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Wood-Frame Homes Which Dominated Subdivisions Since the 1990s May Become Obsolete

By JIM SMITH, Realtor®

The site-built wood-frame homes that have dominated American subdivisions since the 1990s are getting too expensive to meet America's needs in this time of severe housing shortage. Several factors are at work.

Factor #1: Labor shortages, especially with immigrant laborers being deported.

Factor #2: Wildfire vulnerability of wood-frame homes, as demonstrated in Dec. 2021's Marshall fire and this January in Los Angeles.

Factor #3: Climate change, which is spiking a demand for greater resiliency in home construction — not just from fire, but from high-wind events like tornadoes and hurricanes.

Factor #4: Higher costs, aggravated no doubt by higher tariffs on the Canadian lumber used in most home construction.

I am convinced that other technologies and techniques for home construction are about to go mainstream, rendering today's wood-frame, on-site building process obsolete, or at least out of favor except for expensive custom homes.

I also believe we will see more attention paid to the siting of new homes. Simply having big windows to the south with a wide overhang allowing solar gain from the low sun in the winter and shade from the high sun in the summer is a no-brainer. Similarly, having fewer windows on the north side of the house is simply smart "passive house" design. Having an enclosed rather than open foyer (an "air lock") is common sense too, and costs very little to implement.

That's just the beginning of the changes I expect to see in new subdivisions. Lennar has already built a 3D printed subdivision in Texas (see picture). Such construction was a novelty (which

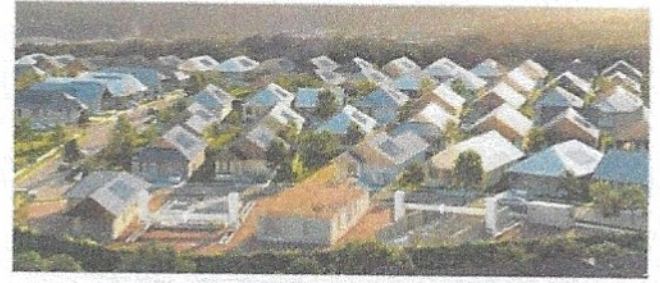
I wrote about—see below) just a few years ago, but is now becoming mainstream. Other builders have learned from Lennar's experience and multiple companies have entered that space.

A *Fast Company* article in January 2023 proclaimed that "3D-printed houses are the suburbs of the future." The picture at right is from that article. Here's an excerpt: "Iowa City-based **Alquist 3D**, which specializes in reasonably priced automated construction in rural areas, has already started building Project Virginia, in which it will create 200 3D-printed homes... around the state, starting in tiny Pulaski.... It's also starting a 25-home project in Malvern, Iowa and a 10-home development in Muscatine, Iowa. Alquist founder and CEO Zachary Mannheimer says the firm has about 500 total units — ranging in price from \$250,000 to around \$400,000 — in the pipeline...."

Nothing says "mainstream" quite like Iowa. Colorado can not be far behind. Just last month, Channel 4 reported on a \$638,000 grant under Colorado's **Innovative Housing Incentive Program** to a Salida company, **Verotouch**, following the completion of their two 1,100-square-foot 3D-printed homes in Buena Vista.

The layered concrete walls of 3D-printed homes are naturally fire and storm resistant. They are typically one-story homes with a standard peaked roof made from wood trusses, as you can see in the picture above. The foreground shows 3-D homes at different stages of completion. A gantry straddling the foundation transports the tube which lays down layer upon layer of concrete slurry as programmed by a computer design.

In past columns, I have written about a local company, **Colorado Earth**, which has pioneered



construction of homes using compressed-earth bricks called EcoBlox. That's more labor intensive, since the walls have to be laid by workers, but such homes share the same benefits of being fire and weather resilient.

New technology abounds in the other components that go into home construction. For example, in June 2023 I wrote about a company, **Plantd**, in North Carolina, which has developed an alternative to OSB, the wall sheathing and roof decking used in virtually all home construction, made from a fast-growing perennial grass, saving 17 trees and sequestering eight tons of CO₂ per house. See www.PlantdMaterials.com. A *Fast Company* article in October 2024 reported that homebuilder **D.R. Horton** has ordered enough of those panels to build 90,000 homes.

The innovation taking place in every other component of home construction — doors, windows, manufactured housing, appliances, and more — is stunning to behold, confirming for me that a major revolution in the home construction industry is already unfolding. You can be sure I'll continue to write about it here!

I have posted links for everything and every company mentioned in this article on our blog <http://RealEstateToday.substack.com>. You'll also find another article that didn't fit in this ad. It's about the dangers of Federal Pacific Electric panels found in many homes built in 1950-80.

Previous Columns on Innovation & Technology

The dates are clickable links on our blog, <http://RealEstateToday.substack.com>.

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- [Dec. 21, 2023](#) — D.R. Horton Inks Deal to Build with OSB Made From Grass Instead of Wood
- [Nov. 9, 2023](#) — 3D-Printing Home Construction Firm Is Relocating to Greeley, Colorado
- [Oct. 12, 2023](#) — Here's a Company Selling 'Self-Powered' Manufactured Homes Starting at \$310,000
- [Sept. 14, 2023](#) — I Found Only One Marshall Fire Home Being Rebuilt with Fire Resistance in Mind
- [Sept. 7, 2023](#) — Geothermal Energy, Big Sister of Geothermal Heating & Cooling, Is Coming Along
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- [Feb. 23, 2023](#) — Boxabl, the Las Vegas Manufacturer of ADUs, Is Ramping up Production
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- [Jan. 26, 2023](#) — This Year's CES Show Featured Some Exciting New Technologies and Products
- [Dec. 15, 2022](#) — Lennar's New Subdivision Near Austin, Texas, Features 3D-Printed Homes
- [Dec. 8, 2022](#) — A Subdivision in Pueblo Sets the Standard for All-Electric Home Construction
- [Nov. 10, 2022](#) — KB Home Is Building All-Electric Homes — But Not in Colorado
- [Oct. 13, 2022](#) — Homes That Survived Marshall Fire Were More Airtight & Had Conditioned Attics

Charities Miss Using Our Truck.

So, We've Launched a Campaign to Bring It Back.

Back in February, I announced that our 2012 Ford box truck needed a new engine and other repairs and that we decided to retire it instead. This was a big loss to such non-profits as the Wounded Warrior Project, BGoldN, Family Promise, Christian Action Guild, Buffalo Bill Days, and the International Rescue Committee, among others, which used the truck more often than our clients!

The truck is off the road but still available to be repaired — or replaced, if we raise enough money. If you'd like to contribute, visit www.BringItBack.info. Thanks!

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