Terner Center Research Series:
The Cost of Building Housing

The Terner Center for Housing Innovation has launched an in-depth research series that examines the array of costs associated with building housing—from construction costs to the costs of impact and service fees, regulation, and affordable housing requirements—and how they have changed over time. By analyzing these cost components—individually and as they accrue collectively throughout the development process—this series will provide a better understanding of how these elements affect housing development, and will identify public and private sector responses to reduce costs and bridge shortfalls in housing supply in California and across other high-cost markets in the country.

The Components of Cost

One critical pathway to addressing the housing crisis in California and in high-demand markets across the country is through increasing the supply of available housing options. But building that supply is becoming an increasingly expensive proposition. Whether building single-family homes or multifamily rental and condominium buildings, costs layer on top of one another throughout the development process—from planning to construction and inspection—to push up the bottom line on any given project. The more projects that fail "to pencil" from a cost perspective, the harder it is to build to the scale necessary to ease the shortfall in both supply and affordability.

There are multiple dimensions to the costs of development, many of which have been rising in recent years:

Land Values: From 2000 to 2016, land pricing in the United States climbed by 76 percent—almost twice the rate of inflation.[i] Increases were even steeper in coastal California metro areas, with prices more than doubling in San Francisco and almost tripling in Los Angeles over that same period.[ii]

Construction Costs: Over the course of 2017 alone, the national single-family and multifamily construction price indexes increased by 5.6 percent[iii] and 6.3 percent, respectively, compared to an average annual increase of 2.7 percent between 1990 and 2000.[iv] In that year, New York, San Francisco, San Jose/Silicon Valley, and Oakland ranked among the most expensive construction markets.[v]

Materials and Labor: Core elements driving construction costs include the price of materials and the cost of labor, both of which have also risen in recent years. In 2017, construction materials saw a 4.4 percent price increase, due in large part to escalating cement, steel, and lumber costs. At the same time, wages among construction workers increased 2.6 percent. Relatively low unemployment among construction workers (5.3 percent), may have also contributed to a national construction backlog that reached nine months total in 2017, up four percent since 2016. The western region of the United States saw the largest increase in the construction backlog (13 percent) over the past year.[vi]

Development Fees: Development fees refer to the wide range of costs that cities have the authority to charge new housing construction projects throughout the planning and building process. Cities often rely on development fees to fund the provision of city services specific to the building of new housing, like the staff time spent on permitting, inspections, and utility connections. A city may also choose to charge "impact" fees to offset the costs of new development borne by the broader community (e.g., the need for infrastructure expansions to support additional traffic or increased use of water and sewer lines) or to pay for other public benefits (e.g., park access or set asides for new affordable housing development).

These fees, especially impact fees, can be substantial, and they are particularly high in California. In 2015, average impact fees in the state were $23,455 for a single-family home and $19,558 for a multifamily unit—almost three times the national average.[vii] Because of how significantly they affect the overall cost of a project, these fees are often passed along to buyers in the form of higher home prices, especially in high demand markets,[viii] or can increase the amount of subsidy needed to build affordable housing units. Jurisdictions may also extract additional project-specific fees or requirements on top of codified development fees, which can also add significant additional costs.

Permitting and Development Timelines: The permitting and entitlement process, which is particularly complex in California, can extend development timelines, often unpredictably. Delays in processing or approval timelines can greatly increase the cost of development. [ix] The role of processing delays in driving up housing costs has garnered attention at the national level. The Obama Administration identified the negative impact of lengthy bureaucratic procedures on housing costs, recommending streamlining processes and allowing by-right development on priority projects to limit costs.[x]

Regulatory Requirements: Local land use regulations—such as environmental regulations or minimum parking requirements—can also drive up the costs of development and lead to higher house prices. [xi] Green building standards in Los Angeles, for example, have increased construction costs by 10.8 percent.[xii] While many of these regulations promote public benefits—such as decreased energy use or water consumption—they are often layered on top of one another without a detailed analysis of their impact on the affordability of housing.

Affordable Housing Costs: The cost of building a 100-unit affordable project in California increased from $265,000 per unit in 2000 to almost $425,000 in 2016. The same trends that increase costs for market-rate housing (such as land pricing, construction costs, and regulation) impact affordable housing. In addition, affordable projects are often subject to increased local scrutiny, further inflating costs. A 2014 study found that local government design requirements for affordable housing added an average of seven percent in total costs, and that community opposition (measured by holding four or more community meetings) increased expenses by five percent.[xiii]

It is clear that not just one element of the development process, but each step along the way influences the cost of building housing, especially in high-demand markets with the steepest affordability challenges. Yet it is not always so clear what is driving the growing expenses within each cost component. Nor are the costs and the benefits of layering additional public policy goals onto housing always explicitly weighed or understood. We need better data to understand and effectively respond to the complex dynamics that affect the costs and feasibility of building housing, especially when it comes to using scarce public subsidy to build affordable units.

The Terner Center Series

The Terner Center is working on multiple fronts to collect and analyze the quantitative and qualitative data needed to understand what is driving cost changes at each step of the building process. In the coming months, we will be releasing a series of research and policy publications that not only advance that understanding, but also identify the public policy levers and private sector innovations that can shape these complex dynamics in ways that boost housing production at all levels of affordability.

---

[i] Data located at Land and Property Values in the U.S., Lincoln Institute of Land Policy http://datatoolkits.lincolninst.edu/subcenters/land-values/price-and-quantity.asp

[ii] Data located at Land and Property Values in the U.S., Lincoln Institute of Land Policy http://datatoolkits.lincolninst.edu/subcenters/land-values/metro-area-land-prices.asp

[iii] "Price Indexes, Single-Family Houses under Construction" *U.S. Census Bureau*. https://www.census.gov/construction/cpi/.

[iv] U.S. Bureau of Economic Analysis, Real private fixed investment: Residential: Structures: Permanent site: Multifamily (chain-type price index) [B292RG3Q086SBEA], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/B292RG3Q086SBEA, June 15, 2017.

[v] "Construction Outlook: H1 2017" *JLL*. 2017. . https://jll.postclickmarketing.com/2017-construction-first-look#Construction-Costs---Top-Markets.

[vi] "Construction Outlook: H1 2017" *JLL*. 2017. https://jll.postclickmarketing.com/2017-construction-first-look#Construction-Costs---Top-Markets.

[vii] Mullen, Clancy. "National Impact Fee Survey: 2015" *Duncan Associates*, 2015. http://impactfees.com/publications%20pdf/2015_survey.pdf.

[viii] "Pay to Play: Residential Development Fees in California Cities and Counties, 1999" *Department of Housing and Community Development*, 2001. http://www.hcd.ca.gov/policy-research/plans-reports/docs/Pay-to-Play-Fee-Residential-Development-Fees-1999.pdf.

[ix] "Bending the Cost Curve: Solutions to Expand the Supply of Affordable Rentals" *Urban Land Institute*. (2014). http://uli.org/wp-content/uploads/ULI-Documents/BendingCostCurve-Solutions_2014_web.pdf.

[x] "Housing Development Toolkit" *The White House*. (September 2016) https://www.whitehouse.gov/sites/whitehouse.gov/files/images/Housing_Development_Toolkit%20f.2.pdf.

[xi] see e.g. Quigley, John and Larry Rosenthal. (2005). "The Effects of Land Use Regulation on the Price of Housing: What Do We Know? What Can We Learn?" *Cityscape*, 8(1), 69-137. Retrieved from http://www.jstor.org/stable/20868572.; [xi] Schuetz, Jenny (2007). "Land Use Regulation and the Rental Housing Market: a Case Study of Massachusetts Communities." Joint Center for Housing Studies, Harvard University. Prepared for Revisiting Rental Housing: A National Policy Summit. Retrieved from http://www.jchs.harvard.edu/research/publications/land-use-regulation-and-rental-housing-market-case-study-massachusetts.; Glaeser, Edward L. and Joseph Gyourko (2017). "The Economic Implications of Housing Supply." Samuel Zell and Robert Lurie Real Estate Center, Working Paper #802. Retrieved from http://realestate.wharton.upenn.edu/working-papers/the-economic-implications-of-housing-supply/.
; Sunding, David L. and Aaron M. Swoboda (2010). "Hedonic analysis with locally weighted regression: An application to the shadow cost of housing regulation in Southern California." *Regional Science And Urban Economics*, 40, 550-573. Retrieved from https://www.sciencedirect.com/science/article/pii/S0166046210000608; Shoup, Donald (2014). "The High Cost of Minimum Parking Requirements," in Stephen Ison, Corinne Mulley (ed.) *Parking Issues and Policies (Transport and Sustainability, Volume 5)* Emerald Group Publishing Limited, pp.87 – 113. Retrieved from http://shoup.bol.ucla.edu/HighCost.pdf.

[xii] Kim, Jin-Lee, Martin Greene, and Sunkuk Kim (2014). "Cost comparative analysis of a new green building code for residential project development. Journal of construction engineering and management." *Journal of Construction Engineering And Management*, 140(5). Retrieved from https://ascelibrary.org/doi/full/10.1061/%28ASCE%29CO.1943-7862.0000833.

[xiii] "Affordable Housing Cost Study" *California Department of Housing and Community Development et al.*. 2014. http://www.hcd.ca.gov/policy-research/plans-reports/docs/FinalAffordableHousingCostStudyReport-with-coverv2.pdf.