

Coffey Park – Is it Worth Rebuilding Homes or Should Fire Victims Look to Modular Housing?

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In October 2017, Coffey Park, a neighborhood within the city of Santa Rosa, CA, experienced mass destruction from the Tubbs Fire. Most of the neighborhood was burnt down, leaving fire victims with empty lots that they need to decide what to do with. For the average person, being well versed in the construction process and the different methods that can be used in the recovery process is rare. This paper is a tool to provide those in fire recovery with all of the information they will need in one place. Both modular and traditional stick-built housing are explored in this report as these are the two best options for a fire recovery plan in this area. Through both time and cost analysis, this report will leave Coffey Park residents with the knowledge and confidence they need to make a recovery plan tailored to their needs.

Keywords: Tubbs Fire, Coffey Park, Modular Construction, Fire Recovery, Labor Shortage

Introduction

“Wildfires tend to be the chancy culminations of hot, dry weather patterns that merely create the conditions of their occurrence. Once those conditions are in place, the occurrence of a conflagration depends simply on the right spark in the right place, and the disaster is set in motion” (Schwab, 1998, p.213). These were the conditions that Northern California experienced in October of 2017. The region experienced a total of 16 wildfires that “burned over 200,000 acres, destroying an estimated 6,000 homes and businesses” (Ryan, 2018, p.13). Of these fires, the Tubbs Fire was the most destructive burning almost 37,000 acres and causing about 1.3 billion dollars in damages (Tubbs Fire, 2019). Many fire victims lost their homes, some lost entire neighborhoods, and others lost their businesses. Despite relief efforts from surrounding communities, natural disasters like the Tubbs Fire leave families with the tough decision of what to do with a now empty plot of land.

For fire victims residing in Santa Rosa, this scenario is reality. The difficulty with the decision of how to restart after such a destructive fire is very complex. With construction in Northern California booming, access to labor and a reliable contractor is hard to come by and may make rebuilding a less viable option for some. Due to this, modular housing is beginning to come into the conversation for fire victims as they look to find the best route to recovery for their families.

The goal of this paper is to help victims living in the Coffey Park region of Santa Rosa discover the best way to rebuild their home. Whether this be through a stick-built or modular home, this report will help to guide each fire victim to the best option for them personally. A guide like this is necessary because most do not have the resources or market knowledge to correctly analyze and conclude on construction options such as these. In reading this paper, fire victims will be able to easily juxtapose two recovery options in terms of both time and price specifically as well as through other benefits each building method provides.

Background

Known as one of the most destructive wildfires in California history, the Tubbs Fire spread into Napa, Sonoma, and Lake Counties. Of these regions, the City of Santa Rosa experienced the most devastation (Watkins, 2019). Coffey Park, the area this paper will be specifically focusing on, is a neighborhood in the city of Santa Rosa that was nearly all destroyed. In this neighborhood alone, more than 1,400 homes were destroyed by the Tubbs Fire (KTVU, 2019).

Given such devastation, why not move out of the area? From an outside perspective, when an entire neighborhood burns down, it would seem that it would be easier to sell the plot of land and move elsewhere. The thought of going back to a burned down neighborhood, the unknown of whether neighbors will choose to rebuild, and many other concerns would deter a lot of people from rebuilding. After talking with Gavin Hession, real estate analyst at Graymark Capital (*Appendix A*), it became apparent there is a big emphasis on “remaining in the Santa Rosa area for work and quality of life reasons. Access to jobs and the presence of large employers is a big incentive to stay living in the area.” He points out an article from Costar (Hession, 2019) that explains the diverse economy that Santa Rosa has to offer. There is a strong upward trend of employment, and an increasing demand for office space as big companies continue to move into the city of Santa Rosa. After hearing this analysis of the region’s economy, one begins to understand just how strong the Santa Rosa economy is, and how it provides a big incentive for fire victims to stay. Along with the substantial evidence of a fast-growing economy comes a more subjective view on why to stay. Many people have lived in Santa Rosa for their whole lives, and this area has sentimental value that outweighs any loss they experienced from the Tubbs fire. As a result of a strong economy and attachment to the area, most fire victims are choosing to stay put.

Natural disasters like this are difficult to recover from no matter where they take place, but the Bay Area presents unique circumstances. The main issue that the North Bay in particular presents is the booming construction industry and the need for more labor. This became very apparent during an interview with Mario Ghilotti of Ghilotti Bros. Inc (*Appendix A*). He commented specifically on this issue saying, “there is absolutely a labor shortage in the Bay Area. In the last year we have taken laborers from the Central Valley.” This is the main issue that people looking to rebuild their home are coming across. The busy market makes finding a reliable contractor who can begin breaking ground in a reasonable amount of time very hard. Ghilotti then went on to say, “I would imagine that most contractors are not accepting new clients at this point,” highlighting just how competitive and impacted residential building is in the North Bay right now.

Understanding the conditions that surround this particular wildfire is crucial to developing a recovery plan that will be successful. For Coffey Park, the growing economy and attachment to the neighborhood provide reason for fire victims to stay and see that their plot of land gets a new house. A busy construction market and lack of labor provide unique circumstances that need to be worked around. These are factors that will be taken into consideration throughout this report when comparing modular and stick-built homes.



Figure 1: Coffey Park Before & After the Tubbs Fire (Robinson, 2017)

Options for Rebuilding

As mentioned above, the goal of this paper is to help further inform fire victims on how they should proceed with their recovery process by finding the best option for them personally. Although many people’s first thought would be to simply rebuild a traditional stick-built home, this may not be the best recovery option for every homeowner.

After analyzing the Coffey Park region and the different elements that these fire victims are dealing with, the two recovery options that should be taken into consideration are: *modular* and *stick-built homes*.

Modular homes or construction is defined as: “Modular buildings and modular homes are prefabricated buildings or houses that consist of repeated sections called modules. “Modular” is a construction method that involves constructing sections away from the building site, then delivering them to the intended site” (Modular Building, 2019, p.1).

Stick-built homes are defined as: “A stick-built home is a wooden house constructed entirely or largely on-site; that is, built on the site which it is intended to occupy upon its completion rather than in a factory or similar facility” (Stick-Built Construction, 2019, p.1).

Analysis

Modular Housing

Looking at *time and schedule* for a modular home, the estimated time frame for this type of home to be produced and constructed is around three to four months (Williams, 2019). There are many reasons that contribute to why the construction time of modular housing is so efficient. The following are the most outstanding contributors to the short time frame:

- Modular homes are prefabricated in pieces off site, so these pieces only need to be constructed when they get to the site. These prefabricated pieces are “fully-outfitted with interior fittings- plumbing, electrical, doors, closets, and stairs” (Williams, 2019, p.2). The result of a fully outfitted module is limited a number of subcontractors that need to work on the home on site, making any on site labor highly organized and easy to track. This allows the process to be as time efficient as possible.
- Material availability is an aspect of construction that can be troublesome that modular housing helps to eliminate. Stick-built homes often source material from other parts of the country, allowing a lot of room for error in quality and transportation of these materials. In the case of modular housing, everything is being made by one manufacturer who already has the materials.

According to Max Real Estate (Gassett, 2015), by eliminating the amount of people working on site, and the chance for error in material availability and quality, modular homes are able to condense a construction schedule, while still ensuring quality work.

In terms of *pricing*, a modular home can cost anywhere between \$110 to \$220 per square foot (Williams, 2019). This price varies greatly depending on the finishes the client chooses. To put this in perspective, in order to build a modular home that is 2,500 square feet, you would be paying somewhere in the range of \$275,000 to \$550,000. According to Gassett (Gassett, 2015), modular homes can be up to 15% less than traditional stick-built homes. Along with this price cut, modular homes can have an excellent financing option through the manufacturer.

Ground Up Housing

According to Martell Home Builders (*Comparing Modular...2014*), the *time frame* for stick-built housing is around “5-6 months for turn key projects.” This is the most ideal construction conditions, so most stick-built homes end up taking longer than this. These homes have a significantly more drawn out construction schedule compared to a modular schedule for several reasons. The following are the most significant contributors:

- “Since all construction occurs on site, work projects have to be scheduled more carefully. The work schedule is dependent on weather conditions” (*Comparing Modular...2014*, p.1). Things like weather and site access are detrimental to the schedule and need to be closely looked at when weighing options of rebuilding versus modular housing.
- Room for customization in stick-built homes is much greater than that of modular homes. Depending on the amount of custom work a client wants, this can have huge schedule impacts.
- Unlike modular housing, labor productivity and quality control are factors that are much harder to track. The number of contractors working on this type of home versus modular is greatly increased, making time management a much more challenging factor.

Looking at *cost* for a stick-built home is a bit more involved than cost for a modular home. Since labor and materials will be locally sourced for majority of the work, local market costs need to be factored in. For Coffey Park specifically, the average cost to rebuild is around \$300 per square foot (Quackenbush, 2017). This is for a basic structure, not including any driveways, decks, or other accessories that most homes include. See *Figure 2* below for a more in-depth cost breakdown for the average residential construction project in the North Bay Area. This chart gives an average overall range of \$540,160 to \$748,214 to build a house from the ground up (Quackenbush, 2017). Although this range is significantly higher than the cost range for modular housing, this process offers a lot more room for customization which is not possible with modular homes.

Part of House	Square Footage	Cost
Main House	1,740	\$391,500 - \$522,000
Porches & Decks	1,072	\$37,320 - \$62,200
Garage & Accessory Spaces	956	\$50,640 - \$84,400
	Hard Cost Subtotal:	\$479,460 - \$668,600
Item	Fee	Cost
Architecture & Engineering	8%	\$38,357 - \$53,448
Utility Connections	2%	\$9,589 - \$13,372
Building Permits	4%	\$60,700 - \$79,614
	Soft Cost Subtotal:	\$60,700 - \$79,614
	Total:	\$540,160 - \$748,214

Figure 2: Average Stick-Built Home Cost Breakdown for the North Bay Area (Quackenbush, 2017)

When comparing cost breakdowns between two different construction methods, it is important to understand what percentage of the project budget each task takes up. Paying attention to this gives a better perspective on how each task effects the budget. See *Figure 3* below for a percent breakdown of construction costs for both modular and stick-built homes.

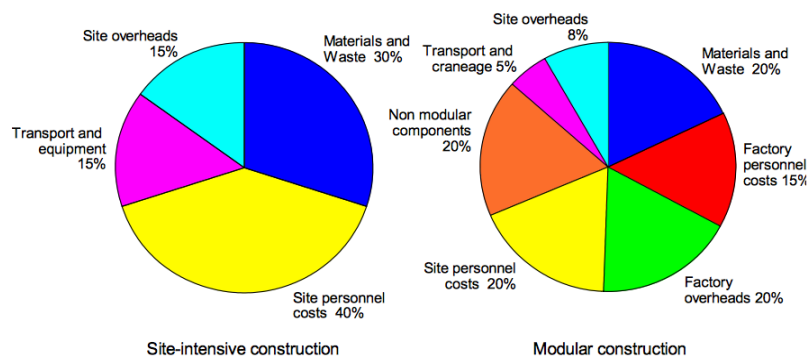


Figure 3: Construction Cost Comparison Between Modular and Stick-Built Homes (Lawson, 2010)

Other Factors to Compare between Modular & Stick-Built Homes

Modular Homes	Stick-Built Homes
<ul style="list-style-type: none"> • More efficient materials • Less waste and more recycling of materials • Higher productivity in a factory production • Less work on site in difficult conditions • More reliable performance (Lawson, 2010) 	<ul style="list-style-type: none"> • More variety in design options • More options to customize the home • Retains its value better than a modular home • Easier to resell than a modular home (Gardner, 2019) • Less complicated loan process compared to modular homes (<i>Comparing Modular...2014</i>)

Discussion

After comparing the two building options in terms of both time and cost, it is clear that on average modular housing is both faster and cheaper than stick-built housing. With this being said, some of the other miscellaneous factors such as quality of work and customization options that were touched on in this report will provide a greater understanding of which construction method is right for each individual family.

For those looking to get back into the Coffey Park neighborhood and into a house as quickly as possible, modular housing may be the route to take. With less subcontractors involved in the process, work is easier to monitor, and as a result more efficient. Although everyone affected by these fires are eager to get back to normal life, some fire victims may have a place they can stay and wait for a longer period of time while a stick-built house gets built on their land. For those that do not have this option, a faster construction process is detrimental. See *Figure 4* below to understand the rapid rise of rent in Santa Rosa. Knowing this, unless fire victims have found a low rent place to stay or are staying with friends or family, fast-tracking the construction process through modular housing may be the best option.

MARKET RENT PER UNIT BY BEDROOM

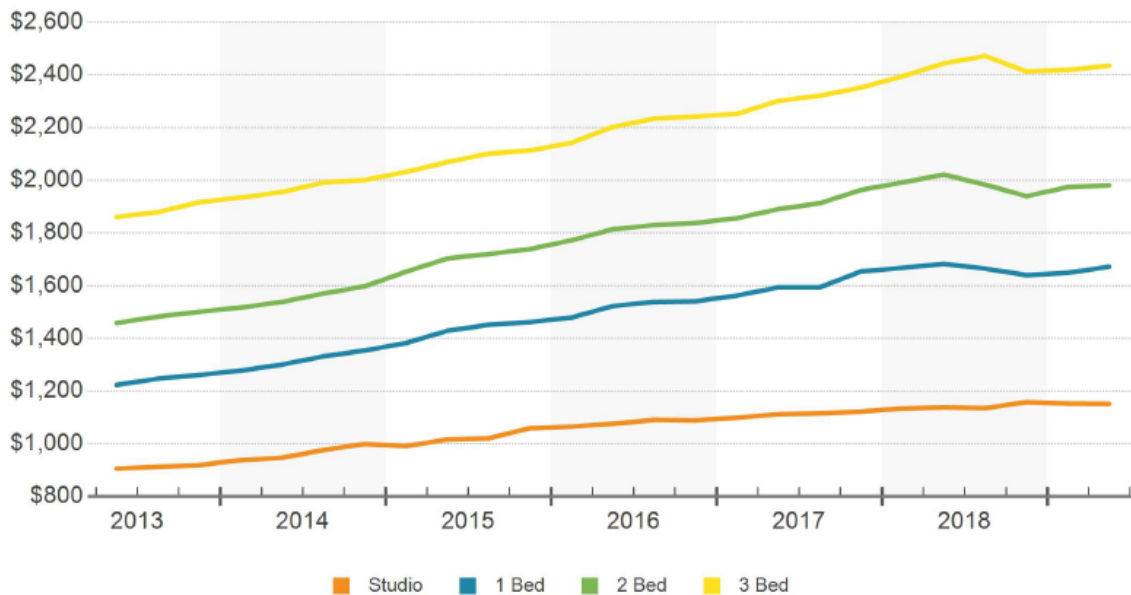


Figure 4: Santa Rosa Market Rent from 2013-2018 (Hession, 2019).

Regarding cost, there is about a \$200,000 difference between the top of the price range of modular housing and stick built housing. With this said, the price gap can become a lot smaller depending on factors such as square footage

and the finishes selected. If a person is less concerned about schedule and more interested in having greater control of design and any custom work, stick-built homes may be a more accommodating option.

Overall the decision of whether to rebuild or use modular housing is a personal choice for each fire victim. There are advantages and disadvantages to both methods, so the decision comes down to personal preference because of the complexity of the situation. Deciding which aspects are most important to a family will allow them to come to an educated decision on how they should proceed with their recovery.

Conclusion

The goal of this paper is to provide accurate information about both modular and stick-built housing. With this information, the paper compared the two options side by side in order to help fire victims understand their options better and to hopefully come to the best decision possible.

Although the paper cannot make a decision for each individual household, the hope is that after reading this report, these fire victims will have a better grasp on things. These options may seem obvious to some, but for the average person, construction schedules and costs are less familiar. This paper enables victims to become educated on their recovery options from an objective point of view.

For further research, one can focus on several other factors that contribute to the debate between modular and stick-built housing in terms of fire recovery. Comparison between the insurance claims people are receiving, and how this measures up to the cost of both modular and stick-built homes is an important aspect that should be addressed with further research. Another factor that could be looked into more closely is the construction labor market and how this is affecting the choice to go modular or stick-built. Further research like this will allow Coffey Park fire victims to get even more clarity about what rebuilding option they would like to go with.

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Appendix A

Interview Questions

How do you think the rebuilding process going?

If it were you, would you rebuild or use modular? Why?

How hard is it for these fire victims to find a contractor who has time to rebuild their home?

Do you think there is a labor shortage in the North Bay?

Do you think the Coffey Park neighborhood will fully recover (does it make sense for people to rebuilding here)?