A HUD home is a 1-4 unit residential property acquired by HUD (Housing and Urban Development) as a result of a foreclosure action. These homes tend to be priced slightly below market value in order to regain past losses. The Department of Housing and Urban Development has developed a building code to classify manufactured homes as HUD. Although manufactured homes are typically sold to single property owners, I hypothesize that building them in a tract form can benefit a community by providing affordable, adequate housing for low income families and single families. I also hypothesize that HUD home development will continue to grow and become a popular alternative to building homes due to its cost efficiency and equivalent quality to standard stick built homes. In order to prove this claim, I will be conducting interviews with a team of builders and developers working in the Sacramento area developing one of the first tract homes made completely by HUD code. This research proved that HUD homes are an efficient way to provide housing for low to middle class families as well as show developers and contractors an equivalent alternative to building that is cost and time effective.

Key Words: Affordable, HUD Home, Low to Middle Class, Single Families, Tract Homes

Introduction

With the constant rising market in California, becoming a homeowner is a difficult feat for new buyers and low income families. It is no surprise to hear that only around 55% of California residents own the house they live in. According to an article published by the First Tuesday Journal, California falls about 11% lower than the nation's home ownership rate. With a third of California's population being low income, only 35% of those families are homeowners, while the rest are rent burdened (Editorial, 2020). The Administration of Housing and Urban Development has created a process to try and combat these numbers and try to provide affordable housing through buying foreclosed homes and reselling them at lower more affordable prices. They have also created a HUD Code which allows manufactured home builders to build under certain regulations and classify their homes as HUD. This allows them to build cheap homes using the same materials as stick built homes, and sell them at a cheaper price to low income families or property owners. These homes on average account for 30% of new homes nationwide (Genz, 2001).

HUD homes are simply manufactured homes built under that code. HUD code, unlike conventional building codes, requires that manufactured homes are constructed on a permanent chassis. A manufactured home is built in a controlled environment in a manufacturing plant and transported on site in one or more sections. Due to HUD code, manufactured homes are typically single story but compare respectively to standard built homes. HUD homes use on average 30% more lumber and material due to the use of 2x6 studs instead of 2x4, added glues and adhesives, but tend to have high wind speeds because of these factors. Most of these homes can offer the same amenities as regular homes apart from ceiling height due to factory restrictions. In terms of cost per square foot, for a comparable stick built home in the same market and location, the cost for a HUD home will be about 25% less because of their efficient manufacturing process and assembly line reducing waste (Roland, 2021).
Standard wood and hardyboard are used in production, and in relation to the area, a manufacturing plant can build either high end HUD homes as well as lower end for areas with harsher conditions. By using the same materials, appliances, and brands, manufacturers can ensure that your HUD home will be up to standard with a stick built home needing very little repair for the duration of time the house is occupied, making it a cost effective alternative for buying a home.

**Literature Review**

In the year 2020 the California median home price rose 11 percent by the year's end; today we are closing in on 8 percent. Mortgage rates are going to continue to fuel price growth making renting a home inevitable. For someone who is unfamiliar with the market and the causes behind the constant inflation, it’s hard to understand the cause and effects behind this issue. Is it overpopulation in California or too little homes being built? Or is it due to fees and regulations linked to the actual process of building homes? According to Legislative Representative Damon Conclin in his California Housing Crisis account, it is due to state costs, construction costs, local and state government, and the California Environmental Quality Act (CEQA)(Conclin, 2021). Luckily there have been organizations such as the Department of Housing and Urban Development that have worked to create new living for the low income families, and developed a code that developers can build by to construct affordable housing from ground up. Although many are unaware of the existence of HUD and the affordability the department has created, they continuously work to promote home ownership and incentivise home growth in California for buyers and builders.

Governor Gavin Newsom stated, “Shelter solves sleep. Housing solves homelessness” in a discussion regarding California’s homelessness and housing shortage. Although in 2019 Newsom signed a budget with over 2 billion dollars being given to the housing and homelessness causes, if all allocated to housing this would only be able to build 6,000 new units (Conklin, 2021, pg. 83). To put that in perspective the market we are living in is clearly unaffordable and creating bigger problems in the state of California. The general cause for this is costs in general; California has the highest cost of housing than any state in the nation. This is due to the many rules builders have to follow. During pre-construction and during construction, builders have to go through city permitting, design and building code requirements, workforce and environment regulations, and other requirements associated with the area of building rules. All of these examples have some costs associated with it that contribute to the high prices of homes. It doesn’t help that there is a shortage of workforce to work on new housing developments. After the Great Recession, the workforce has struggled to gain its numbers back to accommodate for the amount of building needed.
The Union in particular is losing workers at an alarming rate and are unable to refill the spots fast enough as older workers are retiring.

In 1970 California passed the California Environmental Quality Act (CEQA) which requires a study prior to the project to look at the environmental impacts the project will have on the area. Supporters behind CEQA claim it is the strongest environmental protection in the country and that it is helping California reach climate goals (Conklin 2021). Although it may help with ensuring the environment is safe, it is preventing California from rolling out new housing hence our 49th place in state housing development. Some local governments even have their own set of restrictions to suppress the demand of housing and construction work within their counties. Although there have been numerous attempts to encourage affordable housing growth like the Housing Accountability Act enacted in 1982, we do not have the right amount of expenditures to create enough affordable homes.

The Department of Housing and Urban Development have created a couple of ways to promote homeownership. The first is reselling foreclosed properties at a lower rate to low-income families, and the second is by creating the HUD code. The HUD code is simply a building code that simplifies the rules of building and creates an easier way to build affordable housing. The HUD code says that if you can prove to the Department of Housing and Urban Development that you can design and build a home that will perform to their factors like roof load, wind resistance, thermal efficiency, then you can label that it meets HUD code (Porter, 1976). Unfortunately, HUD homes have developed a bad wrap being labeled as a poor family home or trailer park home. Yes it is true that they are often used in trailer park locations, but new technology and materials have allowed these homes to look identical to standard built homes and just as durable. They are becoming more desirable for new homeowners due to their low cost and equivalent amenities. Many people are aware of bank foreclosed homes, but HUD homes are not widely known as an option for suitable living (Choi-Bose, 2008). If we continue to get more contractors and developers to assist in the construction of preexisting HUD homes as well as new development, HUD homes will become more popular and could possibly have a long lasting effect on the market.

Research Methodology

With very little research done on HUD home developments, there were a few different ways I had to go about understanding my topic and creating new knowledge which included both quantitative and qualitative methods. I first did my research understanding the great recession and the history behind why California has struggled to provide affordable housing for families. From there I looked into other reasons such as Quality Acts put in place and different regulations that got in the way of building and cost companies money. This helped me grasp the concept of why the development my case study is on is implementing HUD homes instead of stick built homes.

Once I had a clear understanding of the housing market and development industry in California, I needed to find a HUD home development in order to conduct interviews. Little did I know that HUD developments weren’t a common practice among residential contractors and land developers. I kept coming across vendors who sold manufacturers homes but only to single property owners. I came in contact with a manufacturing plant called Skyline who specialize in high quality manufactured homes. I was able to interview Christopher Roland, Sales Manager, on July 14, 2021, who also connected me with a number of different people involved in a manufactured homes development.

I wanted to stick solely with either Zoom video interviews or phone call interviews. I made sure to keep a portion of the same questions the same for all of the people I interviewed that focused on each individual's vision behind the project, but added questions specific to their role in the project. For example, Christopher Roland is the sales manager so I asked questions as if he were selling me the manufactured home. On August 5th, 2021, I interviewed

**Case Study**

Throughout the interviews I conducted I learned about the forthcoming of this project that started 30 years ago and the current state of manufacturing and construction. This project took multiple parts coming together in order to work and have now created a project that has never been done before. From roadblocks like the great recession in 2008 to getting through permitting to allow manufactured homes to be built in tract form, this project succeeded in getting past them and has broken ground. The actual manufacturing behind the homes was an intricate process to understand, but well thought out to the point of having stations of work down to the minute for time of completion. Having come in thinking the construction process was going to be much different, it turns out it is very similar to traditional tract home building only faster and less wasteful. This project in whole provided me with everything I needed in order to write a detailed case study that will provide unknown knowledge to builders and buyers.

**Project Planning**

The Oroville HUD home project was never intended to be manufactured homes. In an interview with the current land developer, Jeff Ashlock, he had originally gotten in on the land in 1979 where it was zoned as residential/commercial land. The land had then been changed to industrial zoning, and after 30 years was finally changed back to the original residential zoning. This was during the time of the housing crisis, so many land developers fell off the grid due to the high expenses of building and people's inability to buy housing. Fortunately for Jeff he had managed to hold on to the land and start planning for a mixed use residential/commercial sub division. After getting the tentative map of the land approved he was introduced to W&R Wedgewood, residential contractor, who approached him with the idea of building HUD homes on his land instead of a typical stick built tract home. There was hesitation due to the stereotype of manufactured homes being “trailer park homes” and a project like this never being done before, but after seeing the upgraded quality and financial backing by Fannie Mae, he decided to go with the idea under certain conditions. Those conditions were making sure the images of the manufactured home would be mirrored on site, and that they make it look more like a traditionally built home rather than house on a raised foundation. There were also people part of the local government who wanted to see a high quality product delivered to the area. The city of Oroville has lost a number of housing units due to fires in the past year and are in desperate need of affordable housing. Due to the recession there were tons of projects going through the entitlement process that fell out, and Oroville has struggled to provide single family products since then. W&R Wedgewood agreed to these conditions and have delivered a craftsman looking product with reuse of dirt to create a recessed foundation, and reassured everyone involved that the product is just like any other site built home just manufactured in a factory.
Home Manufacturing

The actual manufacturing of the HUD homes is done by Skyline Homes at a plant in Woodland, California. Skyline is a wholesale company so they sell to developers and other dealers who work directly with the consumer like W&R Wedgewood. They are currently the largest publicly traded company in the factory homes industry in the United States. Christopher Roland, Sales Manager, says his factory builds roughly 500 homes every year ranging from single wide to triple wide. The main difference between a manufactured and standard built home really comes down to the process speed, material differences, and that it is made in a factory. Manufactured homes will have about 30% more lumber compared to stick built homes due to the bigger sizes of studs used and have added glues and adhesives to help keep the house intact for delivery. Although they use more material, they are more affordable in comparison. In terms of cost per square foot, for a comparable stick built home in the same market and location, a manufactured home will go for about 25% less than the cost for stick built home due to the efficiency in the process of manufacturing them; in the Oroville area they will go between 300,000 and 400,000. On average a manufactured home will only take 2 weeks to build with less than 5% of waste from a single home. A factory makes the process much quicker with no worries of outside elements affecting material on site such as wood warping or molding. The house will last as long as you maintain it, they don’t break down with problems any faster than other houses.

Head of Operation Excellence Michael Dewitt broke down the process of building a single home for the Oroville project. As of August 5, 2021, they have completed 5 homes with 3-4 different floor plans. Although these houses typically take 2 weeks to build, the specific models for this project take a bit longer due to higher quality material. They want to ensure there are no design flaws and are 100% livable, so the process may add a few additional days to construction.
Within the factory there are 30 stations in an assembly line. Before the building begins, the wood being used for the house is precut according to the dimensional layout of the plans at 300 sticks per cut, and stored a day before construction starts. Once construction has started the axles and frame are built and welded on site in order to transport the house to the project site. This process takes 4 hours, and while this is happening the floor is being constructed so they can be joined together in a timely manner. The insulation, plumbing, and electrical are all installed prior to being put on the chassis. The floor is then joined on the chassis, bolted down, and continued to be built on such as linoleum being put down or and stub ups being fixed to water lines. All of the listed steps consist of 6 stations, and if running at full speed the lines need to move at 106 minutes per floor move. Considering there are 3 floor moves, in total this will take up a day and half to complete for a single home. The walls at this point are being built off line fully insulated and paneled ready to be set. A single wall needs to be done in 10 minutes to stay on track, and can vary in size. Although this seems demanding, the workspace is designed so that everything the worker needs is in an arm's reach distance. Necessary amenities like showers and furnaces are placed prior to the walls being lifted in so they are able to be set at an efficient speed. In another area of the factory the roof is constructed and set after the walls have been secured. Blow-in cellulose made from recycled newspaper and magazine is then blown into the roof.

At this point in the construction process the shell of the manufactured home is complete and exterior and finishes are ready to start; many of the stations are working together at this point. Electricians, backpanellers, exterior workers, cabinet installers, tape and texture, and other stations complete their work and send the house off to finishes. After being painted, tests are run on water lines and electrical work to ensure everything is working properly. The house is moved to the finished yard where Skyline has a RTS (Ready to Ship) Inspector walk the house acting like a customer to make small adjustments in order to keep service charges down once it has been shipped off. All of these small fixes are sent to Michael so he can make adjustments to the assembly line to create a cleaner, more efficient product in the actual construction phase. From here the house is ready to be shipped and tagged as a finished HUD home.
Process of Construction

Prior to the Oroville project, W&R Wedgewood had worked on a HUD Home prototype project 20 years prior according to Chief Financial and Operations James Burkett. This current project has become one of the first of its kind in residential tract home construction. There are a few differences when it comes to the actual construction process compared to a stick built process. When it comes to infrastructure connecting to municipalities it's generally treated as a normal subdivision. It differs though because the house is being delivered already 75% complete; the process of joining the sections and making it a cohesive home is easier because they are, “starting on piece 750 instead of 1 out of 1000”(Burkett). The only other step needed before the house is delivered is for the footings to be poured and ready to be set on.

Construction started on July 27, 2021, and in 4 months all municipalities will be finished. W&R Wedgewood intends on delivering 11 homes per month, and estimates the project to conclude in 14 months, with 4 months of lag time. They currently have homes on site ready for sale and ready to move in by the 1st of November. When it comes to setbacks, the only foreseeable complications they will have to deal with could be shortages due to COVID-19 or rain delays, but other than that there are no glaring problems. James says because it is a new style of building tract homes, there will come problems along the way that you come across and will fix and learn from. The homes themselves are comparable to standard stick built, include the same amenities and energy efficiency, and will be a competitive product on the market.

Project Goals

While talking about the project goals with the 4 interviewees, I gained insight on their vision behind the project and what they hope to see in longevity. James Ashlock, a California native, stated that a mutual goal among all parties involved is to deliver Californias with an affordable solution for permanent housing in a market that's so tight; homeownership is a right and not a privilege. They want to utilize the manufactured products more organically and delivery a product for Californians built by Californians. They want to target the core of the market which is low to middle class single families and any other groups that have been left behind. Not only is their goal to provide affordable housing, but to also educate the market and show developers that building with HUD homes is a comparable alternative, cost effective, and challenges the traditional way of building. The factories themselves continue to become more time efficient and environmentally friendly the more they build for projects like this. Michael Dewitt was amazed when he first came to the factory and saw that what they were building wasn’t a trailer park home, but “An innovative house that implemented top of the line material that competes with any other homes being built.”

Conclusion

After months of research on the subject of HUD homes and specifically the Oroville project, the knowledge I have gained has shown me a new alternative to building, and a new route that developers and contractors can take to help the market grow and provide for families who struggle to find housing. The on-site construction process did not differ much from a standard tract schedule. The differences I did conclude from my research is that the manufactured homes created less waste on-site and the process of construction was faster due to a house being 75% complete upon arrival. The process behind manufacturing homes has advanced exponentially and created new ways to reuse recycled material and eliminate the waste you would typically find on a construction site. There are so many innovative practices incorporated into the construction process Skyline Homes has created that lower costs and deliver a craftsman-like home. There is a negative stigma behind building manufactured homes and together Jeff
Ashlock, W&R Construction, and Skyline can change the perception of the product and show that there is an amazing alternative for home builders to build affordable housing in a market as tight as California’s.

**Future Research**

Since this project is the first of its kind there wasn’t any prior research done. I believe my case study will create an avenue for new areas of research within this topic. Once this project is complete it would be interesting to go to the site and interview families who live in the HUD homes to get a better look at the quality of the houses and opinions on living in them. I also think that as time goes on these types of projects are going to become popular. Later on once there are a handful of completed HUD home tracts, an analysis of the market could be done within the period of time when they weren't built to the point of them being occupied. There could potentially be a change in homeownership rates or housing prices in a specific area due to their low cost. Another potential research opportunity could be done by another construction company in this field of work or a comparison between two manufacturing plants to break down each plant’s manufacturing time and quality.
References


