

The Typical Wood-Frame Home Which Has Dominated Subdivisions Since the 1990s May Soon Be History

Let's say that the writing is on the wall. The kind of site-built wood-frame homes that have dominated new American subdivisions since about 1990 are getting too expensive to satisfy America's needs in a time of severe housing shortage.

Several factors are at work which make that style of home construction soon to be obsolete.

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

Factor #2: Wildfire vulnerability of wood-frame homes, as demonstrated in Boulder County and more recently in southern California.

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 25% tariffs on the Canadian lumber used in most new homes.

Having followed trade publications for the home construction and related industries, I am convinced that other technologies and techniques for home construction are about to go mainstream, making today's wood-frame, on-site building process soon to be obsolete, or at least out of favor except for super expensive custom homes.

I also believe we will see more attention paid to the siting of new homes. It's easy enough to site a home so that it benefits from solar gain, even if it is not solar-powered. 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, but it seems there has been a shortage of architectural brains in current and past siting of new homes. Similarly, having fewer windows on the north side of the house is simply smart "passive house" design.

Having an enclosed rather than open foyer (what's called 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). 3D printing of homes using concrete was a novelty (which I wrote about

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 pictures at right are 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 (all variations on craftsman designs, also framed in layered concrete and topped with gabled wood-framed roofs) around the state, starting in tiny Pulaski (population 8,691). 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 in Virginia, Florida, Iowa, Missouri, Kansas, and Texas."

Nothing says "mainstream" quite like Iowa and those other states. Colorado can not be far behind. Just last month, CBS Colorado (Channel 4 News) 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.

"We are proud to accelerate innovation in housing to better address Colorado's housing needs," Gov. Jared Polis said. "The unveiling of the first 3D-printed homes in the state is a great example of our state's efforts to support new construction methods and create more housing now."

The layered concrete walls of 3D-printed homes are naturally fire 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 front three homes in that picture show a 3-D home at different stages of completion. A gantry straddling the foundation transports the tube which lays down layer upon layer of concrete slurry following a computer program.



Above: A 3D-printed home in Desert Hot Springs CA. Below: A Lennar 3D subdivision in Texas



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 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, grown locally on former tobacco plantations, saving 17 trees per house

and sequestering 8 tons of carbon dioxide per house. See www.PlantdMaterials.com.

A *Fast Company* article in October 2024 reported that homebuilder **D.R. Horton** had ordered 10 million of Plantd's panels, enough 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. Be sure that I'll continue to write about it here!

I have posted links for everything mentioned in this article on our company blog at <http://RealEstateToday.substack.com>.

Does Your Older Home Have a Federal Pacific Electrical Panel?

An estimated 28 million American homes built in the 1950s through the 1980s, including many in Colorado, have an electrical panel manufactured by Federal Pacific Electric, which lost its UL certification decades ago because of multiple failures of its Stab-Lok breakers to trip when overloaded, thereby causing a fire hazard.

Our friends at **Alpine Building Performance, LLC**, shared these additional issues with the FPE panels:

- ◆ The breakers often don't connect properly to the panel's bus bars, causing arcing, overheating, and potential fire hazards.

- ◆ Some Stab-Lok breakers get stuck in the "on" position, even when manually switched off, making it impossible to cut power.

- ◆ Reports suggest that FPE manipulated UL testing results, leading to unsafe products being approved for use.

- ◆ Studies indicate that homes with FPE panels have a significantly higher likelihood of electrical fires compared to other panels.

For these reasons, any home inspector hired by a buyer can be expected to recommend that replacement be demanded of the seller.

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

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- Also:** 3D-Printing Home Construction Firm Is Relocating to Greeley, Colorado
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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
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Charities Which Used Our Free Box Truck Miss It. So, We've Launched a GoFundMe Campaign to Bring It Back.

Back in February, I announced that our 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, Family Promise, BGoldN, 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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