



Selected Economic Considerations and Impacts of New Home Construction in Colorado Springs, Colorado

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Overview

In May and June, 2016, Summit Economics worked with the Colorado Springs Home Builders Association (HBA) to document the following related to El Paso County's home building industry:

1. Economic impact of new home construction;
2. Local government revenues from new home construction;
3. Cost of developing a single-family lot;
4. Cost of building a typical home;
5. Government cost imposed upon lot development and home construction.

Key summary results of the research are found in a pamphlet titled *Economic Impact of Home Building in El Paso County* published in August 2016 by the HBA.¹ This report provides additional details supporting the pamphlet's contents as well as additional information to assist the HBA with its efforts to support the community and the El Paso County home building industry. At the end of each of the following sections, there is underlined text which represents Summit Economics' recommendations for moving forward.

Methodology

The approach used in this research encompassed four elements.

1. The HBA contracted with the National Association of Home Building (NAHB) to run economic impact models based upon EL Paso County inputs. The modeling results were reviewed by Summit Economics for reasonableness.
2. Summit Economics reviewed recent reports published by NAHB, a historical analysis performed by David Bamberger and Associates², and other literature associated the regulatory cost of new home development.
3. Summit Economics created and implemented a survey for the home building industry similar to instruments used by NAHB in their research related to building costs as well as the government regulation associated with those costs.
4. Summit Economics created and implemented a survey instrument for lot developers to inquire into lot development costs using the same layout as David Bamberger and Associates used in 2006. The survey included some of the same questions used by NAHB in assessing the cost of government requirements on the lot development process.

¹ For brochure, see <http://www.cshba.com/impact.html>

² David Bamberger & Associates is a predecessor firm to Summit Economics, LLC

Economic & Fiscal Impact

The economic impact of home building involves the money spent on home building in El Paso County and the resulting impact on the Colorado Springs metropolitan statistical area (MSA) as defined by the U.S. Office of Management and Budget. The MSA includes both El Paso and Teller Counties. The impacts include direct and indirect impacts that arise from construction activities and induced impacts which NAHB refers to as “ripple effects” which occur in subsequent rounds of local spending as those involved with home building spend their wages thereby employing even more people (known as the regional economic multiplier). These impacts all occur within the 12-month period in which the new home, townhome, or apartment are constructed and are generally referred to as construction impacts. In addition, there are “annually recurring impacts” which account for the impact of having new households living in the Colorado Springs MSA. The economic impacts are tracked across 16 industries and local government in the NAHB report.

The NAHB economic modeling was run for 100 single-family and 100 multi-family homes. Summit Economics then took the modeled results and applied them to annual averages of new home construction in 2015 and the first quarter of 2016. Hence, the results essentially reflect the impact of home building in 2015. The calculations of going from the impact of 100 units to total impacts is shown in the following table.

Economic Impact of Homes Built in El Paso County in 2015			
		Housing Type	
	Total	Single-Family Detached	Multi-Family
Average Annual Units per Year 2015 to thru Q1-2016		2800	700
Construction Impacts			
Per 100 Units			
Household Income (millions)		\$ 29.70	\$ 19.00
Jobs		458	288
Local government revenues (millions)		\$ 5.30	\$ 3.10
Total Annual Construction Impacts 2015-16			
Household Income (millions)	\$ 965	\$ 831.60	\$ 133.00
Jobs	14,840	12,824	2,016
Local government revenues (millions)	\$ 170	\$ 148.40	\$ 21.70
Annually Recurring Impacts			
Per 100 Units			
Household Income (millions)		4.04	3.4
Jobs		75	62
Local government revenues (millions)		1.3	0.88
Total Recurring Impacts			
Household Income (millions)	\$ 137	\$ 113.12	\$ 23.80
Jobs	2,534	2,100	434
Local government revenues (millions)	\$ 43	\$ 36.40	\$ 6.16
Source: NAHB, Summit Economics			

The published pamphlet uses these calculations and rounds some numbers such as household income from the construction of new homes in order to provide a general order of magnitude that is easier to remember (\$1 billion versus \$965 million in related household income generated). The detailed NAHB report can be accessed at http://www.cshba.com/uploads/6/9/4/3/69431517/report_econ_impact_nahb.pdf.

NAHB has a long history in modeling economic impact from housing development and has modified and improved the model over time. Summit Economics did not run its own modeling to draw any of its own conclusions, but we are comfortable with the general magnitude of the NAHB results. We recommend NAHB impacts per 100 units be used for the coming three years and updated based upon the total number of housing units built in El Paso County per year. After that time, it would be prudent to have NAHB rerun their model with new average price and other inputs from the El Paso County market.

Local Government Revenues Generated from New Home Construction

The local government revenues generated generally fall into two broad categories (see the NAHB report for detailed categories): 1) taxes and 2) fees and charges. During the development and homebuilding process, taxes and fees/charges paid total 1.8% and 4.3% of the average new home price respectively. The majority of the fees and charges paid are utility hook-up fees associated with new homes buying into the fixed capital of the Colorado Springs Utilities. Those funds are almost entirely net new funds which effectively lower the cost of utilities for all other residents of the community. These impacts exclude NAHB's estimated \$12,662 in additional local government revenues resulting from the induced impact resulting from home construction.

After the new homes are constructed and occupied, NAHB estimates ongoing local government revenues generated annually total \$12,662 annually per household. Taxes represent \$2,879 of that amount and fees and charges represent the balance. Fifty-one percent of the total accrues to utilities and other enterprises such as the Colorado Springs Airport. Because enterprises are largely fixed cost operations, the additional receipts effectively reduce costs to other residents or, in the case of the airport, slightly enhance flight availability to and from the Colorado Springs MSA.

The HBA may want to update a 1999 fiscal impact study prepared by David Bamberger & Associates to both confirm the revenues identified by NAHB and to look at the net benefit side after accounting for costs incurred by government in the development process as well as post development.

The Cost of Developing a Single-Family Lot

The intent of this research is to demonstrate what goes into developing residential land into single-family lots. While NAHB breaks out regulatory costs associated with lot development versus home construction, there is no national source on the details of single-family lot development. As a result, Summit Economics conducted a survey of local developers to gather this information.

A similar study was conducted by David Bamberger & Associates in 2006. The same cost categories used by Bamberger were used by Summit in surveying lot developers in June 2016, but the methodologies were not the same as the Bamberger approach was more interview and data compilation (from government websites) driven while the Summit survey relied on developer responses to an online survey. In total nine lot developers responded to the Summit Economics survey. As noted in the adjacent table, a comparison of the results, 10 years apart, demonstrate some interesting findings.

Overall, lot prices have increased consistent with the inflation rate of the last decade. Thus, real lot prices, adjusted for inflation have remained approximately the same. Most notable is the redistribution of costs from 2006 to 2016. Whereas raw land costs were found to equal 26% of total lot cost in 2006, raw land only represented 12% in 2016. In contrast, the cost of complying with government requirement associated with land development dramatically

El Paso County Lot Price and Component Breakout 2016 and 2006				
	2016		2006	
Average Finish Lot Price	\$70,418		\$61,500	
Average Annual Compounded Increase 06 to16		1.4%		
Percent of Price by Component				
Raw land	11.7%		26.0%	
Land acquisition and lot construction financing costs	9.3%		5.4%	
Engineering, soils engineering and surveying	3.0%		3.0%	
Sub-Total Land Acquisition		24.0%		34.4%
Utility installation (water, sewer, electric, gas, telephone)	13.3%		11.0%	
Drainage construction, over and above drainage fees	3.3%		6.8%	
Roadway base prep, paving, curb & gutter and sidewalks	13.8%		6.1%	
Grading, seeding and fencing	5.3%		10.3%	
Landscaping	5.0%		2.6%	
Off-site improvements	3.7%		5.7%	
Sub-Total Construction		44.5%		42.5%
Planning and entitlement (legal and planning consultants)	5.0%		0.6%	
Drainage, bridge, pond and platting fees	6.3%		4.2%	
City Planning, Development Review Engineering, Traffic Engineering and Fire Department review fees	2.7%		0.1%	
City Engineering and other Inspection fee	1.3%		0.3%	
Sales tax on construction materials	2.5%		0.6%	
Property tax on raw land and lot during development	1.7%		0.6%	
Sub-Total Government		19.5%		6.3%
Marketing and sales commission	0.3%		2.7%	
Contractor liability insurance	0.7%		1.1%	
Overhead	4.0%		2.4%	
Profit	7.0%		10.5%	
General Admin, Sales and Profit Sub-Total		12.0%		16.7%
Total	100.0%	100.0%	100.0%	100.0%
Note: 2016 and 2006 used different methodologies				
Source: Summit Economics, David Bamberger & Associates				

increased on a proportional basis – from 6.3% in 2006 to 19.5% in 2016. Other major proportional changes include construction costs increasing slightly to 44.5% of total lot price from 42.5% in 2006 and developer general administrative, sales, overhead and profit costs declining proportionately from 16.7% to 12% in 2016.

The dramatic proportional decline in raw land costs makes sense anecdotally as 2006 was a peak year during the housing boom of the 2000's following an economically robust 1990's. Persistent high demand for lots may have driven up raw land costs. In contrast, the housing bust and slow recovery from 2008 to 2011 may have either driven down raw land values or the historical accounting cost of the raw land may have simply remained the same while all other costs increased.

Another possible explanation of the dramatic redistribution of costs may reflect a general lack of awareness on the part of developers of what the costs associated with government compliance really total. This could be especially significant if survey bias was prevalent whereby those individuals responding to the survey perceived that the intended focus of the survey was to better understand the costs associated with government compliance in the lot development process.

It is also possible that developers who responded to the survey in 2016 and were interviewed in 2006 were different and had substantially different cost structures. For instance, the distribution of responding developers among government jurisdictions could dramatically impact government versus raw land costs.

The most important aspect of a lot development cost analysis is to monitor government fees and taxes associated with development as well as changing design requirements imposed by government (see below analysis). Time delays resulting from the approval process are also important. The above table only includes explicit costs, fees, and taxes. It is worthwhile maintaining a database of these costs that is updated every other year and/or real time as changes are noted.

The Cost of Building a Home

What do various components of home construction cost as a percentage of the total price of a new home? The National Association of Home Builders (NAHB) surveys builders nationwide to answer this question. A survey of El Paso County home builders was conducted to compare against the national results. While seven local home builders responded to the survey, only three completed the cost breakout of a new home. As a result, the local results are subject to significant inaccuracies and risk of disclosure of proprietary information. The good news is that the local breakout of cost components as a percent of price generally aligned with the national numbers. The only exceptions were in the case of “Water & Sewer Fees and Inspections” and “Sales Taxes Paid” where local home builders report proportional costs more than 2% higher

than the same proportional costs nationally. For instance, nationally water and sewer fees and inspections represent 0.9% of the total price of a home while the El Paso County average is 4.2%. A comparison of local conditions affirms higher costs locally due to water and sewer development charges as well as higher than average sales tax rates as Colorado municipalities, rely disproportionately on sales taxes for their tax base.

Given the lack of sufficient responses locally, Summit Economics chose to blend national results with local results and weight each 50%. The results are reported in the adjacent table.

Moving forward, this survey might be conducted every three years if greater participation can be realized among home builders. Another approach would be to pursue, through CAHB, a request to NAHB to crosstab results from Colorado home builders in general. Of course this assumes similar cost structures between El Paso County and Colorado.

New Home Cost by Component as a Percent of Purchase Price		
Finished lot cost (including financing cost)	18.8	
Construction financing costs	1.3	
Lot & Financing Sub-Total		20.0
Building permit fees, plan check, and distribution fee	0.5	
Water & Sewer Fees Inspections	2.5	
Other	0.3	
Impact Fees	0.4	
Sales taxes paid to city, county, state on materials	2.4	
Property tax on home during construction	0.3	
Architectural and engineering	0.8	
Government Sub-Total [1]		7.2
Excavation, foundations, interior concrete flatwork, retaining walls, backfill, compaction testing, waterproofing, drains.	7.1	
Other site prep work	0.6	
Framing, trusses, sheathing, general metal and steel	9.6	
Exterior finishes including walls, roof, windows and doors	7.9	
Plumbing -- major system rough-ins excluding fixtures	2.1	
Electrical -- major system rough-ins excluding fixtures	2.2	
HVAC -- major system rough-ins excluding fixtures	1.9	
Other -- major system rough-ins excluding fixtures	0.2	
Interior finishes (INCLUDING plumbing fixtures, electrical trim and lighting, drywall and insulation, cabinets and countertops, appliances, fireplace, all other finishes)	15.5	
Landscaping	1.0	
Outdoor structures (deck, patios, porches)	1.3	
Driveway	1.3	
Clean-up & other	0.6	
Construction Sub-Total		51.3
Marketing costs including sales commissions	4.3	
Overhead and general expenses not related to construction or marketing	6.3	
Profit	10.8	
General Admin, Sales, and Profit Sub-Total		21.4
Total		100.0
		100.0
[1] When the government compliance cost of a finished lot is factored in government cost increases to 10.8% and lot cost decreases to 15.2% of the total new home price.		
National Association of Home Builders, Summit Economics		

Government Imposed Costs on Home Building & Lot Development

NAHB has become increasingly concerned with regulatory costs associated with the building a new home. To address this concern, NAHB included a section in their Housing Market Survey covering regulatory burden. Their concern is echoed by many citizens who complain about the lack of affordable housing. The political process appears to be responding by asking what government can do to reduce the regulatory burden in home construction. For instance, in 2012 President Obama issued an “Executive Order on Reducing Regulatory Burdens”.

Despite efforts to be proactive, the total regulatory costs associated with lot development and home building increased 19.1% and 29.8% respectively from 2011 to 2016 according to NAHB.³ These cost increases appear to be a substantial driver, along with labor costs, in the 19.3% price increases of new homes during the same five-year period. In contrast, the producer price index for construction materials only increased by 10.3% and the overall consumer price index only increased by 6.1%.

On a proportional basis, the government regulations, including building codes, impact fees, inspections costs, and time delays represent 24.3% of the final price of new homes. This breaks out into the costs imposed during lot development (14.6%) and during the home construction process after the lot is purchased by the home builder (9.7%). Government, in imposing these costs, anticipate some benefit which theoretically should significantly exceed the cost. The question is whether or not this is true in the case of all regulatory impositions. Too often regulations get layered over time or the potential costs and benefits are not even measured before being legislatively or administratively approved. For instance, a simple building code change like new national building code requirements to install drip edging on all roofing will enhance roof life, but it does add a marginal cost to construction which may or may not be exceeded by the economic value of an extended roof life in places like Colorado where roof life is more limited due to the relative frequency of hail storms. A more egregious example involves proposals to require fire sprinkler systems in all new homes. Clearly there is potential benefit in terms of life safety, but that benefit is unlikely to exceed the cost in the case of single-family homes.

The costs measured by the NAHB survey do not even include the greater cost to society, and especially moderate and lower income households, because some types of development and housing types are not even pursued due to restrictive zoning, poorly designed impact fees, or contingent liabilities such as construction defect litigation in multi-family townhome and condominium properties.

Given what the NAHB survey does measure, the highest regulatory cost during lot development is associated with changing development standards (4.4% of final home price). Other

³ See *Government Regulation in the Price of a New Home*, Paul Emrath, 2016, http://www.cshba.com/uploads/6/9/4/3/69431517/regulatory_costs_nahb_2016.pdf

development regulatory costs, in descending order include: applying for zoning or subdivision approval (3.1%), costs after approval but before home construction (3.1%), land dedicated for public use or left vacant (2.6%), pure cost of delays (1.4%). On the home building side, changes in building codes and standards over the last ten years represent 6.1% of the final home price and permits, hook-ups, and other fees paid by builders represent 3.5%. (See NAHB report cited below.)

In an effort to compare regulatory costs in El Paso County, both the developer and home builder surveys included questions found in the NAHB survey. As mentioned previously, the small number of responses limit drawing significant or definitive conclusions from the results, but areas where there was consistency between the few responses received indicate:

- The highest cost increases faced by builders include finished lots costs, labor costs, and subcontractor costs.
- Home builder permit, impact, inspection, hook-up and other government fees are almost twice as high locally when compared to national results.
- Complying with government regulations after building permits are secured runs about 6 days or 5% of the construction period.
- Lot developers have experienced “very substantial” cost increases associated with federal agency compliance including OSHA and the EPA.
- The time it takes local developers to secure subdivision approval is consistent with to slightly higher than the national average of 6.6 months.
- The cost of regulation as a percentage of the final lot price appears to run higher than the national average at 8.5% versus 5.7%.
- The cost of dedicated land for government use or left undeveloped is consistent with the national average at 10%.

Government costs imposed on new housing is certainly significant. While home builder associations at all levels diligently contend with this issue and regularly lobby federal, state, and local governments in an effort to contain costs, it is less clear that the associations are effective in educating the public in an effort to gain political support. More effective educational strategies should be identified and pursued.