

The Ivory Prize: The Importance of Innovation to Improve Housing Affordability

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“America is suffering with a housing affordability crisis. Through the Ivory Prize process, we have learned that a key part of the prescription is innovation – one step at a time.”

-- Clark Ivory, CEO Ivory Homes, announcing Ivory Prize Winners, National Press Club, April 10, 2019



The Nation's Housing Affordability Challenge

The nation faces a significant housing affordability crisis. At the end of the first Quarter, 2012, 77.5% of new and existing home sales were affordable to a family earning the local median income, according to the National Association of Home Builders/Wells Fargo "Housing Opportunity Index", based on standard mortgage underwriting criteria. By the end of 2018, only 56.6% of new and existing home sales were affordable by the same standard.

Underlying the nation's housing affordability challenge is a shortage of housing. Laurie Goodman and Rolf Pendall at the Urban Institute raised the alarm in June, 2016.

*"In 2015, we estimate that more than a million new households were created, but only 620,000 new housing units were completed, creating a shortage of just over 430,000 units. This gap has pushed up home prices and rents, a trend that will continue for the foreseeable future absent imminent policy changes."*¹

More recently, in December, 2018, Freddie Mac's chief economist, Sam Khater, spoke of the major challenge of U.S. housing supply: "We estimate that over the next decade, young adults will add about 20 million households – and those households will need a place to live." According to Freddie Mac research, the current annual rate of construction is about 370,000 units below the level required based on long-term housing demand.²

The costs of the supply shortage are threefold. First, there has been constant labor cost pressures, along with the pressures on the cost of building materials. Construction job openings are at a two decade high. Second, land prices have increased even more than structure prices over the past two decades. Government regulations, both land use and building codes, at the local, state and federal level, add significantly to the cost of a house or apartment. Finally, the housing stock in the United States is aging, with the median home more than 40 years old and, and close to 20% of the housing stock more than 80 years old. This creates the need to think about how we can achieve rehabilitation on a larger scale.

This supply shortage has further exacerbated the housing affordability crisis, as it has resulted in steep increases in house prices and rents – especially compared to income growth. With housing prices rising so rapidly, it is difficult for many potential home buyers to save the money for a down payment or qualify for a mortgage. Home equity is the major source of wealth for most Americans.

¹ Goodman, Laurie & Pendall, Rolf (June 20, 2016). "Housing Supply Falls Short of demand by 430,000." Urban Wire, Housing and Housing Finance, The blog of The Urban Institute, Washington, DC.

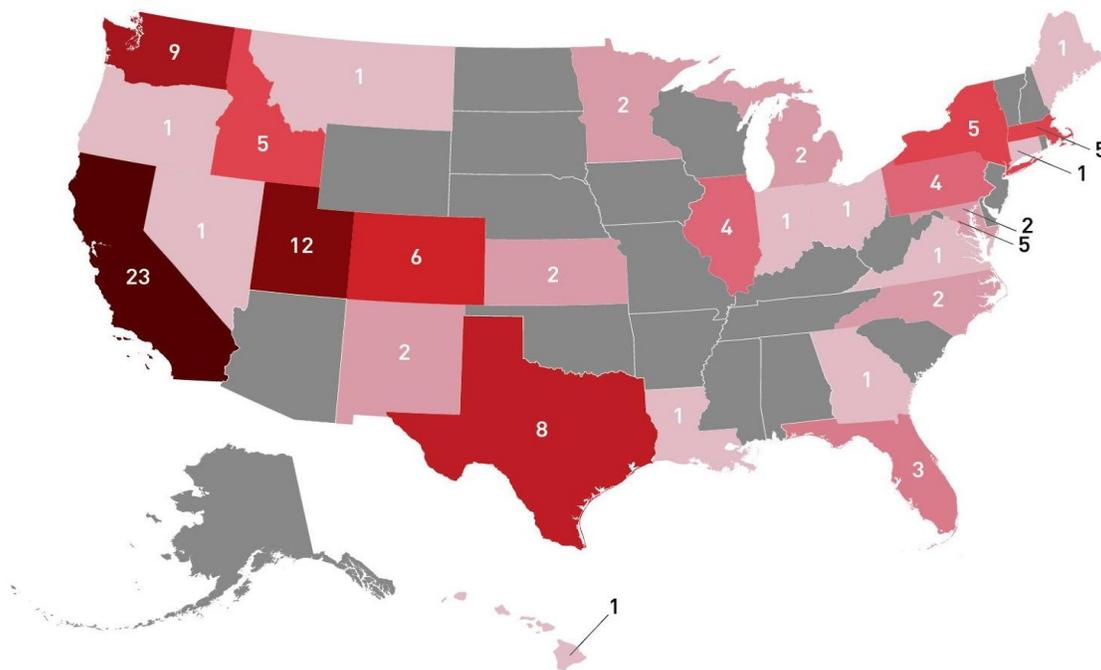
² The Major Challenge of U.S. Housing Supply, Economic and Housing Research Insight, Freddie Mac, December, 2018.

The Ivory Prize to Improve Housing Affordability

The Ivory Prize for Housing Affordability was announced in September, 2018 to tap the most innovative ideas attempting to address the complex challenge of housing affordability. The Prize was designed to advance projects and reward innovators for their efforts to develop adoptable solutions to tackle housing affordability. Solutions were sought in three key award areas; (1) construction and design; (2) finance; and (3) policy and regulatory reform. 126 nominations and applications were received, and on February 7, 2019 the top 10 finalists were announced at Sorenson Impact's Winter Innovation Summit at the University of Utah in Salt Lake City, Utah. The winners were then announced on April 10, 2019 at the National Press Club in Washington, D.C.

Chart 1 shows that the 126 nominations and applications come from across the country -- with many from areas that are experiencing the greatest housing affordability challenges.

Chart 1
Ivory Prize Applications by State



What Can Be Learned from the Ivory Prize Process?

Although the housing affordability challenges are great, and there are no simple nationwide solutions, The Ivory Prize process has demonstrated that there is a significant amount of innovation and creativity at the “grassroots” level around the country. A number of good things are happening! By looking at the participants in the Ivory Prize, it is possible to get a vision of the innovation that is underway and to identify directions that are essential if we are to improve housing affordability. Five paths or directions begin to emerge:



Increase housing construction through innovation and technology to build faster, increase productivity, and lower costs.



Preserve and produce affordable housing in neighborhoods, building on the people and strengths in that community.



Utilize creative finance approaches to allow more people to qualify for a mortgage and buy a home, and to build more affordable rental housing.



Innovative use of lots and existing housing to provide greater housing opportunities to meet the nation’s housing demand and to increase income for homeowners.



Remove regulatory barriers at the local, state, and federal level -- but especially in local communities and states -- to allow more homes and apartments to be built and to reduce the time and cost of building.

Each of these directions will be discussed below using the Ivory Prize finalists and other nominations to illustrate the work that is underway.

I. Increase housing construction through innovation and technology to build faster, increase productivity, and lower costs

If the nation is going to meet the serious housing shortages discussed above, we are going to need to **build more housing**. Through innovation and technology, there is an opportunity to build faster and increase productivity, as a result more housing can be built at a lower cost.

Almost half of the nominations for the Ivory Prize were in the area of Construction and Design (46%), and nine out of ten of those nominations were modular/factory built approaches – many with the goal of increasing construction productivity, bringing down housing costs, and using new materials. An example of this would be the Ivory Prize nominee, **Icon**. Icon works to 3D print homes in an effort to decrease the build time, reduce the cost, and create less waste than traditional housing methods. This is just one example of how innovative technologies may disrupt the housing market.

Two of the top 10 finalists were companies focused on using innovation and technology to reduce the cost of housing by building faster and at a lower cost.

Factory_OS – winner of the Ivory Prize for Construction and Design – is located in the Bay Area. It is transforming the construction industry by vertically integrating 21st century off-site building technologies in a factory, software operating systems, lean manufacturing and progressive labor practices. They are striving to deliver multifamily housing more than 40% faster and at a 20% lower cost. Factory_OS has already received emails from over 40,000 people who are interested in ordering modular units since it began in 2017, with 300 of these units for their first customer, Google. The company is ramping up their workforce and productivity, with a committed pipeline of approximately 900 modules that will be completed by the 2nd quarter of 2020.

IndieDwell, also a top ten finalist, is located in Boise, Idaho. They build modular housing using a factory that opened May, 2018. The factory is primarily human powered where they build durable, energy efficient steel frame modular housing with shipping containers. They are committed to producing affordable homes by lowering initial costs 50-75%, reducing on-site construction time by 80%, lowering operating costs 50-100%, and lowering maintenance costs by 40%. Their innovation comes with using the inherent structural integrity and watertight nature of the shipping containers without using additional structural steel framing on the interior of the building envelope. The company does not procure land, but instead contracts with landowners and delivers the modules to their customers.

Only 3.3% of single-family home completions in 2017 were modular – non-site built single family homes – based on an analysis of Census construction data by the National Association of Home Builders (NAHB).³ However, The Ivory Prize process has demonstrated a whole group of new builders focused on innovation and technology. With ongoing labor shortages and the need to lift labor productivity amid declining housing affordability, the percentage of modular / factory built housing will grow in the years ahead.

However, innovation does not just mean technology. Builders can also streamline their building process to shorten build times, they can be more effective in buying component parts, or they can capitalize on purchasing in mass in order to lower costs.

II. Preserve and produce affordable housing in neighborhoods, building on the people and strengths in that community

A number of the Ivory Prize applicants focused on preserving and producing housing in their local community.

³ In a November 13, 2018, Special Studies Report by Robert Dietz, Chief Economist, National Association of Home Builders (NAHB), it was reported that the total market share of non-site single family homes was 3.3% of completions in 2017, according to Census Bureau Survey of Construction data and NAHB analysis. This number is similar to the 4% found in the HIVE Home Builder Survey.

Century Partners, runner up in the Construction and Design category, was founded in 2015 with the vision of becoming part of Detroit’s housing comeback. Their goal is to use private and public capital to revitalize rundown, historic neighborhoods coupled with construction and finance approaches that contribute to housing affordability and community strength. Their leading project is the Fitzgerald Revitalization Project that calls for the reimagining of a ¼ square mile neighborhood on Detroit’s northwest side. Rehabilitation will include 100 vacant homes, the demolition of 25 unsalvageable homes (22 of which have been demolished), and the provision of green infrastructure across 200 vacant lots to expand the green space in the neighborhood.

They have made a special effort to involve the local community in the project through a workforce development program that has hired over 40 neighborhood residents to perform lawn maintenance, internal demolition, lot clearing, and other accessible development tasks. If they demonstrate a track record of performance they are able to “graduate” and join construction rehab crews in the neighborhood. They also use Community Development Block Grants (CDBG) to carry out rehabilitation for moderate income households earning less than 80% of the area median income (AMI).

The Washington DC Housing Finance Agency Housing Investment Platform (HIP) – one of the top 25 finalists – provides another example of neighborhood based efforts to put the dream of homeownership in reach of more Washingtonians. They have established a community development fund that reduces the cost of capital for developers to construct workforce housing while allowing them to earn near market returns on their capital. An investment from HIP significantly reduces the amount of capital the developer needs to contribute to the project, but in return, the developer agrees to restrict sales to households making workforce incomes, up to 120% of the Washington DC median family income (MFI).

III. Utilize creative finance approaches to allow more people to qualify for a mortgage and buy a home, and to build more affordable rental housing

Creative finance alternatives are essential both for building and rehabbing housing for the future and to allow more people to qualify for a mortgage, obtain money for a down payment, or buy a home. A number of the Ivory Prize nominations outlined innovative approaches to address the finance challenges of housing affordability.

Home Partners of America (HPA), Co-Winner of the Ivory Prize in Financial Innovation, provides an alternative path to homeownership through a lease purchase program. Launched in January 2013 in response to the impact the Great Recession and foreclosure crisis had on millions of homeowners, HPA has built an innovative financing and operating platform that has enabled thousands of households who currently are not mortgage-qualified to gain access to quality for-sale listed homes in local neighborhoods by participating in their lease-purchase program. Since its launch, HPA has purchased over 12,000 homes in 40 metropolitan markets and 20 states nationwide for a total investment of over \$3.5 billion. Over 1,000 resident households have

exercised their “right to purchase” and have successfully purchased their home utilizing the lender of their choice.

HPA is currently piloting a program to target low-to-moderate income households. This program known as Choice Lease, supports residents whose household income is at or below 100% area median income (AMI), with an expected average of 80% AMI buyers. Funding for this program will be provided through socially motivated capital.

The other winner in the Financial Innovation category – **Landed** which is based in San Francisco -- provides up to 50% of the down payment for the home in exchange for a 25% share of the appreciation of the home’s value at the time of sale. The additional capital from Landed is treated as a gift from a parent at the time of purchase, which does not impact creditworthiness or the terms the individual receives on their mortgage. There are no monthly payments to Landed, and homebuyers do not pay Landed until they exit the partnership by selling or refinancing. Both Landed’s investors and homeowners share the benefits and potential risks of owning real estate.

Landed works with school districts, now mostly in California, to provide a “shared appreciation” down payment to the teachers and employees of those public school districts, and the existence of the program can assist the district in recruitment and retention. Houses are expensive in Northern California, and the availability of an “equity partner” can be essential for a teacher to afford a home in high priced cities. To date, Landed has helped nearly 150 public school teachers and employees purchase \$100 million in homes and put roots in their communities.

The Landed “shared appreciation” model could work in other workforce housing environments – for example with policemen or firemen. Clients must agree to use a Landed-approved lender and a Landed partner real estate agent. Landed Inc. is a for-profit real estate brokerage that makes a partial commission from the buy side broker on each sale and is therefore able to avoid charging the buyers any additional fees.

Investment funds are another creative mechanism that is essential to finance housing affordability. **Turner Impact Capital (TCI)**, located in Santa Monica, California, is a real estate investment management firm, and is one of the nation’s largest social impact investment firms. Selected as one of the top 10 finalists for the Ivory Prize, the firm seeks to create innovate and durable solutions to today’s challenges by investing in community-enriching infrastructure in underserved communities. One of their focuses is multifamily housing, and in 2015 the firm established the Turner Multifamily Impact Fund (TMIF) – now a \$264 million equity fund – to respond to the growing demand for quality, affordable workforce housing in the nation’s major urban centers.

To date, TMIF has acquired and preserved over \$600 million of workforce housing across 20 communities. Since its launch in 2015, TMIF has preserved affordability for over 11,800 families and individuals, and their portfolio has grown to a total of 6,877 units. These families and individuals reside in 20 communities throughout 8 Metropolitan Statistical Areas across 5 U.S. states, all acquired and enriched over the last three years. These communities are generally

mid-1980's vintage, garden style apartments in low-income census tracts with 220 to 600 units per community.

IV. Innovative use of lots and existing housing to provide greater housing opportunities to meet the nation's housing demand and to increase income for homeowners

With the shortage of housing growing each year, and with new households challenged to find housing they can afford to rent or buy, there is pressure on the existing house stock to accommodate this unmet demand. In other words, there is a need to utilize pre-existing housing assets to meet the demand for housing from the growing number of households that are being formed.

We are an innovative society, and a number of the Ivory Prize nominations were for companies created to meet this housing demand utilizing the pre-existing supply of housing. One of these is **The Alley Flat Initiative**, a program of the Austin Community Design and Development Center (ACDDC), and winner of Ivory Prize for Policy and Regulatory Reform. The Alley Flat Initiative (TAFI) was recognized based on their innovative efforts to change the policy framework in Austin, Texas to allow for the adoption of Accessory Dwelling Units (ADUs) – often using underutilized alleys to create “Alley Flats” by tucking small, single-family homes (ADUs) on existing lots. In addition, the Alley Flat Initiative has developed a “one-stop shop” for income-qualified homeowners providing personalized support through the development process including green design, financial education and pre-qualification, property management and construction guidance.

The Alley Flat Initiative has partnered with the City of Austin's policymakers and department leaders to design development incentive programs to promote income-restricted ADUs and to provide assistance to lower-income owner-developers who are facing displacement, due to rapid growth, so that these individuals are able to increase their income from the rent generated by the Alley Flats. To date ten Alley Flats have been completed, four are under construction, and four are in development. TAFI offers nine floor plans that range from 350 square feet to 950 square feet, and they serve household types ranging from single seniors to four-person families. Each unit is designed to be adaptable for aging in place.

Three of the top 25 Ivory Prize finalists have also developed innovations to better utilize existing housing space. **Nesterly** – located in Boston – tackles two big challenges of housing affordability with one solution. They connect households with space to people who are seeking a place to stay for longer than one month. One of their primary goals is to match elderly households who have homes and space with students who are going to school in the Boston area. It provides housing for the students in an otherwise tight housing market, and gives senior citizens additional income to live and pay their expenses, and often provides welcome companionship.

Neighbor – located in Utah – has established a peer-to-peer storage marketplace intended to connect hosts with unused space to renters in need of storage. The company's marketplace matches homeowners and renters, enabling renters to get storage spaces near them for 50% less

than public storages, and homeowners to increase their income to help reduce their overall housing burden.

Common – established in 2011 and currently operating in New York, Chicago, Los Angeles, Seattle, and Washington DC – partners with property owners and local organizations to create residential communities with monthly terms, shared services, community events, and management. Residents move into a home with other roommates, but each have a private bedroom. They share common living areas such as kitchens, living rooms and backyards. For individuals and households – especially those living in expensive cities – it allows people to meet their housing needs at a lower cost by “doubling up” and utilizing pre-existing housing assets. In essence, it is a longer term Airbnb for more permanent residents living and working in the city.

V. Remove regulatory barriers at the local, state, and federal level -- but especially in local communities and states -- to allow more homes and apartments to be built and to reduce the time and cost of building

One of the greatest challenges to housing affordability is overcoming regulatory barriers at the local, state and federal levels that add to the cost of building or remodeling homes and apartments. At the local level, land use and zoning requirements, challenges with the permitting and development process, and building code requirements are some of the barriers that can add significantly to the cost and time to build. Glimpses of regulatory innovation are beginning to appear throughout the country in Minneapolis, Seattle, Portland, California, and Utah; and states are beginning to encourage, even push, local communities to do more to meet the challenges of housing affordability.

Three of the top 10 Ivory Prize finalists illustrate the grassroots public policy efforts that are underway to try to achieve better regulatory policies for housing affordability – **Buncombe County, North Carolina; Hello Housing; and Jackson Maine Architecture.**

Buncombe County in western North Carolina has six municipalities, with Asheville being the largest. The county is a tourist and gateway community with a number of visitors and people with second homes. It can be hard for service industry families to find stable housing they can afford, and rising prices have complicated the housing market for year round low-to moderate-income families. The county recognized the need for affordable housing and made housing affordability one of the county’s strategic priorities.

They decided to take a three part approach: (1) They established an Affordable Housing Services Program (AHSP) to provide loans and grants to assist nonprofits and private developers to provide affordable housing; (2) They modified their countywide zoning to reduce setback and minimum lot size requirements, thus allowing less acreage per lot; and (3) They created a Community Oriented Development (COD) Program to use a points-based incentive program to award density bonuses – up to 250% – for developments that include affordable or workforce housing units. The county also focused on streamlining their approval process for permits and inspections. While many of the

zoning practices in Buncombe County are in effect in other states and counties, the important innovation in Buncombe County is their holistic approach to address housing affordability issues.

Hello Housing is a wonderful case of regulatory innovation. Working with the city of Oakland and the Alameda County Treasurer-Tax Collector, Hello Housing (an affordable housing nonprofit organization) identified a little-used state law – the Chapter 8 Tax Sale – that allows municipalities to sell tax-defaulted properties to nonprofits without having to go to auction. As a pilot project with the city of Oakland, Hello Housing purchased 26 abandoned properties. 24 of the abandoned properties were reserved for single-family homes permanently restricted for below market rate ownership of 120% of area median income (AMI), and two of the properties were turned into restricted rental units at 80% of AMI. With \$750,000 as the average price for single-family homes in Oakland, California, Hello Housing’s homes are being sold from the high \$400,000s to the mid \$500,000s.

While the Chapter 8 Tax Sale may be unique to California, property tax sales are regularly taking place in communities across the country in the form of Tax Lien Sales and Tax Deed Sales. Hopefully Hello Housing’s work will serve as an example to other communities. In speaking of this project, Oakland’s Mayor Libby Schaaf said: “We are chipping away at the cost of living crisis one innovative idea at a time.”

Jackson Main Architecture (JMI) – Seattle, Washington – has been working closely with municipalities from the director level to building inspectors advocating for the development of a standardized modular housing inspection and review protocol. This effort has been undertaken knowing that critical mass in affordable modular housing cannot be achieved unless regulatory barriers are lifted, and municipal coordination is achieved. They are also beginning work on an ambitious project, titled Pilot 5, that aims to develop five multifamily projects in the Puget Sound region and to achieve municipal coordination.

The modular housing space needs regulatory standardization that allows for broad adoption and agreement on manufacturing practices, building codes, and on site assembly regulations. Modular housing projects can all benefit from more informed elected officials and coordinated municipal policies, and Jackson Main Architecture is trying to lead the way.

Conclusion

The nation faces a serious housing affordability crisis that is compounded by the shortage of housing and the rise in home prices and rents. However, The Ivory Prize process has shown an important glimmer of hope through the innovation and creativity that is underway around the country. Further, these innovations – one step at a time – help provide pathways and directions that are essential if we are to build more houses, better utilize the existing stock of housing, and improve housing affordability.