



Testimony of
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Before the
Senate Committee on Banking Subcommittee on Housing, Transportation, and Community
Development
Hearing entitled, "Housing Supply and Innovation"
September 13, 2023

Members of:



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Thank you, Chairwoman Smith, Ranking Member Lummis, and Members of the Subcommittee for the opportunity to testify today for your hearing on “Housing Supply and Innovation.” The hearing is timely, given the lack of affordable housing across the country which has been exacerbated by workforce shortages, supply chain disruptions coupled with inflation, entitlement regulatory burdens, and design approval challenges.

I am Eric Schaefer, Chief Business Development Officer for Fading West in Buena Vista, Colorado¹. Fading West began in 2016 with what we thought would be a one-off development project called The Farm at Buena Vista. Notably, we incorporated modular manufacturing into the design process of The Farm, with a goal of ensuring that the prospect of attainable homeownership does not fade away for people living and working in the mountain towns of Colorado. We have found that modular manufacturing carries significant advantages over stick-built construction, particularly since costs are reduced by as much as 20 percent and the entire timeline to build can be reduced by more than 50 percent². Fading West has continued to evolve, and is now a fully integrated design, development, modular manufacturing, construction, and property management company rooted in LEAN processes with a culture of continuous innovation and improvement.

I am here today because Fading West and the modular manufacturing industry firmly believe the U.S. Congress can have a role in helping the nation’s homebuilding industry to continue to innovate and thereby be a partner in resolving the housing shortages across several states and localities.

Affordable Housing Challenges Across the Country

As of 2023, the United States is estimated to be 3.8 million housing units short, and that number is increasing each year with no clear plan on how to address the root/systemic causes. The increase in the average home price has far outpaced the average Americans earnings over the last 50 years, making home ownership out of reach for most families. Making the problem worse, the productivity of the construction industry, as tracked by the U.S. Department of Labor’s Bureau of Labor Statistics, shows no increase in productivity since the 1940’s.

Root Causes of the Nation’s Affordable Housing Crisis

From our perspective, we see four systemic causes to the affordable housing challenges across the country:

1. **Declining skilled trades workforce** – The National Center for Construction Education and Research (NCCER) estimates that 41 percent of the current construction workforce will retire by 2031. This

¹ Fading West, available at: <https://www.fadingwestdevelopment.com/ourstory>.

² McKinsey & Company, “Modular construction: From projects to products,” June 2019, available: <https://www.mckinsey.com/~media/mckinsey/industries/capital%20projects%20and%20infrastructure/our%20insights/modular%20construction%20from%20projects%20to%20products%20new/modular-construction-from-projects-to-products-full-report-new.pdf>.

includes many people in management roles. The COVID-19 pandemic may have accelerated some of these retirements. Consequently, we see:

- a. Growing demand chasing declining supply drives up costs;
 - b. Long delays and slower construction; and therefore a
 - c. Reduced number of homes.
2. **Supply chain disruptions and escalating building costs** – The price of building materials has increased by 33 percent since the start of the global COVID-19 pandemic. The price of goods used in residential construction has increased by 40.4 percent since January 2020. Consequences of these inflationary costs includes:
- a. Massive increase in home prices; and
 - b. In most areas, building affordable housing is impossible without significant local, state, or federal government subsidies.
3. **Long, complex, and costly entitlement process** – According to a study by the National Association of Home Builders (NAHB), regulations at all levels of government account for \$93,870, or 23.8 percent of the current average sales price of a new home³, which results in:
- a. Fewer projects and fewer homes; and
 - b. Increased risks for developers, banks, and investors which translates into higher capital costs.
4. **Biggest Challenge | Every home has its own design and approval process** – In the United States, there are 43,096 authorities having jurisdictions (“AHJ”), including municipal, county, state, and federal agencies. At the state level, each AHJ can modify and amend the building code for their area, which means there is no ability to standardize products or processes. Therefore, homebuilders face:
- a. Multiple plan submittals and inspections;
 - b. Massive redundancy and waste – notably, 30 percent of material is wasted at a traditional, stick-built construction site;
 - c. Low investment in research and development, which results in little innovation and productivity improvement;
 - d. Slower construction, which results in longer build times on projects and more capital; and
 - e. Lower quality builds, which is due to higher error rates and subsequent lawsuits.

Fading West’s Solution to These Challenges

Fading West has integrated the entire construction value stream by combining real estate development, modular manufacturing, and general contracting to reduce waste while improving quality and speed. By bringing the concepts of efficiency and process control from the modular manufacturing industry, Fading West is able to create high quality, architecturally interesting housing. We also are able to:

- Build homes 10-20 percent less expensive by reducing waste from 30 percent to less than six percent, standardizing processes and products, and creating a productive, climate-controlled factory workspace; and we
- Complete homes 50-80 percent quicker than traditional construction. A typical Fading West home is built in less than 10 working days in our factory and then completed at the site in less than 30 days (setting on foundation, connecting utilities, completing interior and exterior connections). From start

³ NAHB, “Government Regulation in the Price of a New Home: 2021,” available at: <https://www.nahb.org/-/media/NAHB/news-and-economics/docs/housing-economics-plus/special-studies/2021/special-study-government-regulation-in-the-price-of-a-new-home-may-2021.pdf>.

to finish, a new home can be completed in less than 40 days, compared to greater than nine months for traditional, stick-built construction home in many areas.

Fading West believes in the “manufacturization” of housing, which has a proven track record of reducing waste and costs through the entire construction process. Modular manufacturing also opportunities for training new workers with high-value skills and in a controlled workplace with high safety records. The erection and hook-up of the modular components at the final site of the housing unit also ensures jobs for skilled construction workers, such as electricians, plumbers, and carpenters.

Affordable Housing Initiatives Worth Examining

Some U.S. states and federal agencies have moved forward with initiatives that successfully address affordable housing issues in their jurisdiction. We also would be remiss in not pointing out a partnership between the North American modular industry and Canada, which has resulted in rapid scale up of affordable housing.

Virginia utilizes an Innovation Grant and Low-Income Housing Tax Credit program to encourage and support innovative building techniques, such as modular construction. They have successfully built entire communities in areas of great need for housing that most developers were not interesting in building affordable housing.

Colorado and Oregon have passed legislation that created a \$40 million (Colorado) and \$20 million (Oregon) budget allocation to encourage and support modular construction to build affordable housing. Additional funding to support the use and growth of the modular industry by the Federal Government would be a critical element for increasing affordable housing manufacturing capacity to produce housing units it faster.

At the federal level, some U.S. agencies, such as GSA, DOD, DOE, and HUD, have encouraged the use of modular manufacturing in its construction needs, recognizing the cost savings and efficiencies. But modular manufacturing is still not fully integrated as a cost saving complement for federally funded construction projects, such as affordable housing.

Meanwhile, soon after COVID-19 started, the Canadian Mortgage Housing Corporation, Canada’s equivalent of Fannie Mae, in collaboration with the modular industry allocated \$1.7 billion to build affordable housing using only modular construction via their Rapid Housing Initiative. They set specific guidelines that only modular construction would be utilized, and the projects had to be completed within 24 months. Consequently, 10,000 housing units were completed within the 24-month timeline. That program continues today with annual \$1.5 billion in grants.

We encourage Congressional lawmakers to examine these above referenced initiatives as it looks to craft solutions to addressing the housing shortages across the United States.

Colorado Case Study | Public, Private Partnerships (P3)

We can speak more specifically to affordable housing in our home state of Colorado, where Governor Jared Polis has embraced the inclusion of modular manufacturing in the construction of affordable housing across the state. As in other U.S. localities, Colorado’s housing supply has not kept pace with its population growth. The state has current unmet housing needs of tens of thousands of units and will continue to grow – it is estimated the state will add 1.72 million people by 2050. Nearly one-third of Colorado households spend more than 30 percent of their income on housing, and people are forced to live further away from where they work, leading to increased traffic and decreased access to job opportunities.

Governor Polis signed an [executive order](#) in August 2023 that aligns the state’s programs and policies with increasing housing supply close to existing, new or expanded public transit, safe biking, and walking corridors, places of employment, and other everyday needs of Coloradans. Also this year, the Governor signed HB23-

1255 into law, preventing local governments from limiting either the growth of the population in their jurisdiction or the number of development or building permit applications.

In 2022, Colorado established the P3 office to plan, design, manage, develop, operate, implement and govern public private partnership projects. This office works to identify unused state land that could be used for housing development and work with local governments and private entities to make them happen.

In 2022, Colorado created the Innovative Housing and Incentive Program (IHIP) at the Colorado Office of Economic Development and International Trade (OEDIT), which provides working capital grants and factory development loans to the manufacturers of innovative housing – modular and kit home construction.

In August 2023, OEDIT and the Colorado Housing and Financing Authority (CHFA) launched the loan program within IHIP, creating a \$20 million-dollar revolving loan program for housing manufacturers to develop affordable housing in Colorado.

In 2021, Governor Polis signed House Bill 21-1271, which created the Innovative Housing Planning Grant Program (IHOP) and the Innovative Affordable Housing Development Incentives Grant Program (IHOI) within the Department of Local Affairs. IHOP grants to local governments to analyze housing needs and to make lasting changes to remove barriers to affordable housing development. IHOI funding goes to local governments to develop affordable housing in their communities that are livable, vibrant, and driven by community benefits. Colorado's Department of Local Affairs (DOLA) has awarded \$38,791,331.35 grantee communities, and projects are underway through 2024.

In 2021, Colorado also legalized inclusionary zoning through the passage of HB21-1117, which clarifies that local governments may regulate the development and use of land within their jurisdictions in order to promote the new development or redevelopment of affordable housing units.

The Transformational Affordable Housing (Homeownership and Workforce) Housing Grant Program also provides funds and resources to assist eligible applicants in developing, creating or preserving affordable housing opportunities in their communities. After four rounds of awards, DOLA has granted more than \$118M to 34 applicants across 30 counties, providing or preserving an estimated 2867 affordable housing units across Colorado.

Amid the prioritization of affordable housing in Colorado, Fading West partnered with Vail Valley Habitat for Humanity this year to build 16 homes for teachers in Eagle County. Notably, Habitat could only build three homes in 2023 had they used their usual stick-built construction model. Habitat used state funds (public) along with philanthropic donations (private) to cover the construction costs for 16 homes. The homes were built in Fading West's modular factory, located about 70 miles away, where it took one month to build the modular components for the 16 homes in the factory. The modular components were then shipped and assembled on concrete foundations, where some "sweat equity" – or traditional, stick-built construction – was then needed to also build garages, paint, finish porches, etc. Sixteen families are slated to move in these homes later this year. Eagle County facilitated the entitlement process to get these homes built Q2 2023. The homes constructed are green, architecturally interesting, all electric, value engineered, high quality and 20 percent cheaper to build than regular stick-built homes.

Back in 2016, however, Fading West began with the question of how to build a high quality, architecturally interesting home that was affordable for a family making 80 percent of the area median income. This was our first housing project and a test of our business model of combining off-site modular construction with streamlined site construction. The town of Buena Vista, Colorado, was experiencing all the negative effects of the affordable housing crisis which was hurting families throughout the community. Fading West worked with the Buena Vista Board of Trustees to develop The Farm at Buena Vista, a 150 home, economically diverse

community with 60 percent of the units built for families making 80 percent of the area median income. The first home was set in February 2016 and to-date Fading West has built over 130 homes. Our Antero townhome is the least expensive new homes for sale in the Rocky Mountain region.

Recommendations for Addressing the U.S. Housing Crisis

From our perspective, we offer the following recommendations to federal lawmakers that we believe could start to address fundamental root causes of the affordable housing crisis in the United States:

1. **Provide grants and zero percent interest loans to modular manufacturing facilities to increase housing supply vs subsidizing “demand side” projects.** Similar to the U.S. Government’s recent investments in semiconductor companies to re-shore this industry, federal grant funding or zero percent interest loans could be put forward to helping fund modular manufacturing factories and other off-site construction facilities to increase capacity to build more affordable homes in the country. We believe this approach is better than throwing taxpayer money at a patchwork of specific projects in an attempt to reduce the cost of each home.
 - a. A typical single line modular manufacturing factory costs roughly \$35M to set up. One facility can produce 400 homes or 800 apartments per year, over ten years 4,000 homes or 8,000 apartments.
 - b. If the Federal Government gave grants for the entire amount, over ten years the subsidy would be \$8,750 per home or \$4,375 per apartment. This is much less than the typical project specific subsidy, which can oftentimes be in the tens, if not hundreds of thousands of dollars per home.
2. **Tie federally funded projects to a standard construction code and entitlement process.** If you cannot mandate AHJs to streamline their codes, you can incentive them to adopt a standardized code for federally funded projects by directing via legislation that federally funded affordable housing projects use a streamlined code and entitlement process. This does not require localities change their codes or entitlement processes for non-federally funded affordable housing projects.
3. **Long-term solution – mandate the harmonization of regional building codes to streamline the housing construction regulatory process.** The U.S. Congress could consider directing via legislation the creation of 10-20 climate zone (or regional) federal building code standards.
 - a. If a car that is much more complex than a home, is driven at 70 mph six feet away from another car driving at 70mph in the opposite direction, and it can be driven in Alaska and New Mexico, then we can surely design a limited amount of standard building codes by regions facing similar climate challenges (e.g., earthquakes, hurricanes, tornadoes, coastal flooding, etc.).
 - b. We believe this would invite massive R&Ds investments and further promote innovation in modular manufacturing factories across the United States, which would continue to help solve the housing shortage and affordability crisis.

Conclusion

We suspect this will be one of several hearings or discussions on housing an innovation, and we appreciate the Subcommittee’s focus and attention on this timely topic. There are certainly additional steps that federal policymakers can take to help the modular industry and state and local governments further promote and accelerate innovative technology in the homebuilding and modular manufacturing sectors so we can collectively address the U.S. affordable housing crisis. As I previously noted, the modular industry is constantly evolving

– adopting new, sustainable materials as well as digital technologies that enhance design capabilities and variability, improve precision and productivity in manufacturing. The taxpayer cost savings for homes built with modular manufacturing is also evident – modular manufacturers can speed construction by 50 percent and cut costs by 20 percent. We at Fading West strongly believe that homebuilders that utilize innovative technology and modular manufacturing are best positioned to help address the affordable housing crisis.

Thank you again for the opportunity to testify before the Subcommittee, and I look forward to answering your questions.

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