



October 20, 2016

To **HB 4079 Rulemaking Advisory Committee (RAC)**
CC **Gordon Howard & Dan Eisenbeis, DLCD**
From **Nick Meltzer, Bob Parker, Rebecca Lewis & Sadie DiNatale**
SUBJECT **COST COMPONENTS OF HOUSING**

The University of Oregon is conducting research to support the rulemaking process mandated by House Bill (HB) 4079. HB 4079 directs the Land Conservation and Development Commission to establish a pilot program in which local governments may site and develop affordable housing. Task 3 of our work program includes developing estimates of the relative contribution of various components to housing costs to better understand housing dynamics.

The intent of Task 3 is to understand what factors contribute to the cost of constructing housing in Oregon, thereby providing the RAC a better idea of the relative contribution of land, as well as other common costs incurred when building various housing types. A more thorough understanding of cost components will also inform potential strategies that could be incorporated into the HB 4079 administrative rule.

UNDERSTANDING COSTS OF HOUSING

The strength of the U.S. housing market has historically been correlated with a strong economy. In addition to homeownership associated with building both short term and long term individual wealth, the housing sector generates jobs and tax revenue.¹ However two significant events of the last decade, the Great Recession and changing demographic preferences (due in part, perhaps to the recession), had long term impacts on the housing market. The combination of high college debt and low job prospects delayed the start of families and home buying for many young adults, which in turn delayed the rebound of the economy. According to the Joint Center for Housing Studies of Harvard University:²

A key factor holding back housing starts is the sustained falloff in household growth. Given the size and age of the adult population and under normal economic conditions, roughly 1.2 million net new households would have formed on average each year in 2007–2013. But the actual increase was just half that number as the weak economy made it difficult for young adults to live on their own and for immigrants to settle in the United States.

This has led to a much lower supply, and as the economy has rebounded, a much higher demand for new homes: “The bigger question is whether the housing crash diminished the general appeal of

¹ Wardrip, Williams, Hague. *The Role of Affordable Housing in Creating Jobs and Stimulating Economic Development: A Review of the Literature*. 2011. Center for Housing Policy

² All statements sourced from Joint Center for Housing Studies of Harvard University. *State of The Nation’s Housing 2016*. 2016

homeownership. The available evidence suggests that it has not.”² New unit construction in 2015 is indicative of pent up demand, with both single-family and multi-family residential starts increasing by more than 10% over 2014. Coupled with the trend towards more urban living, metro areas are seeing reductions in development ready land supply, with recent surveys showing only an available 20-month supply, compared with the 24-36 month supply considered normal. Exacerbating the situation even further is the lack of labor for construction. Coupled with aging workers and many who were out of work during the recession relocating to other sectors, the National Association of Homebuilders is reporting a labor shortage that could have impacts in the coming years and months.²

These trends play a role in the housing market. The following section details the costs that influence the cost and price of home construction.

INTRODUCTION TO COST COMPONENTS

At a broad level, the cost of an individual housing unit (i.e. apartment, single-family home, manufactured dwelling), is directly dependent on the amount of available housing units (i.e. supply). At a more specific level, it is also directly dependent on the *value*, as determined by the consumer, of an individual housing unit (i.e. demand). Put another way, if there was an overabundance of housing the cost of each housing unit would theoretically be lower—but if these housing units were not the type desired by consumers, the price may be low, and without any demand, they would be left vacant.

It is important to make a distinction between cost and price. Cost is the amount that a developer/builder must pay to convert a lot into a move-in ready housing unit. Price is what consumers will pay for a market rate housing unit, and is dependent on a number of factors.

The Oregon-based economics consulting firm ECONorthwest has spent decades studying housing markets for Northwest communities. As part of that body of work, they developed a framework for understanding the cost components of housing (see Figure 1. Detailed Model of Housing Cost and Price, next page). ECONorthwest elaborated on the complexity of housing markets in Oregon communities in the 2012 Newport Housing Needs Analysis:

Economists view housing as a bundle of services for which people are willing to pay. Those services include shelter certainly, but also proximity to other attractions (jobs, shopping, recreation), amenity (type and quality of fixtures and appliances, landscaping, views), prestige, and access to public services (quality of schools). Because it is impossible to maximize all these services and simultaneously minimize costs, households must, and do, make tradeoffs. What they can get for their money is influenced by both economic forces and government policy. Moreover, different households will value what they can get differently. They will have different preferences, which in turn are a function of many factors like income, age of household head, number of people and children in the household, number of workers and job locations, number of automobiles, and so on.

Thus, housing choices of individual households are influenced in complex ways by dozens of factors; and housing markets are the result of the individual decisions of thousands of households.

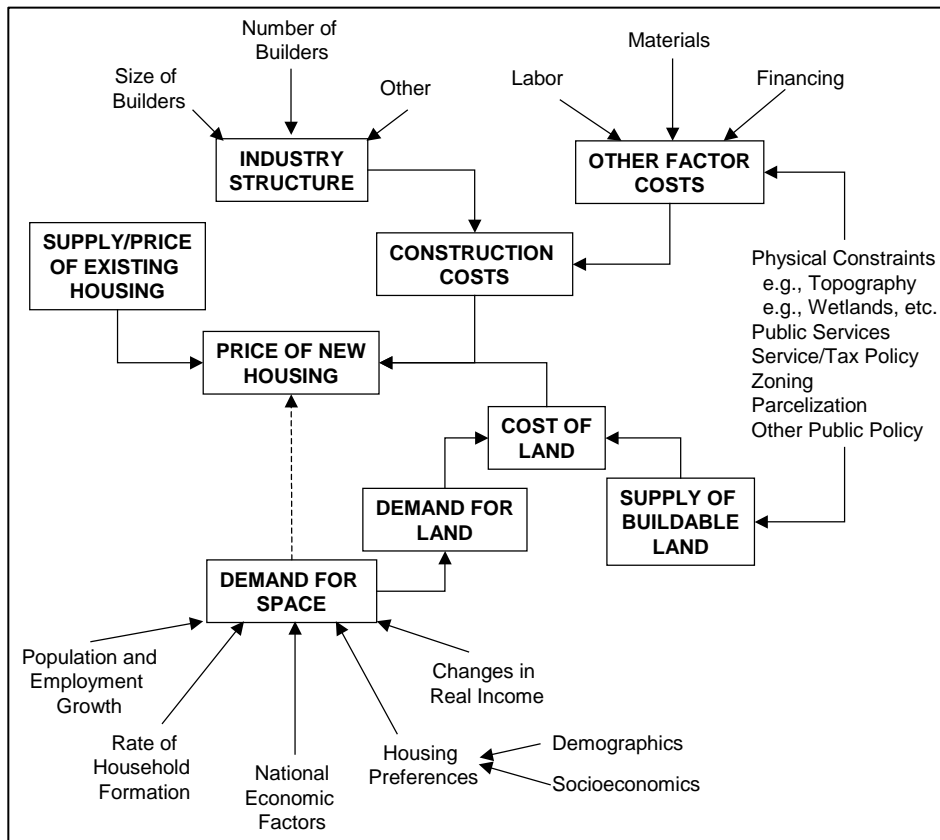
ECONorthwest categorizes factors that affect the location and type of housing into seven categories (which they refer to as the “seven P’s”): (1) prior housing products; (2) population; (3) purchasing power; (4) preferences; (5) prices and costs of housing; (6) prices of locational amenities; and (7) policy.

We are most interested in the factors that affect the costs of building housing, although all of these seven factors contribute to prices and costs to some extent.

We separate costs into two categories: (1) fixed costs; and (2) preference-based costs. Fixed costs include the cost of the actual land, cost of materials and labor to construct the housing unit, and any design costs from an architect or engineer.³ Fixed costs include any requirements by municipalities to meet local zoning, building and safety standards. Often referred to as “regulatory” costs, these costs can include building permit fees, impact fees, financing charges, any marketing costs, overhead, etc. Regulatory costs are discussed in more detail later.

Preference-based costs can be thought of as the old adage “location, location, location.” Preference-based costs are reflective of the amenities valued by homebuyers. Examples include (but are by no means limited to) school district, access to workplace, proximity to green space, and other neighborhood characteristics. These are shown in Figure 1 as “housing preferences,” which also includes more detail of the many associated factors influencing housing price.

Figure 1. Detailed Model of Housing Cost and Price



Source: ECONorthwest

³ We recognize that these costs may vary somewhat by location, but call them fixed for the purpose of this discussion.

RELATIVE SIZE OF COST COMPONENTS

It is important to understand relative cost components of housing development, as these costs can limit the development, and therefore supply, of affordable housing.

Fixed Costs

Fixed costs for affordable housing include cost of land, cost of materials and labor, and regulatory expenses. While these costs are not permanently fixed, a housing developer has very little influence on modifying or reducing its financial impact in any given period, nor how those costs change over time. A breakdown of each of these cost components follows.

Cost of Land

Land (with exception of landscaping) is a fixed asset which does not depreciate (as it does not have a determinable usable life).⁴ The cost of land generally increases as 'its utility or usability increases. Land in an area of high demand for development (for example, downtowns) will be valued higher than in an area with less demand or in an area where supply of land is higher than demand. The cost of land depends significantly on whether it has public services and the right to develop. As finished lots incur additional expenses from land improvements, development fees, and soft costs (payments to lawyers, consultants, etc.), they are valued higher to reflect both the costs of providing the infrastructure and entitlements as well as the increased desirability of the site being development ready. These incurred costs can attribute to more than 50% of the finished lot's value⁵. The cost of land can be difficult to keep low, especially in areas of high demand.

Material & Labor

The cost of an average home varies by geographic location as building practices, the cost of labor, and the cost of materials differs from one place to the next.⁶ Yet in 2015, "builders reported that on average, over the previous year, labor costs increased by 3.3 percent, material costs by 4.5 percent, and subcontractor costs by 5 percent."⁷ As wage rates continue to increase, and as unionized workers continue to negotiate for higher wage rates and better working conditions, labor expenses will continue to rise. Correspondingly, as the price of materials (lumber, concrete, trusses, etc.) begins to increase, so will development costs overall. While material costs overall have only increased by approximately three percent from 2011 to 2015, certain products have surged (e.g. cement rising in price by 18% from 2011 to 2015 and concrete products by 13%).⁸

⁴ Internal Revenue Service, *Overview of Depreciation*, https://www.irs.gov/publications/p946/ch01.html#en_US_2013_publink1000107320.

⁵ Carliner, Michael, (2003) *New Home Cost Components*, Housing Economics.

⁶ National Association of Home Builders (2011), *New Construction Cost Breakdown*. <http://www.nahb.org/en/research/housing-economics/special-studies/archives/new-construction-cost-breakdown-2011.aspx>

⁷ Taylor, H (2015) *Costs of Constructing a Home*, NAHB Economics and Housing Policy Group.

⁸ Taylor, H (2015) *Costs of Constructing a Home*, NAHB Economics and Housing Policy Group.

Regulatory Cost

Two separate and distinct forms of regulatory costs present themselves during the construction of new housing: the cost to obtain approval for construction through review and site permits, and the cost imposed by onsite building or zoning requirements. One example of this, parking requirements, have the ability to inflate costs by creating barriers to housing development.⁹ Areas where ordinances dictate minimum parking standards often leave developers with unnecessary costs for each mandated space they may not need. For the developer to turn a profit, these costs must then be covered by the purchasers of housing units.

Impact fees, system development charges (SDCs), and capital facilities charges are often listed as form of regulatory cost in the research. However, due to the fact these charges directly pay for infrastructure improvements, we see them as less discretionary than those mentioned above (i.e. infrastructure must be paid for one way or the other, while cities have a choice on whether to impose minimum parking or zoning requirements).

We discuss both regulatory costs and system development charges in more detail later in the memo, however much of the research we found does not break regulatory costs down to separate SDC costs from site review fees and zoning requirements.

Preference-Based Costs

Preference-based costs exist as housing has a valuable locational element (i.e. how desirable is the location of the housing unit) in which prices fluctuate based on geographic or neighborhood characteristics or other societal realities. While the developer or real estate agent does not influence fixed costs, as the term implies, preference-based costs are based on additional value the locational or other amenities have to a homebuyer. While this is somewhat reflected in the cost of land, e.g. location is not dependent on whether there is a housing unit on it, once it becomes a habitable location, many of these demand based costs are amplified.

One of the assumptions implicit in HB 4079 is that the program of allowing urban growth boundary amendments for affordable housing will mitigate the impact of preference-based costs by creating a streamlined process for adding land to UGBs. If the process is effective, those lands would be lower than other lands, as preference-based cost factors would be lower than lands inside the existing UGB. Unlike states without strong land use programs, the cost of lands in Oregon's urban fringe areas (directly outside the UGB) does not typically exhibit the value impacts of proximity to urban areas and the services they offer. Nonetheless, the UO Research Team felt it important to recognize the potential impact of preference-based cost on housing. A breakdown of several preference-based costs are as follows.

School District

School districts are a major criterion in buyers with school-aged children deciding where to buy a home¹⁰. For these households, a "good" school district is looked upon favorably for at least two reasons:

⁹ Manville, M (2013) *Parking Requirements and Housing Development*, Journal of American Planning Association, v79, issue 1, 46-66.

¹⁰ Yizhao, Y, et al (2010) *Understanding School Travel: How Location Choice and the Built Environment Affect Trips to School*, Oregon Transportation Research and Education Consortium.

their children can attend good schools, and their house may be easier to sell if the current owner decides to sell. In consideration of the latter, because preference for better performing schools is so high among parents of school-aged children, they are prepared to pay more for housing in exchange for accessing these districts.¹¹

Access to Work

After school district, access to work can be a secondary major criterion for where someone decides to buy a housing unit. Homebuyers often prioritize a shorter or more pleasant commute to work when choosing where to purchase a home.

Amenities

In addition to school districts and access to work, homebuyers look for amenities that make it more pleasurable to live in a specific location. This could include proximity to parks or green space, grocery stores, restaurants and bars, or more generally, walkability. Economists have completed hedonic studies demonstrating the value of proximity to greenspace,^{12,13} but valuing access to shops and restaurants is also reflected in recent trends of urban homes costing more than suburban.¹⁴

More On Regulatory Costs

Regulations related to development have increased over time across the United States as trends in inequality, productivity, and mobility have negatively impacted the housing market, contributing to economic rent and rent-seeking behavior.¹⁵ Excessive regulations can restrict supply and drive costs up, including the cost of land. Regulations affect the housing market by shifting additional costs onto the developer who then in turn increases sale prices to generate sufficient profits. Research shows U.S. cities with stricter than average zoning requirements negatively impact their affordable housing market, as shown in Figure 2. Some examples of regulatory impacts on housing cost can include:

- Higher design and performance standards for lots and buildings can mandate unnecessary features that supersede basic functionalities. This burdens those seeking affordable housing as sale prices increase to cover non-essentials required for development.
- Reducing density (via overused low density land uses and zoning requirements) undermine the ability for higher densities to offset high land values.

¹¹ Black, S, et al (2010) *Housing Valuation of School Performance*, Handbook of the Economics of Education.

¹² Bark, R, et al (2011), *How Do Homebuyers Value Types of Green Space?* Journal of Agriculture and Resource Economics 36(2):395-415.

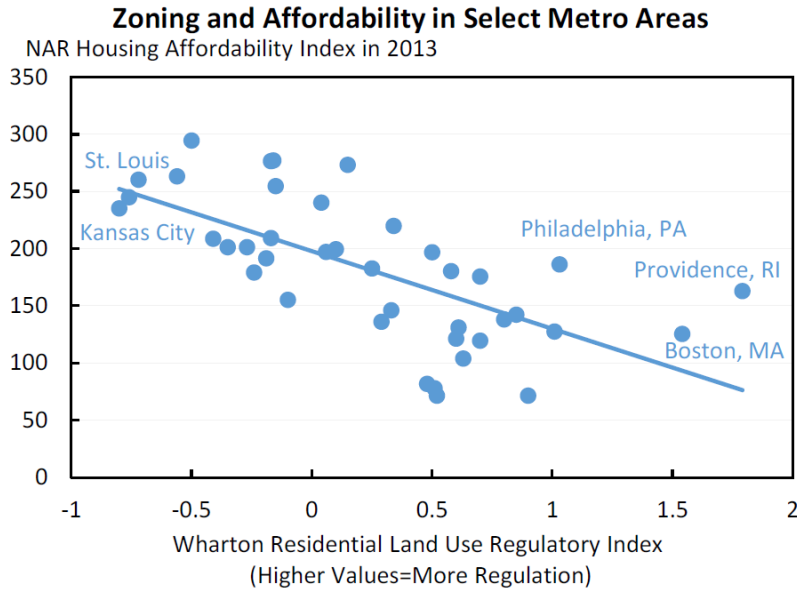
¹³ Seong-Hoon, C, et al (2006) Measuring the Contribution of Water and Green Space Amenities to Housing Values: An Application and Comparison of Spatially Weighted Hedonic Models, Journal of Agriculture and Resource Economics 31(3):485-507.

¹⁴ Sohn, D. et al (2012) *The economic value of walkable neighborhoods*, *Urban Design International* 17.2, 115-128.

¹⁵ Furman, J (2015), *Barriers to Shared Growth: The Case of Land Use Regulation and Economic Rents*, the Urban Institute.

- Development delays due to regulatory requirements increase developer expenses. In recent years, expediting development reviews for affordable housing has reduced this cost concern for some jurisdictions.

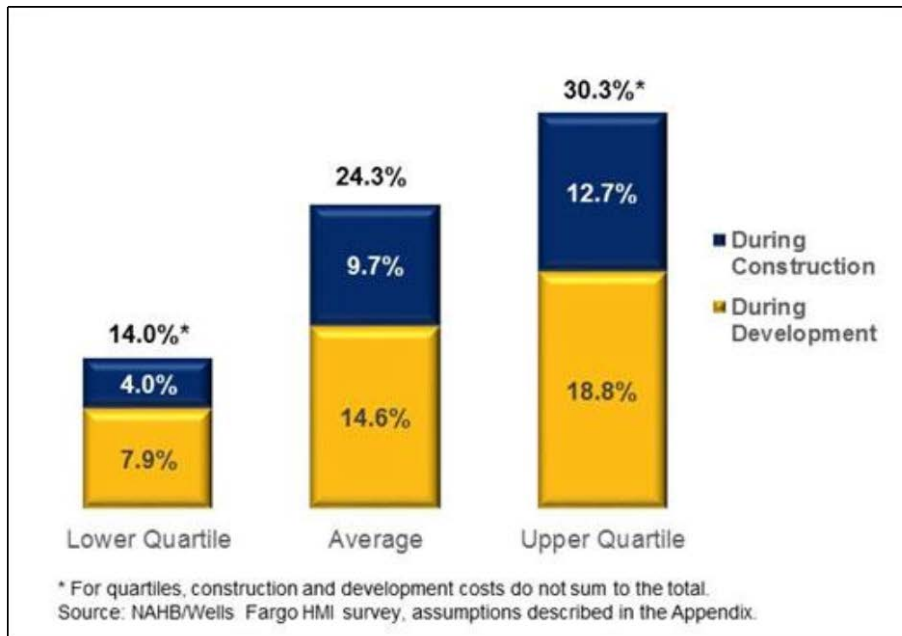
Figure 2. Zoning and Housing Affordability Trend



Source: *Furman, J (2015), Barriers to Shared Growth*

A white paper sponsored by the National Association of Homebuilders argued regulations account for anywhere from 14% to 30% of the overall home price, as shown in Figure 3. Unfortunately, these are national figures; it is difficult to accurately estimate the relative contribution of regulation to the cost of housing in Oregon and Oregon cities. On average regulatory costs account for 25% of home prices. According to Zillow, the median sales price of homes in the Oregon in July 2016 was about \$290,000. If the NAHB figures are extrapolated, the average contribution of regulation to the cost of a unit would be about \$72,500.

Figure 3. Regulatory Costs as Share of Home Price



The NAHB paper also explains that the benefits of regulation are rarely discussed: “Governments presumably impose regulations under the belief that they will generate some benefits, but no attempt is made to estimate such possible benefits here.¹⁶” Municipalities have some flexibility to relax these regulations to incentivize development in certain neighborhoods or in an attempt to drive policy changes. For instance, decreasing the required number of parking spaces per unit for multi-family housing can reduce development costs, thereby permitting more affordable housing.¹⁷

System Development Charges (SDCs)

While cities in Oregon have been collecting system development charges (SDCs) since the 1970s, it wasn’t until 1989 that the Oregon legislature adopted statutes (ORS 223.297-223.314) in an attempt to create a uniform system statewide.¹⁸ The statutes established a number of qualifications a city must meet in order to collect SDCs, including having a capital plan with timing and cost estimates of projects, a documented methodology with annual reporting and accounting, and an appeals process.

A 2013 League of Oregon Cities SDC survey found of the 143 cities that responded, 76% charge at least one SDC, and most charge four or five. The two most common charges were for sewer and water services; other SDCs cover stormwater, transportation, and parks.¹⁸ These fees can vary significantly from place to place, but can reach into the tens of thousands of dollars. Those costs are typically passed onto consumers of new housing, through rents or purchase price. SDCs vary by city in the way that fee rates are calculated, in the basis for the fees, and in the reasons that fee reductions and exemptions

¹⁶ Emrath, Paul (2016). *Government Regulation in the Price of a New Home*. Housing Economics/National Association of Homebuilders

¹⁷ King County Metro (2015). *Right Size Parking: Multi-Family Parking Strategies Toolkit*.

¹⁸ League of Oregon Cities (2013). *SDC Survey Report, Summary Data and Tables*.

were provided.

We note that SDCs are an imperative revenue source for Oregon cities for developing the infrastructure that supports housing development. The shift towards local funding of infrastructure has clearly impacted the regulatory costs related to housing, but are a necessity given diminished federal and state funding sources. The other options are to let service deteriorate or to charge all residents for the costs of new development. A 2003 study by the Brookings Institution Center on Urban and Metropolitan Policy found “Property tax revenues increasingly fail to cover the full costs of infrastructure needed to serve new development,” and “Impact fees, like user fees, are a more efficient way to pay for infrastructure than general taxes, and ensure benefits to those that pay them.”¹⁹

SUMMARY OF HOUSING COST STUDIES

In an attempt to better quantify the relative cost components of housing, the research team searched for studies that quantified the cost components of housing. Two sources were found: the National Association of Homebuilders (NAHB), and the Joint Center for Housing Studies at Harvard University (JCHS), both of whom produce annual reports. The JCHS publish *State of The Nation’s Housing*, an annual “report card” of housing affordability. The NAHB surveys thousands of homebuilders across the country in order to better understand market trends and subsequently report them to their stakeholders (e.g. homebuilders, lobbyists, etc.). Their data are membership-driven and as such, full access requires a paid subscription. We have incorporated the publicly available data in this memo.

Single-Family Homes

Table 1 contains the breakdown of cost components for single-family homes from the 2015 survey of homebuilders across the country. Construction is by far the biggest share of cost, at nearly 62% of total cost. As discussed above, it includes material and labor costs, as well as impact and permit fees. Finished lot cost is the next highest at 18% and is predominantly the cost of the land. Profit and other fees make up the remaining costs as described in the table.

¹⁹ Nelson, A., and Moody, M. (2003). *Paying for Prosperity: Impact Fees and Job Growth*. A Discussion Paper Prepared for The Brookings Institution Center on Urban and Metropolitan Policy

Table 1. 2015 Cost Components of Single-family Homes, by NAHB

		Average Lot Size:	20,129
		Average Finished Area:	2,802
I. Sale Price Breakdown		Average	Share of Price
A. Finished Lot Cost (including financing cost)		\$85,139	18.2%
B. Total Construction Cost		\$289,415	61.8%
C. Financing Cost		\$6,285	1.3%
D. Overhead and General Expenses		\$26,345	5.6%
E. Marketing Cost		\$3,739	0.8%
F. Sales Commission		\$15,104	3.2%
G. Profit		\$42,292	9.0%
Total Sales Price		\$468,318	100%
II. Construction Cost Breakdown		Average	Share of Construction Cost
I. Site Work (sum of A to E)		\$16,092	5.6%
A. Building Permit Fees		\$3,601	1.2%
B. Impact Fee		\$1,742	0.6%
C. Water & Sewer Fees Inspections		\$4,191	1.4%
D. Architecture, Engineering		\$4,583	1.6%
E. Other		\$1,975	0.7%

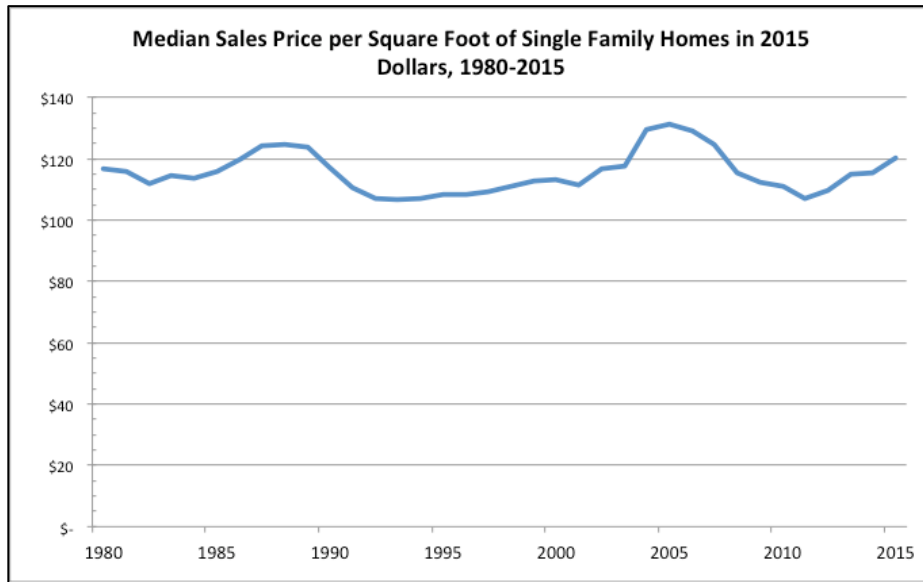
Source: NAHB Survey

The NAHB does not split out regulatory costs other than those listed as part of the site work listed in Table 1. The above mentioned study on regulatory costs was conducted independently of the annual construction cost survey and thus makes it difficult to draw many conclusions from purely the cost breakdowns.

The table also includes average lot size and average finished size, which for the 2015 survey, was 20,129 square feet and 2,802 square feet, respectively. Based on the total sales price of \$468,318, the average cost per square foot of finished housing was about \$167. It is clear that the NAHB survey responses reflect expensive homes on very large lots relative to what we observe in Oregon and compared with data from the JCHS. The price per square foot appears to be in the range observed in Oregon communities.

Figure 4 shows the price per square foot of single-family homes over time, based on data from the JCHS. When adjusted for inflation, the value has remained relatively stable, averaging \$115/square foot over the last 35 years.

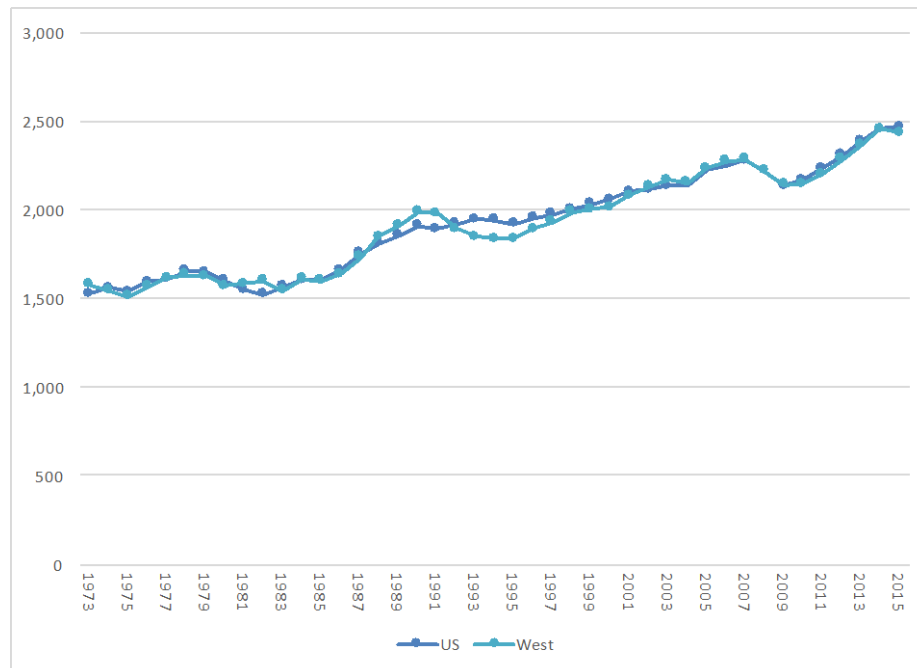
Figure 4. Price Per Square Foot of Single-Family Homes, 1980-2015



Source: US Census

Single-family residences are also increasing in size (Figure 5). The median size of a single-family dwelling in the U.S. increased from 1,525 square feet in 1973 to 2,467 square feet in 2015—a 62% increase and an increase of 942 square feet. The Western Region experienced similar trends with units increasing from 1,575 square feet in 1973 to 2,435 square feet in 2015. These increases clearly have impact on the overall cost of a unit, particularly construction costs.

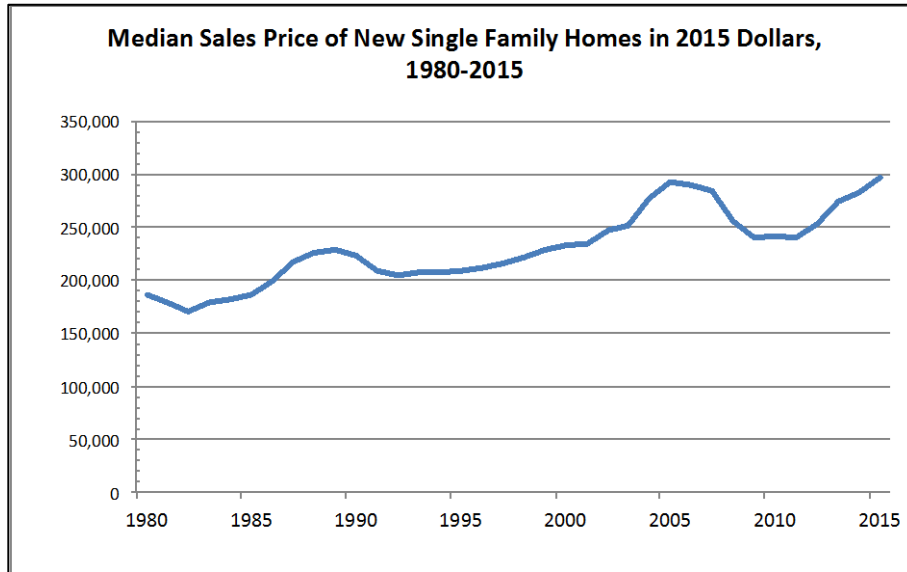
Figure 5. Single-Family Home Size, 1973-2015



Source: US Census

The increase in square footage and stable price per square foot aligns with an increase in median home price from \$190,000 to nearly \$300,000 over the same time period (see Figure 6).

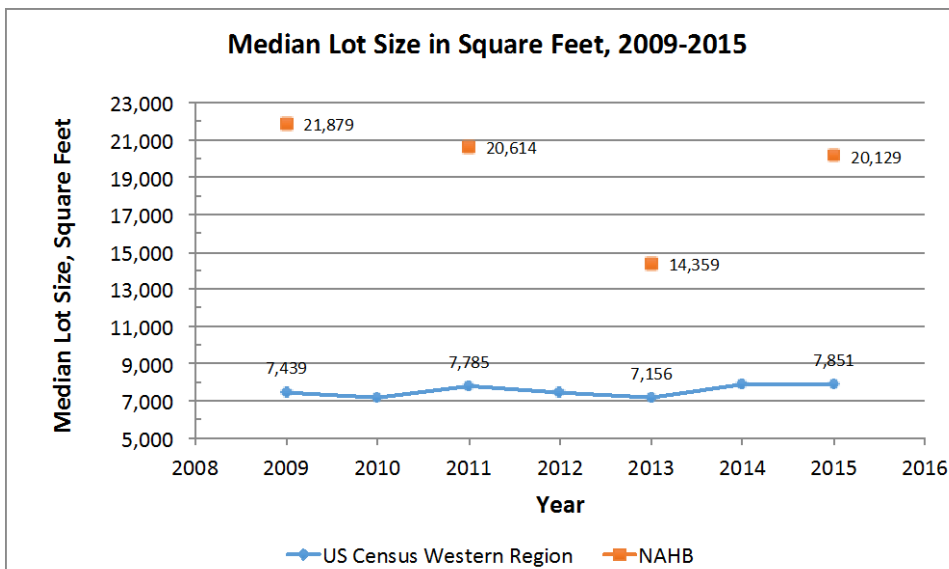
Figure 6. Median Sales Price of Single-family Homes, 1980-2015



Source: US Census

In terms of median lot size, data only exist dating back to 2009 (Figure 7). Over this time Census data in the Western Region shows a relatively even trend in lot size, with a minor increase in the last six years. The NAHB data is more varied, and more closely corresponds with national averages. Average lot sizes tend to be twice as big in the Midwest region and three times as large in the Northeast region.

Figure 7. Median Lot Size in Square Feet, US Census Western Region and NAHB Survey, 2009-2015



Source: NAHB Survey and US Census

Table 2 shows the historical cost components over time for single-family homes, based on surveys by the NAHB. These values are based on percentage of overall cost, and as noted under sale price, the overall cost of building an average single-family home has more than doubled in 17 years – from \$226,680 to \$468,318.

The data show that the relative share of land cost to total cost decreased from 23.6% in 1998 to 18.2% in 2015. Despite accounting for a smaller share of overall unit cost, the dollar value of finished lot cost increased from \$77,788 in 2015 dollars (adjusted from \$53,496 in 1998 dollars) to \$85,233. Similarly, the share of construction costs increased from 54.8% to 61.8%, or in 2015 dollars, from \$180,628 to \$289,420.

Table 2. Cost Components of Single-Family Homes Over Time, NAHB

Sale Price Breakdown	1998	2002	2004	2007	2009	2011	2013	2015
1. Finished Lot Cost	23.6%	23.5%	26.0%	24.5%	20.3%	21.7%	18.6%	18.2%
2. Total Construction Cost	54.8%	50.8%	51.7%	48.1%	58.9%	59.3%	61.7%	61.8%
3. Financing Cost	1.9%	2.1%	1.8%	2.4%	1.7%	2.1%	1.4%	1.3%
4. Overhead and General Expenses	5.7%	5.5%	5.8%	7.0%	5.4%	5.2%	4.3%	5.6%
5. Marketing Cost	1.4%	2.4%	1.9%	2.5%	1.4%	1.5%	1.1%	0.8%
6. Sales Commission	3.4%	3.7%	3.0%	4.3%	3.4%	3.3%	3.6%	3.2%
7. Profit	9.2%	12.0%	9.8%	11.2%	8.9%	6.8%	9.3%	9.0%
8. Total Sales Price (\$)	\$226,680	\$298,412	\$373,349	\$454,906	\$377,624	\$310,619	\$399,532	\$468,318

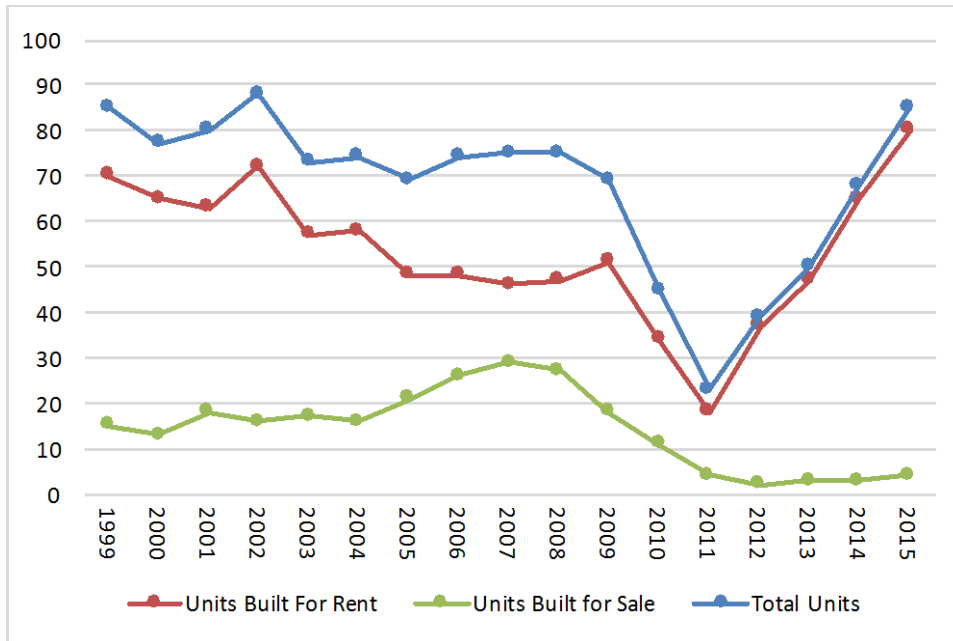
Source: NAHB Construction Cost Surveys, 1998-2013

This data is contradictory to values provided by the US Census. While home prices have increased over the same time period, Census data shows the median price has increased by 50%, while NAHB data shows an increase of 100% (e.g. doubling). This is most likely due to the difference between median and average values. While the Census data shows the median home price in 2015 was \$296,400 in the United States, the *average* sales price was \$360,600. In this sense, there are presumably more higher end homes being constructed by homebuilders, driving up average values presented in the NAHB, compared with median values presented in the Census.

Multifamily Housing

Multifamily housing is broadly considered an affordable alternative to single-family housing. Multifamily housing can be both renter- and owner-occupied. With respect to production of units, the Census Bureau’s Characteristics of Housing survey reported that 85,000 new multifamily units were constructed in the Western region in 2015. Figure 8 shows production of new multifamily housing units by Tenure in the Western Region between 1999 and 2015. The data show that construction of multifamily units averaged around 80,000 per year until 2009. Construction of new multifamily units plummeted in 2009 as a result of the housing collapse, bottoming out in 2011. The the number of uses has since rebounded. Notably, the number of units for-sale, as opposed to for-rent, peaked in 2008 and has averaged less than 4,000 annually since 2011.

Figure 8. Production of New Multifamily Housing Units, by Tenure, Western Region, 1999-2015 (in thousands)



Source: U.S. Census Bureau, Characteristics of Housing

Table 3 shows the median size of multifamily dwellings by rental/sale status between 1999 and 2015. The data show that multifamily units average a little more than 1,000 square feet and that the size of multifamily units has not changed substantially over the recent past. Trends in the Western region are similar to national trends. Multifamily units for sale tend to be about 20% larger than units for rent.

Table 3. Median Size of Multifamily Dwellings by Type, 1999-2015 (in square feet)

Year	United States			Western Region		
	All Units	Units Built for Rent	Units Built for Sale	All Units	Units Built for Rent	Units Built for Sale
1999	1,041	1,012	1,269	1,021	992	1,220
2000	1,039	1,014	1,272	1,022	984	1,228
2001	1,104	1,045	1,335	1,068	1,016	1,270
2002	1,070	1,034	1,302	1,030	999	1,263
2003	1,092	1,052	1,398	1,072	1,018	1,277
2004	1,105	1,048	1,363	1,052	1,007	1,267
2005	1,143	1,061	1,375	1,087	1,005	1,277
2006	1,172	1,090	1,381	1,147	1,025	1,324
2007	1,197	1,080	1,472	1,166	1,091	1,325
2008	1,122	1,049	1,355	1,153	1,046	1,353
2009	1,113	1,054	1,456	1,163	1,087	1,485
2010	1,110	1,071	1,307	1,004	961	1,215
2011	1,124	1,117	1,326	1,098	1,076	1,429
2012	1,098	1,081	1,466	1,054	1,047	1,271
2013	1,059	1,043	1,445	1,052	1,048	1,221
2014	1,073	1,080	1,432	1,035	1,046	1,250
2015	1,074	1,057	1,408	1,035	1,031	1,274

Source: U.S. Census Bureau, Characteristics of Housing

The UO Research Team was unable to find data on the specific cost components of multifamily housing in the standard data sources (i.e., U.S. Census Bureau) or in the literature.

Manufactured Housing

Manufactured housing is a type of single-family housing. The key distinction is that the dwelling is not built on site.²⁰ The U.S. Census Bureau monitors manufactured housing activity in the Characteristics of New Housing survey. Across the U.S., about 65,000 manufactured homes were built annually between 2007 and 2015. Between 66% and 75% of the units are located on private property (e.g., on individual lots). Forty percent of units are single-wides, with about 60% as double-widedouble-wides. The Census does not report statistics on triple-wide units. About 80% of manufactured units are titled as personal property.

The average size of new manufactured homes nationwide remained around 1,500 square feet between 2007 and 2015. The data vary less than 100 square feet from year-to-year. With respect to value, the Census statistics only present the value of the unit independent of land. In 2015, the average sales price of new manufactured homes in Oregon was \$80,300. The average for double-wide units is reported at \$80,600 and the average for single-wide units at \$50,200.

Affordable Housing Units

Based on our research, the UO team concludes that research on the cost of constructing housing is thin and that it is very difficult to generalize. This conclusion is supported by a recent report by the Meyer Memorial Trust (MMT), *The Cost of Affordable Housing Development In Oregon*.²¹ MMT concluded that

²⁰ A more detailed discussion of Manufactured Housing is included in the memo titled “Manufactured Dwellings and Manufactured Dwelling Part Trends”

²¹ <http://www.mmt.org/access-affordable-housing>

“comparing costs between different housing projects is difficult and complex – and often misleading. As MMT explains:

“Simple comparisons (for instance, dividing the total development cost of a project by the number of “units) will almost always be highly misleading. A meaningful comparison must take into account an array of large and small factors: the cost of land in different locations, type of construction, any non-housing space, size of the units, etc. For this reason, we declined to try to specify a reasonable target for what an affordable project “should” cost. There are simply too many variables, and too many dynamic factors affecting costs to make a simple number meaningful. “

MMT also concluded that developing affordable housing differs from market rate housing in ways that tend to add cost. This is a function of the size of the developments as well as the complexity of the projects and project partners. They also note that affordable housing developments provide important community and social benefits and that “affordable housing is never just about housing.” It typically includes features and services to support residents’ well-being that is not typically included in market rate housing.

MMT also finds that the financing models between affordable and market rate housing are fundamentally different. Affordable housing is not about rate of returns—it is more about meeting unmet needs. MMT identifies the following considerations when comparing affordable and market rate developments:

- Cost of land (and any other challenges related to the site itself – such as environmental issues or off-site improvements – that impacted the final cost)
- Nature of construction – low-rise wood frame construction will cost less than a taller concrete and steel building with an elevator
- Presence of any non-housing space, including commercial/office space in a mixed-use building or any non-rentable common area
- Unit mix (number of bedrooms) and unit size (square feet) affect costs, depending on the metric you use
- Lifecycle costs: decisions meant to minimize long-term operating costs or the need for recapitalization over time may increase upfront costs but still be “cost efficient” from a long-term perspective

The MMT study finds that developers on affordable housing projects typically budget 15% for developer fees. The study also finds that prevailing wages rates for publicly-subsidized projects can add cost as can local design review.

FINDINGS

Based on our research, the UO team has developed the following findings:

- **The relative cost components of home construction are easy to describe, but harder to quantify.** Conceptually, the elements that influence the cost of new home construction can be easily understood: the cost of land, labor, materials, and site development, etc. However, as most of these costs are borne by private businesses, there is little public information available on the individual cost components. Further, much of the research is spent on hedonic estimates of individual components (i.e. regulation or proximity to green space) as opposed to actual costs.

- **Regulation increases the cost of home construction, but can help provide amenities important to housing consumers.** Land use regulations are imposed at a local level for a reason: to give municipalities the choice on how their community wishes to grow and develop. Some communities value higher regulations as a policy choice towards “livability.” Others choose growth and have more relaxed regulatory requirements. Additionally, building codes, which can be thought of as an imposed regulation, are not without reasons; they have been developed over decades based on experience. When thinking about the costs of regulation, one must not forget the benefits, even if they are hard to quantify.
- **System Development Charges, which can be thought of as a form of regulation, remain popular in Oregon cities, and are an important funding mechanism to pay for infrastructure.** A survey by the League of Oregon Cities shows SDCs are a popular way for Oregon cities to pay for sewer and water services, as well as improvements for transportation facilities, stormwater improvements and parks. Further, research by the Brookings Institution Center on Urban and Metropolitan Policy claims impact fees are an effective and efficient way to pay for infrastructure improvements.
- **As average home size has increased and per-square-foot costs have increased slightly, the overall price of homes has also increased.** The data we’ve collected shows the average square foot cost of new home construction has increased by 42% over the last 20 years, or at an annual rate of 2.4%. In the same period, average size has increased by 28.8%, which results in an overall sales price increase of 68%. In contrast, the median per square foot cost has remained stable. This difference between median and average cost per square foot also means significantly more larger homes (greater than 2600 SF) are being constructed compared with smaller ones (less than 2600 SF).
- **Single-Family Dwellings are getting bigger.** This may be one of the most important components of cost and is driven by perceived market demand. Between 1973 and 2015, the average size of a single-family dwelling increased from 1,660 square feet in 1973 to 2,687 square feet in 2015. At the median sales price of about \$115/square foot, this equates to an additional per unit cost of more than \$118,000. In short, if the market built smaller units, they would be more affordable.
- **Manufactured Homes are an affordable alternative to site built homes.** According to the Census Bureau’s Manufactured Housing Survey, the average sales price of all manufactured homes in 2015 was \$68,000 with an average per square foot cost of about \$48. The average size of a manufactured home was 1,430 square feet in 2015, down from 1,600 square feet in 2007.

The data on value and price suggest that home size has a measureable impact on overall housing price. Table 3 shows a comparison of cost and size for manufactured and single-family homes in 1995 and 2015 from the Census Bureau’s Characteristics of New Housing survey. The data show some interesting trends over the 20-year period.

The data show that costs of both manufactured and site built housing have increased, but the cost of site built housing increased more. The average sales price of manufactured homes increased by \$32,700 or 52% while the average sales price for site built homes increase \$201,900 or 68%. The average size of manufactured homes increased 70 square feet (4.4%) while the average size of site-built homes increased nearly 700 square feet (29.4%).

The data show stark differences in the size and cost of units. In 1995, the average cost of a site built unit (without land) was almost \$93,000 more than a manufactured home. The difference increased to more than \$208,000 in 2015. The size of units appears to be a significant contributing factor to structure cost. In 1996, site built homes averaged nearly 700 square feet larger in size than manufactured homes. This increased to 1,315 square feet in 2015. Moreover, the average cost per square foot is significantly higher for site built homes. In 1995, site built homes cost about \$36 per square foot more than manufactured homes. This increased to more than \$100 per square foot in 2015.

Table 4. Cost and Size Comparisons of Manufactured and Site-Built Homes, 1995 and 2015

Type	1995	2005	2015	Change (1995-2015)		
				Number	Percent	AAGR
Manufactured						
Avg. Sales Price	\$ 35,300	\$ 62,600	\$ 68,000	\$ 32,700	52.2%	0.8%
Avg. Square Feet	1,360	1,595	1,430	70	4.4%	-1.1%
Avg. Cost per Sq. Ft.	\$ 25.96	\$ 39.25	\$ 47.55	\$ 21.60	55.0%	1.9%
Site Built						
Avg. Sales Price	\$ 158,700	\$ 297,000	\$ 360,600	\$ 201,900	68.0%	2.0%
Derived Average Land Price	\$ 30,678	\$ 78,219	\$ 84,316	\$ 53,638	68.6%	0.8%
Derived Average Structure Price	\$ 128,022	\$ 218,781	\$ 276,284	\$ 148,262	67.8%	2.4%
Avg. Square Feet	2,050	2,366	2,745	695	29.4%	1.5%
Avg. Price per Sq Ft. (excl. land)	\$ 62.45	\$ 90.63	\$ 100.65	\$ 38.20	42.1%	1.1%
Difference (site built - manufactured)						
Average Structure Sales Price	\$ 92,722	\$ 156,181	\$ 208,284			
Avg. Square Feet	690	771	1,315			
Avg. Price per Sq Ft. (excl. land)	\$ 36.49	\$ 51.38	\$ 53.10			

Source: US Census via HUD

- Multifamily dwellings are staying about the same size.** According to the US Census Bureau, the average size of a multifamily unit in 2015 was 1,132 square feet, up from 1,104 square feet in 1999. The median size increased from 1,041 square feet in 1999 to 1,074 square feet in 2015. The Census Bureau does not collect data on construction or sales costs for multifamily dwellings. The UO Research Team was unable to access data on the specific cost components of multifamily housing from the NAHB due to membership requirements. We were unsuccessful in locating other industry literature about multifamily dwelling costs.