are considered. In general the model takes a conservative approach and retains a relatively small number of the available industries and commodities. Of the roughly 600 industries and commodities provided in the input-output files, the model uses only 93 commodities and 95 industries.

The design of the model implies that a local economy should include not only the places people live, but also the places where they work, shop, typically go for entertainment, etc. This corresponds reasonably well to the concepts of Metropolitan Statistical Areas and Primary Metropolitan Statistical Areas. These are areas defined by the U.S. Office of Management and Budget, based on local commuting patterns, and outside of the New England area are aggregations of counties. Outside of these officially defined metropolitan areas, NAHB has determined that a county will usually satisfy the model's requirements.

For a particular local area, the model adjusts the indirect business tax section of the national input-output accounts to account for the fiscal structure of local governments in the area. The information used to do this comes primarily from the U.S. Census Bureau's Census of Governments. Wages and salaries are extracted from the employee compensation section of the input-output accounts on an industry-by-industry basis. In order to relate wages and salaries to employment, the model incorporates data on local wages per job published by the Bureau of Economic Analysis.

Phase I: Construction

In order to estimate the local impacts generated by home building, it is necessary to know the sales price of the homes being built, how much raw land contributes to the final price, and how much the builder and developer pay to local area governments in the form of permit, utility connection, impact, and other fees. This information is not generally available from national sources and in most cases must be provided by representatives from the area in question who have specialized knowledge of local conditions.

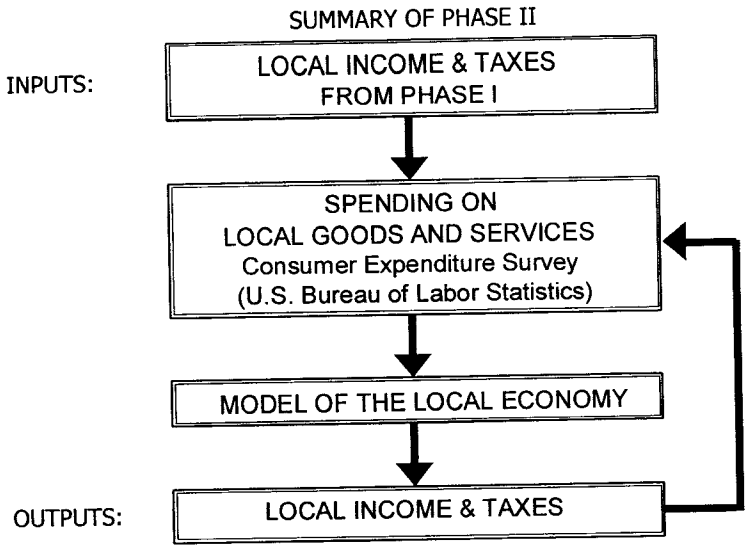


The model subtracts raw land value from the price of new construction and converts the difference into local wages, salaries, business owners' income, and taxes. This is done separately for all 95 local industries. In addition, the taxes and fees collected by local governments during the construction phase generate wages and salaries for local government employees. Finally the number of full time jobs supported by the wages and salaries generated in each private local industry and the local government sector is estimated.

Phase II: The Construction Ripple

Clearly, the local residents who earn income in Phase I will spend a share of it. Some of this will escape the local economy. A portion of the money used to buy a new car, for example, will become wages for autoworkers who are likely to live in another city, and increased profits for stockholders of an automobile manufacturing company who are also likely to live elsewhere. A portion of the spending, however, will remain within, and have an impact on, the local economy. The car is likely to be purchased from a local dealer and generate income for a salesperson who lives in the area, as well for local workers who provide cleaning, maintenance, and other services to the dealership. Consumers also are likely to purchase many services locally, as well as to pay taxes and fees to local governments.

This implies that the income and taxes generated in Phase I become the input for additional economic impacts analyzed in what we call Phase II of the model. Phase II begins by estimating how much of the added income households spend on each of the local commodities. This requires detailed analysis of data from the Consumer Expenditure Survey (CES), which is conducted by the U.S. Bureau of Labor Statistics primarily for the purpose of determining the weights for the Consumer Price Index. The analysis produces household spending estimates for 56 local commodities (the remainder of the 93 local commodities entering the model exclusively through business-to-business transactions).



The model then translates the estimated local spending into local business owners' income, wages and salaries, jobs, and taxes. This is essentially the same procedure applied to the homes sold to consumers in Phase I. In Phase II, however, the procedure is applied simultaneously to 56 locally produced and sold commodities.

In other words, the model converts the local income earned in Phase I into local spending, which then generates additional local income. But this in turn will lead to additional spending, which will generate more local income, leading to another round of spending, and so on. Calculating the end result of these economic is a straightforward exercise in mathematics.

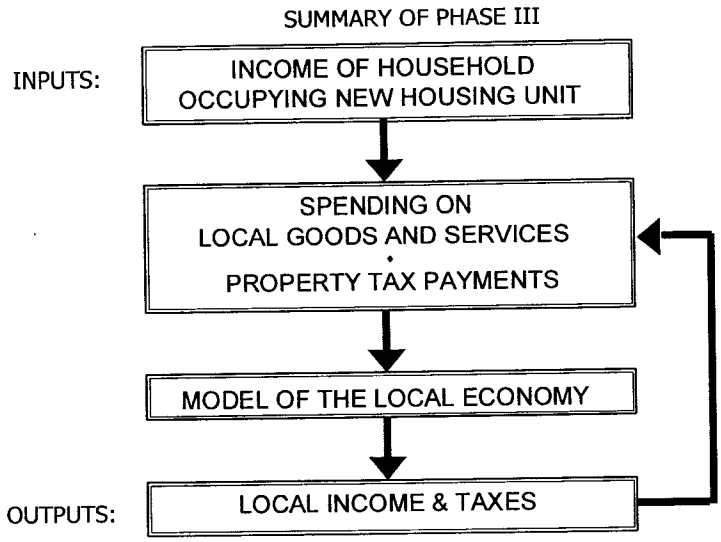
Phase III: The Ongoing Impacts

Like Phase II, Phase III involves computing the sum of successive ripples of economic activity. In Phase III, however, the first ripple is generated by the income and spending of a new household (along with the additional property taxes local governments collect as a result of the new structure). This does not necessarily imply that all new homes must be occupied by households moving in from outside the local area. It may be that an average new-home household moves into the newly constructed unit from elsewhere in the same local area, while average existing-home household moves in from outside to occupy the unit vacated by the first household. Alternatively, it may be that the new home allows the local area to retain a household that would otherwise move out of the area for lack of suitable housing.

In any of these cases, it is appropriate to treat a new, occupied housing unit as a net gain to the local economy of one household with average characteristics for a household that occupies a new home. This reasoning is often used, even if unconsciously, when it is assumed that a

new home will be occupied by a household with average characteristics—for instance, an average number of children who will consume public education.

To estimate the impact of the net additional households, Phase III of the model requires an estimate of the income of the households occupying the new homes. The information used to compute this estimate comes from several sources, but primarily from an NAHB statistical model based on decennial census data. Phase III of the local impact model then estimates the fraction of income these households spend on various local commodities. This is done with CES data and is similar to the procedure described under Phase II. The model also calculates the amount of local taxes the households pay each year. This is done with Census of Governments data except in the case of residential property taxes, which are treated separately, and for which specific information must usually be obtained from a local source. Finally, a total ripple effect is computed, using essentially the same procedure outlined above under Phase II.

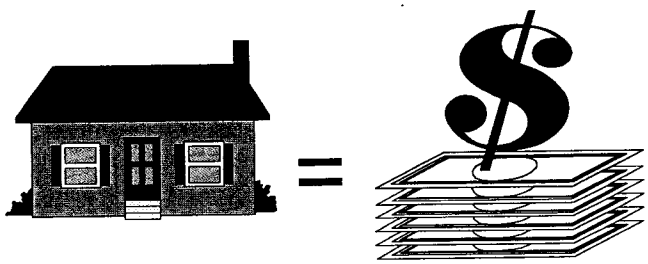


The details covered here provide only a brief description of the model NAHB uses to estimate the local economic benefits of home building. For a more complete description, see the technical documentation at the end of the report. For additional information about the model, or questions about applying it to a particular local area, contact one of the following in NAHB's Housing Policy Department:

- David Crowe, Senior Staff Vice President (202) 266-8383
- Paul Emrath, Assistant Staff Vice President (202) 266-8449
- Elliot Eisenberg, Housing Policy Economist (202) 266-8398

NAHB

NAHB'S LOCAL IMPACT OF HOME BUILDING MODEL



TECHNICAL DOCUMENTATION

VH0625

A Hard Copy of the Technical Documentation
is Available on Request from
NAHB's Housing Policy Department.