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Young Adults in a Costly World: can accessory dwelling units serve as an alternative form of accommodation for recent college graduates amidst the rising cost of housing and a college education?

Aaron Schlosser

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YOUNG ADULTS IN A COSTLY WORLD: CAN ACCESSORY DWELLING UNITS SERVE AS AN ALTERNATIVE FORM OF ACCOMMODATION FOR RECENT COLLEGE GRADUATES AMIDST THE RISING COST OF HOUSING AND A COLLEGE EDUCATION?

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Abstract
Over the past few years, young adults have been put in a rather tough situation concerning personal finances. As college tuition has risen, so has student debt accrual, leaving many recent college graduates near-crippled financially. Along with this issue, which is large in and of itself, is the fact that housing prices have risen in many of the metropolitan areas in the United States. Both of these problems, when coupled, lead to a decrease in quality of life for most young adults, and people in general. Because of this, the approach of this thesis is to find an affordable form of housing in the form of accessory dwelling units that frees up personal finances for young adults, and thus increases overall quality of life. To do this, economic and housing data will be examined to establish the issue at hand and case studies will be conducted in both San Francisco and Santa Barbara in order to gauge the applicability and feasibility of ADUs as a housing option for recent college graduates. Multiple features that are deemed important to young adults will be examined such as price, design, and walkability. From how each city performed within these chosen metrics, implications and conclusions are drawn as to whether accessory dwelling units would truly serve as an alternative and affordable form of housing for young adults.
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Introduction

For decades, the idea of the “American Dream” was that anybody, regardless of their background or origin, could make something of themselves with a little bit of hard work and determination. For many, a large part of his dream was home ownership; or at least a space that they could call their own. However, within the past forty years, and especially within this millennia, we have seen a slow degradation of this once attainable goal. Between 1980 and 2018, median housing costs relative to household income have risen 22%\(^1\), with roughly 60% of all current U.S. households unable to afford the median price of a new home\(^2\). Additionally, of the 50 most populous metropolitan areas, there has been an increase in rent in 32 of them\(^3\). For many, this poses a real issue. However, this creates an even bigger problem for recent college graduates, who had to spend an average of $8,000 a year at a community college and $12,000 a year at a public university\(^4\). Coupled with this is the fact that student debt has nearly tripled from 2004 to 2012, increasing at a rate of about 14% per year. One-third of this debt is owed by borrowers under the age of 30\(^5\). For those that are actively searching for a job or those who are still paying off student loans, this slow-but-steady increase in housing costs and rather rapid increase in the accrual of student debt has posed an uphill climb that, for many, seems insurmountable. With 76 million people currently enrolled in American universities\(^3\), and even more searching or currently employed within the job market, a more affordable housing option for young adults is necessary.

Somewhat recently, there has been a more attainable and intriguing form of construction known as an “accessory dwelling unit”. For those who are unfamiliar with this term, an accessory dwelling unit, or ADU, is a “secondary housing unit that can be an attached

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2 National Association of Home Builders
3 United States Census
or detached accessory structure associated with single or multifamily dwellings\textsuperscript{6}. In layman terms, this could be an entirely independent structure or an extension of the existing home. Due to the low or negligible construction costs associated with ADUs, close to 60% are rented at or below the market rate, with 30% of landlords increasing rent only once every 24 months, and 40% increasing rent every 7 to 12 months\textsuperscript{7}. For many tenants, this can prove to be a bargain over time, especially given the fact that these units have the ability to fit seamlessly within an existing neighborhood. However, with this affordability comes pushback from neighborhoods and local jurisdictions. Restrictions on things such as parking, lot size, and setbacks can make ADUs either too expensive to implement or impossible altogether\textsuperscript{6}. Additionally, neighborhood opposition has made lawmakers reluctant to pass inclusive zoning laws\textsuperscript{6}. Due to these barriers, and an altogether lack of capital, many homeowners are reluctant to construct an ADU on their property. In short, the environment in many municipalities and metropolitan areas is prohibitive rather than enabling. Regardless, the obvious affordability of ADUs could make them a financially beneficial and attractive housing option for recent college graduates and young adults alike.

**The Central Argument**

The ensuing thesis will essentially boil down to one statement: ADUs, when implemented properly, can provide an appealing and affordable housing option for young adults. The primary motivation behind this statement is to ultimately create more disposable income for young adults, thus giving them greater financial freedom over their own lives. It’s worth noting that ADUs are not the solution but simply a solution; this is an area of research into one of many moving parts. Supplementing this argument will be necessary and at-times extensive research on the following:

1. The rising cost of a college education
2. The rising cost of student debt

\textsuperscript{6} American Planning Association

3. The rising cost of housing
4. A history of ADUs in America
5. Precedent studies on two selected cities

The first four points are meant to establish supporting documentation for the primary inquiry. In other words, why are we looking at an alternative housing option in the first place?

Following this research will be precedent studies on two cities in the United States: San Francisco and Santa Barbara. This portion of the thesis will be critical, as it will begin to allow us to see how select cities are implementing ADUs successfully. Implications and takeaways will be made from these case studies, both spatial and temporal. Certain areas of analyses and inferences will include: zoning reform, education, and spatial implications, both neighborhood-and-city-wide. Once this is concluded, we will be able to confidently walk away with firm conclusions as to how accessory dwelling units can be successfully used to lessen the financial burden on young adults and thus increase their quality of life.
ADUs: A brief background

Before we dive too far into the subsequent research, it is necessary to first examine how we got here in the first place. The problem has been defined and the solution is to follow, but first, how have ADUs come about and why is that important?

To answer this, we must first go back to the mid-20\textsuperscript{th} century, when the era of “suburban sprawl” had just begun. In the years following World War II, the Federal Housing Administration and Veteran’s Administration administered mortgages for over eleven million new homes\cite{8}. These mortgages were directly aimed at constructing new single-family homes, as the federal government started to move away from building row homes or mixed-use developments. Coupled with this, was the construction of a new 41,000-mile interstate program\cite{8}. With these factors in mind, families made the most rational decision: move to the suburbs where the land is cheap. Some families moved to be closer to nature, others to get away from the crime of the city. Regardless of the reason, this migration of people began to increase the spatial footprint of many metropolitan areas\cite{9}. This rapid growth ultimately proved the high demand for low-density development, which led to many municipalities outlawing ADUs altogether\cite{10}.

In some areas, the construction of ADUs continued, especially in communities where land was limited, and the housing stock simply wasn’t keeping up\cite{10}. In fact, by 1960, San Francisco had anywhere from 20,000-30,000 accessory dwelling units, of which it is estimated that 90 percent were built illegally\cite{10}. A response to this, and ultimately to suburban sprawl in general, was a move by urban planners to more progressive styles of growth like “Smart Growth” and “New Urbanism”. These styles of planning, rather than the single-use Euclidian zoning that was implemented during the mid-20\textsuperscript{th} century, advocated for more high-density, mixed-use, transit-oriented development\cite{10}. This led many municipalities to eventually adopt ADU programs in the late-20\textsuperscript{th} century as an inexpensive way to increase more dense, affordable housing in a given area.

\cite{10} United States Department of Housing and Urban Development
The evolution of ADUs: form and user

The story of suburban sprawl is a rather new one, however. In other words, it wasn’t always like this. How have accessory dwelling units evolved (both in form and user) over time?

Years before suburban sprawl and any formal ADU implementation, settlers often built a small home on the same property as their larger, or “main, home\textsuperscript{11}, especially those with wealth and an abundance of land. This is due to the fact that they frequently needed housing for workers and family members\textsuperscript{11}. These individuals built as many homes as they wished since there was no zoning codes or infrastructure needs. It could be assumed that this was the very beginnings of what we call an “accessory dwelling unit” today. The homes were owned by wealthy landowners, and they were oftentimes occupied by lower-class, working individuals.

This form continued to evolve into the 19\textsuperscript{th} century. Once again, those with wealth would build what are called “carriage houses”, an attachment to their large estates. These were originally meant to store the owner’s horse-drawn carriages, but due to their size they would often be rented out to stable hands due to the fact that they provided an extra stream of income to the property owner and a cheaper option of living to the

tenant. Yet again, we see a historical pattern of ADUs being owned by the wealthy and rented by the lower-class. Even in today’s times, we see these building forms in neighborhoods like Georgetown in Washington D.C. where the original intent of those structures is still being fulfilled today.

During the mid-to-late 20th century, ADUs evolved into what are called “garage units”. Oftentimes garages were built with living space above them, and in a time when accessory dwelling units were illegal, this was one of the very common loopholes that property owners took advantage of. During this period, as mentioned earlier, almost no ADUs were occupied legally. However, in the 1980s, as housing prices continued to grow, cities began to explore creative ways of providing affordable housing. This began to lead to the form of ADUs that we see today. Cities began to legalize and regulate the construction of accessory dwelling units, which began to make them more appealing to a broader audience.

The evolution of ADUs over the past few hundred years is rather interesting. For decades, an accessory dwelling unit was a structure that was owned by the wealthy and rented by the working class. While the form changed a bit over time from a separate structure to an attached unit, the makeup of the user remained the same. However, this doesn’t ring true anymore. As we will begin to see, ADUs have become more

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and more accepted by a growing audience. Working-class people are no longer the primary inhabitants of accessory dwelling units and upper-class individuals are no longer the primary owners. This type of housing, as it has become more widespread, has developed into a more appealing option to a broader range of individuals due to its affordability; this includes young adults.

**Pushback, and why?**

Seeing that accessory dwelling units are not a new phenomenon and actually have a rather deep history in America, why are they often so vehemently opposed? In a lot of cases, it can be boiled down to a term called “NIMBYism” or “not-in-my-backyard”. These groups are typically made up of individuals who are adamantly opposed to any increase in density to their single-family neighborhoods. The reasoning behind a lot of this protest is pretty typical: divergence from neighborhood character, diminishing property values, parking, and up-keep of the property\(^\text{13}\). Additionally, many individuals view blight and crime as potential effects of renter-occupied housing\(^\text{14}\). Because of these concerns, many cities have created a long, arduous process for ADU implementation to ease the residents’ concerns even though there is very little negative research regarding them; something that can be chalked up to the negligible research of ADUs in general\(^\text{14}\).

Some of the common obstacles faced when trying to add an ADU to a property include owner-occupancy requirements, off-street parking requirements, and conditional use reviews\(^\text{13}\). All of these obstacles can render the implementation of an ADU practically impossible.

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\(^{13}\) Froberg, L. D. (2019). (rep.). *Adopting accessory dwelling units: a case study of Manhattan, Kansas* (pp. 7–8). Manhattan, Kansas: Kansas State University.

A formula for success

This begins to beg the question, “where, then, are ADUs generally successful?” To answer this, we can briefly look at two cities where the implementation of these housing types has been more than fruitful: Portland and Seattle.

In the United States, few cities have seen as intense of a boom of ADUs as Portland, OR, issuing almost 2,000 ADU permits since 2010\textsuperscript{15}. This can mainly be attributed to zoning reform and a conscious effort to streamline the permitting process for homeowners. In regard to regulation, Portland is very progressive, having no occupancy requirements, no design review, and fee waivers\textsuperscript{15}. However, perhaps the most impactful thing Portland did was waive the one-time system development charge for individuals wanting to implement an accessory dwelling unit, potentially saving the homeowner $15,000 or more\textsuperscript{15}. Educational programs have also gone a long way in increasing awareness of ADUs in Portland. This has taken many forms, but a few of the

![Portland, OR permits issued over time](source)

\textit{Figure 2.3: a graph showing the increase in ADU permits issued over time in Portland, OR.}

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programs include bicycle tours, multiple well-established volunteer organizations, and websites dedicated to ADU education\textsuperscript{16}.

Seattle, like Portland, has experienced a similar growth spurt in ADU permits issued. However, this is less because of zoning reform and more about a hot housing market and continuing public discourse regarding potential policy reforms\textsuperscript{16}. Bolder changes have been proposed, which include the removal of parking minimums and the changing of owner occupancy requirements. Most of the current ADU applications in Seattle have come from wealthier homeowners but advocates still affirm that the ADUs provide affordable housing due to the fact that they generally rent below the market rate\textsuperscript{16}.

As briefly seen from these two cities, ADUs are primarily successful in cities where there exists progressive zoning policies and a hot real estate market. After key reforms made in each city, the percentage of housing permits issued that accounted for ADUs rose from 3.0\% (2009) to 10.9\% (2015) in Portland and from 0.8\% (2009) to 2.1\% (2015) in Seattle\textsuperscript{16}. These are important statistics to remember as we dive deeper into our two case studies later on in the thesis and, above all, this should give us a good idea of just how and where ADUs can be successful: any city that has a hot market and a zoning code that encourages rather than stimies implementation.

\section*{The Rising Cost of a College Education}

With recent college graduates in particular, one of the primary burdens that the ADU solution is trying to solve is that of an increasingly unaffordable higher education. For young adults and recent college graduates, student debt is oftentimes the largest burden; thus an examination of this debt is essential.

This begs the question, then, “just how much has a college education risen?”. From 2006 to 2016, the published in-state tuition and fees at public four-year institutions increased at an annual rate of 3.4\% beyond inflation\textsuperscript{17}. However, it is worth noting that

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62% of students attending public four-year institutions that come from families with incomes below $30,000 a year receive enough grant aid to cover the entire cost of tuition and fees. On the surface, this looks and sounds great. The majority of students from low-income families are receiving the amount of aid they need, in the form of grants, to afford a college education.

However, the issue begins to arise beyond this. Almost all college students have a budget outside of college itself. This can include, but is not limited to:

1. Rent
2. Food
3. Clothing
4. Recreation and leisure
5. Car maintenance
6. Health expenses

So, while a college student may have enough grant aid to cover their cost of tuition, they may have to take out loans in other necessary areas. Students from the lowest and second-lowest income quartiles still have roughly $10,000 in room and board expenses that aren’t accounted for in grant aid. Additionally, when accounting for total budgets, these low-income students exceed their grant aid by an average of $19,520 at nonprofit four-year colleges. These miscellaneous expenses are oftentimes paid for in the form of student loans, with housing making up the vast majority of these expenses.

When graduating with this debt, students frequently experience unequal and uncertain returns on investment. The median earnings of a man with a bachelor’s degree in 2019 was approximately $57,000 per year while the median earnings of a woman with a bachelor’s degree in 2019 was approximately $47,000 per year. Not only does this raise the obvious issue of gender inequality, but it also casts a larger net on credentials and the economy as a whole. Graduates with credentials experience higher returns.

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19 United States Census Bureau
than those who do not, and a weak economy raises the uncertainty on the timeline of returns on investment\textsuperscript{20}. When graduating, a lot of factors regarding wages and the job market are simply out of the student’s control; they can be otherwise “punished” for something that isn’t their fault to begin with. These uncertain situations can facilitate further student debt deferment and job insecurity.

**Student Debt Accrual: what about it?**

This, then, moves us into our next area of related research that is essential to ADU implementation: student debt accrual. Between 2004 and 2012, the amount of student debt in the United States nearly tripled, increasing by an average of 14% per year\textsuperscript{20}. Two-thirds of these borrowers are under 40 years old and one-third are under 30 years old.

This indicates that an overwhelming amount of student debt is largely taken on by young adults and somewhat-recent college graduates. In fact, data has shown that

\begin{figure}[h]
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\includegraphics[width=\textwidth]{student_debt_bar_chart.png}
\caption{A graph showing the increase in 25 year olds with student debt over time}
\end{figure}

young adults specifically have been taking out more and more loans over time, with only 27% of 25 year olds taking out loans in 2004 and 43% of 25 year olds taking out loans in 2012\textsuperscript{21}. There are a number of reasons for this increase, namely the higher amount of individuals attending college for a longer period of time as well as the sharp rise in cost. The age makeup of these borrowers and the prevalence of those under 25 years old begins to allow us to assume that the cost of a college education has become a financial cost for young adults that can only be purchased with further debt. Upon graduation, this puts these individuals at an immediate economic disadvantage compared to their debt-free peers, even if they get a well-paying job.

Regarding the balance of these borrowers, approximately 70% owe anywhere from $1-$25,000 while roughly 20% owe anywhere from $25,000-$50,000\textsuperscript{21}. This means that approximately 90% of borrowers have a moderate to significant amount of debt.

This data, of course, then begins to raise the question of student loan repayment or lack thereof. The delinquency rate of student loans is higher than any other consumer

\textbf{Figure 2.5: a graph showing the distribution of student loan balances in 2012.}

loan product, with 35% of those delinquent being under the age of 30\textsuperscript{22}. This age group has the highest student loan delinquency rate, further emphasizing the point of financial hardship for young adults.

The data begins to allow us to make inferences. Primarily, and most obviously, it is evident that young adults and recent college graduates are the group of people that are most crippled by the cost of a college education. Starting wages out of college, in comparison to those further on in their careers and higher up in their workplace, are not always high enough to keep up with various living expenses and debts, especially depending on where an individual decides to live; their amount of disposable income is simply too low. Additionally, the data regarding student loan delinquency allows us to assume that incomes immediately out of college are not keeping up with the rising cost of a college education. We will dive more into this later.

On top of all of this, many individuals have other lines of debt in addition to student loans: a car payment, a mortgage, and credit card debt, just to name a few. This subsequently raises questions about the household balance sheet of a young adult. How much money do they have for groceries? For leisure? For gas? As debt begins to accumulate, a person’s disposable income dwindles, which could further explain the loan delinquency rate among those under 30 years old; they simply do not have the money available to pay back those loans.

**Are Wages Keeping Up?**

The last area to examine, in regards to student debt, is that of wages; are they keeping pace? How does all of this, collectively, affect an individual’s social or personal life? The goal, at the end of this presentation and examination of data, is that it will actually lend more credibility to the implementation of accessory dwelling units, a more affordable form of housing.

Studies have been done suggesting that borrowers view their career opportunities in a different light than non-borrowers\textsuperscript{23}. Those that have student debt are driven away from lower paying, public-sector jobs. This can distort an individual’s post-college planning, and given the widespread reliance on student loans, it can have a rather large impact on the broader economy\textsuperscript{23}.

It has also been suggested that those who graduate with student debt wait to start their social lives, typically holding off longer to get married than those who are without debt\textsuperscript{23}. These implications are significant, as it begins to imply that a young adult’s quality of life is affected in more ways than just finances. Their job choices change and even their personal life can be greatly affected by the rising cost of a college education and, as a consequence, the accumulation of student debt.

Graduates with an additional $10,000 in student loans have a 1–2% lower income on average one year after graduation\textsuperscript{24}. This is coupled with the fact that these individuals show no faster growth in income than those who do not have debt. In other words, the potential “payoff” of student debt is virtually nonexistent. Additional student debt also makes it more likely that new graduates will choose a job that is unrelated to their field\textsuperscript{24}. This further impacts income, as it is found that those who choose a job in their field are more fulfilled and thus make 25% more on average and experience a faster growth in income than those who do not\textsuperscript{24}. These statistics are jarring as well, as it implies that student debt affects income due to its impact on life choices. In other words, it is suggested that student debt is causing college graduates to choose less fulfilling jobs, which then causes a decrease in overall happiness and, ultimately, income. The implications of student debt, as we can see, are far too wide to explain in an undergraduate thesis, but they are essential to understanding the issue at hand and the solution to come: accessory dwelling units as an affordable housing option for young adults.


This reduction in income then affects a recent graduate’s asset accumulation, or accumulation of wealth. A student who decides to take out loans in college is ultimately borrowing against their future. Once they graduate, their newfound income is tarnished; they are not earning as much money per dollar as somebody with a similar income. This has broader implications down the road, as it can lead to wealth inequality later on. The “American Dream”, because of this, begins to degrade. Somebody with the same degree, from the same university, and with virtually identical career standing will earn less than their peers just because they could not afford a college degree with money out of their own pocket. This is startling to hear, and it’s why a solution for higher amounts of disposable income is necessary.

Conclusions

The accrual of student debt has many implications that lend ADUs their credibility as a potential solution. Not only is the debt itself increasing, but so is the delinquency rate. This is likely due to the lower rates of asset accumulation and overall lower incomes of those with student debt. One thing that hasn’t been examined, but will be soon, is the rising cost of housing in today’s economy. These three things, when combined, create a perfect storm of unaffordability. The financial hardships that young adults are now graduating with beg for a more affordable lifestyle and housing option: accessory dwelling units.

Rising Housing Costs: are wages keeping up?

Previously discussed in regard to the rising cost of a college education was the question of wages: how does a recent college graduate’s income out of college compare with their student debt accrual over the years? This question is equally important: are a young adult’s wages keeping up with the cost of rent or the cost of a mortgage? Both of these components, when coupled together, are essential in order for us to establish a legitimate argument for ADUs as an affordable housing option for young adults. At the end of this discussion on housing costs, it is my intention that the answer to those questions will be firmly established before our chosen case studies are introduced.
Since 1970, the share of a household’s expenditures that go towards housing has risen approximately 7%. Additionally, the percentage of renting households that are facing moderate or extreme affordability burdens has risen by 20% and 15%, respectively. These are troubling statistics, as it begins to show that housing, especially when speaking about rentals, has become more and more unaffordable over time. This is in direct contradiction to the widely held belief that housing is a necessity. Incomes for renters, in comparison to homeowners, have seen overall weaker gains, which makes it even harder for renters to afford housing when those gains do happen. Taking New York City, for example, it is reported that between 1980 and 2014, incomes rose approximately 20% while median rents rose upwards of 80% in the same time period. Most major metropolitan areas have seen the same discrepancies, with nearly half of U.S. households spending more than 30% of their income on rent and close to a quarter spending more than 50% of their income.

This problem of housing unaffordability for young adults has produced many implications, many of them very significant. Savings, for example, have not been above 10% since 1984. As mentioned earlier, this can be attributed to not only the rising cost of housing, but also to the fact that student debt-to-income ratios have risen from 12% in 1989 to 32% in 2010. This also raises the problem of food insecurity, an issue that is all too prevalent for recent college graduates. Food insecurity is defined as a “disruption of food intake or eating patterns because of lack of money and other resources.” It is estimated that food insecurity affects 9%-14% of young adults aged 24-32 years old in the United States, with significantly higher rates found among those still attending college.

This issue alone can lead to a plethora of secondary adverse issues such as subpar physical health, mental illness, and sleep depravity.

The point here is to emphasize the seriousness and impact of wages that simply are not competing with rising housing costs. As mentioned previously, young adults oftentimes graduate with a false sense of hope that their return on investment will be instant and significant simply due to the fact that they have a college degree. However, the sad fact of the matter is that many of these individuals graduate only to encounter many of these common issues stated above: high housing costs, lower incomes, food insecurity, mental illness, and sleep depravity. A more affordable form of housing in the form of ADUs is not only necessary so that the affected individuals will have more money in their pockets, but it’s also necessary for their overall wellbeing, as we can see. The issues that are to be solved are much more far-reaching than economics, which further emphasizes the urgency of this potential solution.

**The Rising Cost of Housing**

Complimentary to the previous research done regarding wages in the United States is the examination of rising housing costs. For young adults entering the workforce, housing will likely be their largest expense. The question, though, is just how large of an expense is housing currently? Overall, are the prices manageable or are they $0 $ $ $ $$ $$ $$$

*Figure 2.6: a graphic illustrating “FMR “ or “fair market rent”.*
unreasonable? These are questions that will be subsequently answered in the following research.

When determining whether rent is too high or too low, we will often abide by what the Department of Housing and Urban Development call “fair market rent” or “FMR”. Fair market rent is defined as “the 40th percentile of gross rents for regular, standard quality units in a local housing market”\textsuperscript{30}. This means that 60% of units will be at or above this price and 40% will be at or below this price in a given geographical area.

In the United States, the share of households that rent their housing exceeded 35% in 2012; this is approximately 43 million households\textsuperscript{31}. Within the 58 largest metropolitan areas, only 37% of units are below the fair market rent\textsuperscript{30}. In some of the most extreme cases, like those of New York City or Boston, this number falls to single digits\textsuperscript{30}.

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{percentage_units_below_fmr.png}
\caption{Figure 2.7: a graph illustrating the percentage of units in the 58 largest metropolitan areas that rent below fair market rent.}
\end{figure}

\textsuperscript{30} United States Department of Housing and Urban Development

This means that, of the 83% of individuals who live in urban areas within the United States\textsuperscript{32}, almost all of them are going to struggle to find apartments that rent at a fair price. For example, in Washington D.C., which has some of the highest rents in the country, the median rent for a one-bedroom apartment has risen 50% beyond inflation from 2000 to 2010\textsuperscript{33}. This is very troubling, as more and more Americans, and young adults specifically, are moving to dense urban areas, which is where housing is typically the most expensive. Specifically, of these dense urban areas, rent is highest on the two coasts\textsuperscript{34}, which is where approximately 40% of all Americans live; and this percentage continues to increase as more people move there\textsuperscript{35}.

This begins to paint a dark picture in which two opposing forces begin to converge: more young adults are moving to the exact areas in which rent is increasing the most. As stated earlier, in many of these cities it is getting exceedingly more difficult to find an apartment unit that is in-line with a recent college graduate’s starting income. This is why accessory dwelling units are so essential, especially in large cities. In areas where land is sparse and cost is high, there can be ample opportunity for infill using ADUs. Not only does this allow the owner of the property to save money on their own (likely high) mortgage payment, but it also allows the potential tenant to get more with less. For example, in Portland, Seattle, and Vancouver, 58% of accessory dwelling units rent at or below the market rate\textsuperscript{36}. This is significant, simply due to the fact that these three cities are some of the most expensive places to live in the United States and Canada. This topic will be expounded upon much more in-depth later, but the financial and spatial opportunities for accessory dwelling units in dense urban areas should not be understated.

\textsuperscript{32} United States Census Bureau
\textsuperscript{33} Reed, J. (2012). Disappearing act: Affordable housing in DC is vanishing amid sharply rising housing costs. Washington, DC: Center on Budget and Policy Priorities.
\textsuperscript{34} United States Department of Housing and Urban Development
\textsuperscript{35} National Oceanic and Atmospheric Association
Housing + Student Debt: a bad combination

Naturally, this leads us to our conclusion of the economic and housing background of the issue at hand. The important thing left to do is to combine these two issues: student debt and rising housing costs. Overall, how does a recent college graduate fare in today's world if they are under a significant amount of debt while also looking for an apartment that their wages simply cannot pay for?

When indebtedness is coupled with unaffordability, the picture begins to look very bleak. As stated earlier, the lack of disposable income can lead to a plethora of personal issues such as mental illness, subpar physical health, or sleep depravity. Any one of these issues, in and of themselves, can be linked to further secondary issues like substance abuse or overeating. A young adult's social life is also affected, with many of those in debt deciding to postpone significant life events like marriage.

Additionally, there are grave financial implications that have been previously mentioned as well. To start, college-educated households with no student debt have seven times the net worth as similar households with student debt. In addition, a general lack of disposable income can lead to less retirement savings, less asset accumulation, and the deferral of home ownership. These are all crucially important things in an individual's life, however they are too often tarnished by the issues stated previously. Young adults with student debt should have the financial capability to be healthy and to save; arguably two necessities in the life of a human being.

The goal here is that the economic and housing data presented will begin to paint the picture of a clear issue at hand for young adults: indebtedness and unaffordability. The implications are too large to be fully expounded upon, which is why a potential solution is so crucial. This potential solution is accessory dwelling units. Again, it's worth re-

stating that the general goal of ADU implementation is that young adults will have a larger amount of disposable income to pay off debt and have an overall better quality of life. The ADU is not a “cure-all” but rather it is an individual cog in a rather large wheel of moving parts. The hope is that this solution can begin to chip away little-by-little at an infinitely larger issue. Young adults need help, and they need it now.
The Case Study Format

The sequence of the subsequent case studies will be as follows:

1. Methods, processes, and goals
2. General data of the city
3. General ADU information of the city
4. Young adult housing preferences
5. The case studies
6. Implications and conclusions

Each of these sections will be explained in more detail below.

Methods, Processes, and Goals

As stated previously, the goal of this thesis is to determine if accessory dwelling units can serve as a legitimate form of affordable housing amidst rising housing costs and crippling student debt. Essential to this inquiry are the subsequent case studies, as they will allow us to make inferences and conclusions based on the physical fabric of both the city and the ADUs themselves.

The two cities chosen for the case studies are San Francisco, CA and Santa Barbara, CA. These two locations were chosen for many reasons, primarily:

1. California’s wealth of information on accessory dwelling units that allows us to conduct a spatial analysis.
2. Their prevalence of young adults.
3. Their recent job and population growth.
4. The prevalence of either built or permitted accessory dwelling units within the two cities respectively.
5. The difference in population and urban form, which will allow us to make conclusions across a broad range of city sizes.
General Data of the City

With the two locations for the case studies chosen, both San Francisco and Santa Barbara will be introduced with general city data such as:

1. Demographics
2. Income
3. Growth rate
4. Job growth
5. Population density
6. Rent prices

This will allow us to frame the city as a whole before we proceed with a site-specific case study of each.

General ADU Information

We will then move onto a general ADU introduction of both cities. This includes:

1. General requirements
2. What ADU types are allowed in each city?
3. What does the permit process look like?
4. What is the construction cost?
5. What is the average rental price?
6. How big are the ADUs?

With both San Francisco and Santa Barbara, this will give us valuable information regarding each city’s “specifics” for ADU implementation. Based off of this information, we can begin to make potential inferences about which city has an easier process and why? Additionally, where else can these processes be applicable and replicated?

Young Adult Housing Preferences

Essential to determining the metrics of our case study analyses is a survey done by the Urban Land Institute on young adults (aged 20-37) and their housing preferences. We will use these top survey answers to guide our spatial analysis so that we can tie
our findings back to something tangible. We have chosen the following three survey categories to analyze within San Francisco and Santa Barbara:

1. Price
2. ADU design, layout, and size
3. Walkability

Based upon how each city fits these metrics chosen from the Urban Land Institute survey, we will be able to draw conclusions about how the ADUs perform specifically and whether they would be a good fit for young adults.

The Case Studies

As stated previously, we will be examining the three categories chosen from the Urban Land Institute survey. This will be accomplished primarily through Google Earth. The crucial part of the two case studies is comparing each of these metrics with nearby apartment complexes. Assuming that apartments are the most predominant form of housing among young adults and recent college graduates, if we can subsequently determine that ADUs accomplish the majority of these metrics better than nearby apartments in each city respectively, then that will allow us to make general conclusions regarding their applicability and successfulness.

Implications and Conclusions

To conclude the case studies and thesis as a whole, we will begin to wrap up and summarize the findings from the spatial analyses of San Francisco and Santa Barbara. In other words, are ADUs a good form of affordable housing for young adults or are they not? Are they better than apartments in these given areas? From these findings, we will be able to make broader inferences about similar cities elsewhere. To finally conclude, we will re-state what was accomplished, what was found, what can be done elsewhere, and if further research is needed in this field?
General Data of the City: San Francisco

San Francisco was chosen for one of the two case studies for three reasons regarding the city specifically:

1. Job and population growth
2. City density
3. Average rental costs

Over the last decade, San Francisco has grown approximately 10%, surpassing California’s growth rate as a state\(^{40}\). This can be attributed to many things, but one factor that is well-documented is the fact that more and more people are moving to dense urban areas on the east and west coasts. In fact, this is where approximately 40% of Americans live in the United States\(^{41}\). Another potential reason why San Francisco is expanding at such a decent pace is its job growth, growing 2.4% in the past year. This rate outpaced the state and nation as a whole\(^{42}\). This job and population growth, coupled with the fact that San Francisco has the second highest percentage of young adults aged 25-34 in California\(^{43}\), begins to lend itself towards a favorable environment for ADU implementation.

Additionally, San Francisco has some of the highest population densities in the United States, approaching 18,000 people per square mile. This is 8.5% higher than a decade ago\(^{44}\). This growth, in turn, has produced high land values and thus, high rental costs. The average land value per acre in San Francisco is approximately $3,200,000\(^{45}\). This equates to an average 1-bedroom apartment rental cost of about $2,800 per month\(^{44}\).

With this data, you can begin to see why San Francisco has such a robust ADU program. As the city continues to grow, both economically as well as demographically, more housing is needed. Accessory dwelling units provide ample opportunity for infill housing on lots that are often far less than 0.25 acres. With the current density, rental

\(40\) United States Census Bureau
\(41\) National Oceanic and Atmospheric Association
\(42\) Bay Area Council Economic Institute
\(43\) New York Times
\(44\) San Francisco Chronicle
\(45\) Bloomberg
costs, and future growth, it’s no wonder that San Francisco has turned to ADUs as another form of housing.

General ADU Information: San Francisco

The city of San Francisco has a rather extensive and thorough ADU program, to the benefit of the city’s inhabitants. Unique to this city, they have three options for ADU implementation:

1. The local program
2. The state program
3. The hybrid program

Each program has its own benefits for the individual seeking a permit, depending on personal preference. The local program, which is the most common within San Francisco, allows four different types of ADUs:

1. Conversion
2. Attached
3. Detached
4. Junior

On a lot with a maximum of four dwelling units, only 1 ADU is allowed. However, if five or more dwelling units are located on a lot, there are theoretically an unlimited amount of ADUs that can be built, according to city code. One of the most important aspects of this program is that accessory dwelling units cannot be used for short-term rentals. This means that uses like AirBnB cannot be allowed within the ADUs; they can only be implemented as living quarters, thus ensuring that the current supply is being used only for legitimate housing needs.

Regarding specific policy, there are no parking requirements, and the accessory dwelling unit must be a minimum of 220 square feet. Additionally, most neighborhoods require some sort of private open space for the tenant.

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This is a crucial aspect, as it offers the tenant something many apartments in San Francisco cannot: private outdoor space.

Lastly, there are no owner occupancy requirements except for the junior ADU\textsuperscript{47}. All of these policies, collectively, help to streamline the process for the owner and provide beneficial amenities to the tenant.

In general, the application process is 11 steps long and typically takes close to 18 months for approval. From what has been found, this is typical in the state of California and is actually oftentimes quicker than other cities as there are no architectural requirements or design review processes for the ADUs.

**General Data of the City: Santa Barbara**

As the location for a second case study, Santa Barbara was chosen for three reasons primarily:

1. Population of young adults
2. Difference in size compared to San Francisco
3. Average rental costs

Compared to San Francisco, Santa Barbara isn’t growing at as fast of a rate both demographically and economically. Over the next 30 years, Santa Barbara’s population is projected to grow only 8\%\textsuperscript{48}. However, this stagnant or relatively slow growth does not disqualify Santa Barbara as a candidate for a case study.

Firstly, Santa Barbara also has a large number of young adults; approximately 25\% of the city’s population is 25-34 years old, with the median age being 35\textsuperscript{49}. This could largely be attributed to the fact that the University of California Santa Barbara (or UCSB) is located within the county. This is a major state university, housing over 26,000 students.

Santa Barbara is also vastly different in size versus San Francisco. The city is much

\begin{footnotesize}
\begin{enumerate}
\item City of San Francisco
\item City of Santa Barbara
\item United States Census Bureau
\end{enumerate}
\end{footnotesize}
more suburban, having close to 4,500 people per square mile compared to the much
greater 18,000 people per square mile\(^{50}\). Regardless of this, Santa Barbara still has
a dense cluster of permitted and built ADUs. This vast difference in population density
allows for a comparison with a city that is much greater in size. It will also lead to more
widespread conclusions, as I will be able to make inferences regarding large cities as
well as small ones.

Lastly, like San Francisco, Santa Barbara has rather high rental costs. In fact, the
median rent of a 1-bedroom apartment is approximately $1,984\(^{51}\). As stated and
examined earlier in the thesis, this is far too high to compete with current wages and
accruing student debt.

Just as with San Francisco, we can also begin to see with Santa Barbara why the city
has such a thorough and successful ADU program. The difference in density lends itself
to greater discussion, and the high rental costs and large population of young adults are
attributes that are shared with its counterpart. While the accessory dwelling unit policy
and process may look different in Santa Barbara, the outcome is the exact same as San
Francisco: success.

**General ADU Information: Santa Barbara**

Santa Barbara, in comparison to San Francisco, has a similar ADU program that is,
admittedly, a tad bit more stringent. Under this program, the same types of accessory
dwelling units are allowed\(^{51}\):

1. Attached
2. Detached
3. Conversion
4. Junior

In Santa Barbara, only one ADU is allowed per lot regardless of the amount of existing
dwelling units. However, the size range of accessory dwelling units within the city is
significantly bigger than San Francisco, having a minimum size of 850 square feet.

\(^{50}\) City of San Francisco
\(^{51}\) City of Santa Barbara
This could most likely be attributed to the fact that Santa Barbara isn’t nearly as dense as San Francisco, thus more space is able to be used. This is greatly beneficial to the tenant.

The city of Santa Barbara does not require owner occupancy through January 2025, however after that date it will be required. This can work against the owner of the property, as it requires that they live on the lot in order to have an ADU. In regard to parking requirements, one space is required for accessory dwelling units located within the “very high fire hazard severity zone” or the “coastal zone”. Outside of those two zones, there are no parking requirements, which bodes well for the owner of the property52.

As with San Francisco, short-term rentals are prohibited within the ADUs, ensuring that they are used only as housing for potential tenants. One thing that differs with Santa Barbara, however, is that permitted accessory dwelling units within the city must meet design criteria for aspects like roof tile, building color, and material types. This can make it harder for the owner to construct an ADU, as they first need to ensure that it meets the architectural requirements. However, this is fairly common across the country.

In Santa Barbara, if the prospective ADU complies with all of the zoning standards and design criteria, the project may be approved by the city without going through the discretionary design review process or other public hearings52. This helps to streamline the process for the owner, thus making it easier to build an ADU if those requirements are first met.

Young Adult Housing Preferences

One of the most critical components of the subsequent case studies is a survey done by the Urban Land Institute on young adult housing preferences. We will be using three of the most common responses to guide our spatial analyses of San Francisco and Santa Barbara. The reason we are doing this is so that we can have a group of metrics to grade the ADUs and apartments in each respective city and then compare and contrast them thereafter. The goal is that we will be able to determine which option is most

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beneficial as an affordable housing type for young adults in both San Francisco and Santa Barbara. The three metrics we will be using to guide our case studies are:

1. Price
2. ADU design, layout, and size
3. Proximity to job centers

Within the community features survey done by the Urban Land Institute, this is how each of these categories performed:

1. Price: 1st out of 13 options
2. ADU design, layout, and size: 2nd out of 10 options
3. Walkability: 11th out of 13 options

It is worth noting that the sample size of this survey is 1,225 people. The age range of those surveyed is 20-37 years old. The ranking of these answers was determined by combining the number of individuals who ranked that option as number one with the number of individuals who had that option in their top five. One the surface, it seems as though walkability is the only metric that is not within the top five answers given by young adults. However, almost one quarter of all respondents put walkability within their top five answers, making a strong argument for it being included in our metrics.

Going forward, a neighborhood in both San Francisco and Santa Barbara will be spatially examined using these three metrics measured in the Urban Land Institute survey. The hopes are that, from that examination, a conclusion will be reached on whether accessory dwelling units are a viable affordable housing option for young adults or not.

**Price: San Francisco**

In the survey on young adult housing preferences done by the Urban Land Institute, almost 70 percent of all respondents listed “purchase price or monthly rent” as the most important factor when selecting a new place to live. Needless to say, when determining

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whether accessory dwelling units serve as a more affordable housing option for young adults compared to their most common counterpart, apartments, price is perhaps the most crucial component to examine.

Concerning ADU and apartment pricing first, when looking at the Bay Area as a whole, the median rental price of an accessory dwelling unit is approximately $2,200 per month. When compared to the median household income of two people in the Bay Area, this is considered affordable. Additionally, considering the small lot sizes that are prevalent in San Francisco due to its extreme density, the average size of an ADU is around 604 sq ft. This may seem small, however it is comparable to the median size of a 1 bedroom apartment in the Bay Area, which is approximately 700 sq ft as of 2019. In fact, when compared to the median price of a 1-bedroom apartment in San Francisco, which is $2,800 per month, an ADU comes in at close to $600 cheaper, equivalent to approximately $4 per square foot less.

To prove that the slight reduction in size is worth the cheaper rent associated with ADUs in the Bay Area, I browsed apartments.com for apartment listings and Craigslist for ADU listings. The reason I had to choose different websites for each housing option is simply due to the fact that accessory dwelling units, or “in-law suites' were most commonly listed on Craigslist and not another common website that we are used to using for browsing new listings.

Regarding apartments in our chosen neighborhood in San Francisco, I generally found that most 1-bedroom apartments well exceeded $2,000 per month if the individual wanted a decent space with good amenities. Generally, these apartments were anywhere between 500 and 700 sq ft and possessed updated appliances and nicer flooring. In addition to this, a lot of the listings were for a single bedroom in a larger house; generally 5 bedrooms and 1 bathroom. For the single room, the rent was very
manageable: approximately $1,500 per month. These houses were very nice, had good lighting, and were well-designed. However, it is important to emphasize that this price was for a single bedroom in a 5-bedroom house. Most often, the individual that rented this unit would have to share a bathroom and the rest of the house with up to four other people.

Figure 4.1: a map showing the broader context of our chosen area in San Francisco.

Figure 4.2: a map showing the permitted and built ADUs within our chosen area in San Francisco.
Moving on to accessory dwelling units, I could not find any listings that were within our chosen area, so I was forced to expand to a larger area. Nevertheless, most of the 1-bedroom or studio units were priced at or under $2,000. They were generally anywhere from 500 to 600 sq ft, and many of them were updated with new appliances, nice countertops, and modern flooring. A lot that I found were newly remodeled, and some even possessed high ceilings. In addition, there were many more ADU listings than there were apartments, providing a larger diversity of choice for the potential tenant and allowing them to choose a layout that they are comfortable with. An added amenity is that most neighborhoods in San Francisco require private open space for the ADU itself\textsuperscript{57}. This could be seen in many of the listings, as the photos were typically of an independent structure within a backyard that can be used by the tenant. Separate entrances were provided if the unit was attached to the primary residence.

**Conclusions for San Francisco**

Just from the general observations made from the listings for both apartments and accessory dwelling units in the Bay Area, ADUs tend to offer potential tenants a more “bang-for-your-buck” than their more widely used counterpart. It’s worth reiterating that ADUs in San Francisco rent for $600 cheaper than apartments on average, and typically offer more amenities that will be examined in greater detail in the section following this one.

**Price: Santa Barbara**

As with San Francisco, it will first be necessary to briefly examine the data regarding the general price and size of accessory dwelling units and apartments in Santa Barbara. For an ADU, the median rental price is around $1,925 which, like San Francisco, is affordable when compared to the median household income of two people in the Central Coast area. For those that do not know, the Central Coast in California encompasses six counties northwest of Los Angeles: Ventura, Santa Barbara, San Luis Obispo, Monterey, San Benito, and Santa Cruz. While this is a broad geographical area, it is the only data that could be found regarding ADU pricing in the Santa Barbara

\textsuperscript{57} City of San Francisco
area. Nevertheless, along with a median rent of $1,925 per month in Santa Barbara, the ADUs in this area have an average size of 600 sq ft. Since this city is much less dense than San Francisco and thus has larger lot sizes, there is typically more outdoor space surrounding the accessory dwelling unit itself.

Apartments, comparatively, also have a very similar price to the ADUs in Santa Barbara, with a median rent of $1,984 per month\textsuperscript{58}. They also have a comparable size, with an average square footage of about 700 sq ft. So, while the ADUs in San Francisco have a noticeably cheaper rent but a smaller size, the ADUs in the Central Coast area have a comparable price with a smaller size as well, renting for approximately $3 per square foot. Since each of these cities vary significantly in regards to area and city fabric, it will be worthwhile to briefly examine the listings of each in Santa Barbara, just as we did with San Francisco.

For both apartments and ADUs, the market was understandably much thinner than San Francisco and thus much harder to find relevant information regarding pricing of both housing types. Because of this, it was necessary to expand the area of concentration in order to adequately examine pricing. Similar to San Francisco, and for the same reasons, 

\textit{apartments.com} (for apartment listings) and \textit{Craigslist} (for ADU listings) were referenced.

From the limited listings found on\textit{apartments.com}, it can generally be said that most decent apartments within Santa Barbara will generally run a prospective tenant anywhere from $2,500 to more than $3,000 per month. This can include stainless steel appliances, nice countertops and flooring, and modern finishes. The size of these 1-bedroom apartments generally stayed within the 600-700 sq ft range.

\textbf{Conclusions for Santa Barbara}

In comparison with San Francisco, it was quite obvious that the market for accessory dwelling units simply did not match up currently. San Francisco not only had cheaper options, but also had a vastly larger pool of listings with much nicer features and amenities. This could be attributed to their obvious advantage in size and an overall

\textsuperscript{58} City of Santa Barbara
larger market, however both cities’ ADU programs are quite robust and well-thought-out. Regarding the first metric, pricing, specifically, it is clear that San Francisco has the advantage when it comes to young adult housing options due to the fact that rates are able to remain competitive.

Figure 4.3: a map showing the broader context of our chosen area in Santa Barbara.

Figure 4.4: a map showing the permitted and built ADUs within our chosen area in Santa Barbara.
ADU Design, Layout, and Size: San Francisco

The second metric used to consider the applicability of ADUs as a housing option for young adults is *ADU design, layout, and size*. This metric will encompass everything from floor plan to private open space.

In order to conduct this case study, a comparison was made between three apartment units and three ADUs. As mentioned, the median rent for an accessory dwelling unit in the Bay Area is $2,200$\textsuperscript{59}. We will be using this as the maximum rental price for the units chosen. We will also be restricting our search to units that are either studio or 1-bedroom, as it is assumed that recent college graduates will be living either alone or with a roommate and will not need a significant amount of living space.

Lastly, the search will be geographically restricted to the chosen study area. For San Francisco, three apartments were able to be found within the chosen area. However, accessory dwelling units that fit our previously mentioned parameters were not, so we had to choose the closest available units.

**Apartments**

As with the *price* portion of this case study, we used *apartments.com* to determine which apartments to study within our chosen geographical area. The three units chosen for this portion of the case study are as follows:

1. Gough Street Apartments
   a. 115 Gough St. San Francisco, CA 94102
2. Apartment for Rent
   a. 468 Fell St. San Francisco, CA 94102
3. Apartment for Rent
   a. 230 Lily St. San Francisco, CA 94102

All of these units, save for the apartment at 230 Lily St., are studio apartments ranging from 250-400 sq ft. The apartment at 230 Lily St. is a 1-bedroom unit that is

approximately 700 sq ft. With this being said, it is obvious that 2 out of the 3 units are quite small, perhaps even too small for an individual to actually enjoy living there. The two studio units are $1,750 per month for the one on Gough St. and $1,950 per month for the one on Fell St. The single 1-bedroom unit rents for $1,950 per month.

When looking at the interior photos of these apartments, all seem to have an abundance of natural light. They all possess large windows with relatively good views of the city, which bodes well for the tenant. When looking at an aerial image of Gough Street Apartments, it appears that there is a private courtyard in the middle of the complex.
In regard to each unit’s appliances, both the apartment on Gough St. and the apartment on Fell St. are relatively outdated, both in the kitchen and in the bathroom. These appliances aren’t so outdated to render them unusable, however they aren’t what many people are accustomed to in a standard apartment in other areas of the country. The apartment on Lily St., however, has updated appliances, countertops, and cabinetry, both in the kitchen and in the bathroom, offering tremendous upside for potential tenants.

From what the listings say, all of these units are gated and offer laundry facilities on-site. None of them have the ability to have an in-unit washer and dryer. However, the
The fact that the complex is gated adds a desirable level of security for potential renters. Additionally, the only listing with assigned parking was the Gough Street Apartments; the rest were unassigned street parking. In a large city like San Francisco, this could be an issue for a potential tenant, as parking is at a premium within the city.

**ADUs**

As mentioned earlier, no listings for accessory dwelling units were available within our chosen area, so we had to choose three that were approximately 1 mile southwest of our case study location. As with the price portion of this case study, we used *craigslist* to compile our findings. Since the exact address of the three chosen ADUs was not provided, it is important to mention that they all are located in the Sunset District, just south of Golden Gate Park and west of 19th avenue.

![Figure 4.9: an image of the kitchen of one of the chosen ADUs in San Francisco.](Source: Craigslist)

All but one of the chosen units are studios, and they range from $1,400 per month to $1,675 per month in rent. These prices, in and of themselves, are already significantly cheaper than the three apartments chosen within the given area. All of the listings, based off of the provided photos, seem to be comparable in size to the apartment listings, if not a little bigger.

Regarding natural lighting, all three of these ADU listings are lacking. This could be due to the fact that many of them are basement units or attached accessory dwelling units, but they do not seem to have many large windows, judging by the photos. The
apartment listings, conversely, had many windows that let in a substantial amount of natural light while also providing views out into the surrounding city. While most neighborhoods in San Francisco require some sort of private open space for ADUs, only one of these listings has a private open space shown within their photos.

![Figure 4.10: an image of a private outdoor space of one of the chosen ADUs in San Francisco.](image)

**Source:** Craigslist

![Figure 4.11: an image of the kitchen of one of the chosen ADUs in San Francisco.](image)

**Source:** Craigslist

Two out of the three listings seem to have medium-grade kitchen appliances and countertops. No stainless-steel appliances are shown in any of these listings, and the bathrooms look typical, but not updated. One of the rentals requires the tenant...
to share the kitchen and laundry room with the homeowner upstairs, which could be a negative to young adults looking for a place to live.

Only one of the listings show in-unit washer and dryer, with the other two requiring the tenant to share with the homeowner. While this could be a disadvantage, utilities are shared with the homeowner in all of the units chosen, which could save the renter a substantial amount of money. It also appears that all of the ADUs have a separate entrance, which is beneficial for privacy and security reasons. There is no assigned parking with any of the units; street parking is the only parking that is available. As explained earlier, this is a potential disadvantage within a city that is so extraordinarily dense.

**Conclusions for San Francisco**

Within the city of San Francisco, it seems that neither apartments or ADUs have the clear advantage when it comes to design, layout, and size. What accessory dwelling units provide in regard to square footage, apartments provide in regard to natural lighting. Both housing types had comparable appliances and spatial makeups. The only clear advantage seen was in reference to price, with ADUs in San Francisco coming in significantly cheaper than their counterparts.

**ADU Design, Layout, and Size: Santa Barbara**

Santa Barbara, when compared to San Francisco, cannot abide by the same parameters simply due to its lack of density and overall lack of listings. Because of this, no price limit was able to be set on either ADUs or apartments. This will allow us to still have a case study with substance. Additionally, it was only possible to keep the apartment listings within our chosen geographical area. The accessory dwelling units had to be located elsewhere, as there were none available within our chosen area. However, the one thing that is remaining constant with Santa Barbara is the restriction to either studio or 1-bedroom units. Because of our desire to keep this parameter the same across both cities, only two apartment listings were able to be chosen and studied.
Apartments

Just as we conducted the apartment search with San Francisco, we used apartments.com in order to locate two listings within our chosen geographical area. The listings are as follows:

1. CityWalk
   a. 1412 San Pascual St. Santa Barbara, CA 93101
2. Ivy at Carrillo
   a. 520 W. Carrillo St. Santa Barbara, CA 93101

For CityWalk, the size of a 1-bedroom unit is approximately 498 sq ft, which is on the small end. An exact price is not given, however based on other listings we can assume that it would be at or under $2,000 per month, or $4 per square foot. Ivy at Carrillo has a much bigger 1-bedroom apartment, with a size of 675 sq ft. However, the price is much steeper, with rent costing $2,400 per month, or $5 per square foot.

When viewing the interior photos of both of these apartment complexes, it is clear that CityWalk does not offer the same amenities as Ivy at Carrillo. There is less natural light in the unit at CityWalk, simply due to the fact that Ivy at Carrillo possesses more windows of larger size. It also appears that Ivy at Carrillo has a substantial amount of private open space.

Figure 4.12: images of the interior of Ivy at Carrillo in San Francisco.

Source: Apartments.com
The units at CityWalk are also well maintained and offer a landscaped outdoor area. When looking at CityWalk, there are outdoor spaces dedicated to tenants, however they seem to be an afterthought.

Appliances are also much nicer at Ivy at Carrillo. Everything appears to be stainless steel with concrete countertops. The floors look to be hardwood and recently updated. The appliances at CityWalk do not appear to be updated and the kitchen is rather small compared to Ivy at Carrillo. Overall, the floor plan of a 1-bedroom unit at Ivy at Carrillo appears to be much more open than a 1-bedroom unit at CityWalk. Generally, it can be said that an open floor plan is preferrable to a potential renter.
Both apartments do not allow for an in-unit washer and dryer, instead providing laundry facilities on-site. This could be a potential disadvantage for a prospective renter. However, both complexes do appear to have dedicated parking for their tenants. Neither listing mentions secure access, which could be a large disadvantage for those seeking an added level of safety and security.

ADUs

As with San Francisco, it was not possible to locate three ADU listings within our chosen geographical area. We used craigslist to locate three units within the Mission Canyon area of Santa Barbara, which is roughly 2 miles northeast of our chosen area.

The three listings chosen fluctuate in size from 225 sq ft to 550 sq ft. They also vary greatly in price, with the cheapest option being $1,850 per month and the most expensive option being $3,600 per month. Based on the information provided in the listings, the accessory dwelling units within Santa Barbara are not only smaller than most apartments, but also much more expensive.

Two of the three units do not appear to have much natural light. The pictures tend to look drab and rather dark. The most expensive listing, at $3,600 per month, is full of light and has many large windows. A tremendous upside with all three of these units, regardless of price, is that each one has what appears to be a decently sized private open space. This is something that typically did not exist in San Francisco, most likely

Figure 4.15: an image of the kitchen of one of the chosen ADUs in Santa Barbara.

Source: Craigslist
because the lot sizes are so small. In Santa Barbara, which is much more suburban, many of the accessory dwelling units are detached and are able to have their own outdoor space.

The appliances in two out of the three ADUs are fairly typical and not updated. Neither possess a range and instead appear to rely on toaster ovens and independent burner plates. The nicest and most expensive unit has stainless steel appliances and granite countertops. It also contains hardwood floors throughout, while the other two appear to have a combination of laminate flooring and tile.
Regardless of price or size, all three floor plans appear to be closed and segmented rather than open and spacious, something most tenants would not prefer.

All three listings appear to have in-unit washers and dryers, a desired amenity for many potential renters. It appears that a tenant would not have to share anything with the homeowner besides utility cost, which is very beneficial. All of the units also appear to be independent structures, which provides an increase in privacy and security for the individual living there. Parking does not appear to be an issue as well, with the renter either parking in the driveway or on the street. Since parking is not as in-demand in Santa Barbara, street parking should not be an issue for most tenants.

**Conclusions for Santa Barbara**

Overall, it’s questionable whether ADUs are as viable for young adults in a low-density city like Santa Barbara. Not only was there a very small amount of housing supply, was either relatively high-priced or small in size. This could be due to many factors, namely Santa Barbara’s reputation as a resort town for older individuals.

**Walkability: San Francisco**

The last metric left to measure, and perhaps the most subjective, is that of walkability. For this final portion of the case study, we have decided to gauge the walkability of ADUs and apartments in our chosen geographical area using primarily Google Street View. Two streets have been chosen where there is a moderately large cluster of ADUs in San Francisco. Street view imagery was examined to determine the general walkability of the area. The same thing was done with the three apartments previously chosen. With this information, it was possible to compare the walkability of ADUs and apartments in San Francisco based on features such as road width, number of lanes, prominence of bike-ped facilities, and upkeep of the sidewalks.
ADUs

For the ADU portion of our walkability study, two locations have been chosen:

1. Near the intersection of Paige St. and Cole St. in San Francisco
2. Near the intersection of Haight St. and Pierce St. in San Francisco

Both chosen locations are very similar in regard to walkability. For example, both streets are two-lane roads that possess what are called sharrows. Sharrows are a form of bike-pedestrian facility that allows the bicyclist to share the road with vehicles via a lane marking. As these aren’t the safest the form of bike-pedestrian facility, they are typically only used on roads with small daily traffic counts. When implemented in this setting, they can be a very effective way for individuals to travel around the city via bicycle.

Figure 4.18: an image of the street outside of the ADU on Haight St. and Pierce St.
Source: Google Earth

Figure 4.19: an image of the street outside of the ADU on Paige St. and Cole St.
Source: Google Earth
Another beneficial feature that is evident in both of these locations is the prominence of street trees. These are very conducive to walkability, as they not only help to protect an individual walking down the sidewalk, but they also help to slow down drivers by providing a more enclosed street environment. We also can observe street parking in both of these images, which is yet another feature that helps to protect the pedestrian and slow down drivers, similar to street trees.

In regard to differences between the two, the image taken at Paige St. and Cole St. appears to be much more single-family residential than the other street corridor. While this could still be conducive to walkability, it begins to raise the question of whether there are beneficial land uses nearby like a grocery store or commercial district. Even if the street is designed with walking in mind, there still needs to be something nearby that encourages a person to walk in the first place.

Conversely, the photograph taken at Haight St. and Pierce St. appears to incorporate a significant amount of mixed-use development, with shops being on the ground level and living quarters being in the floors above. This is a feature that encourages walkability quite well, as individuals that live in this area are able to simply walk downstairs or walk a few streets over to go to the grocery store, get a coffee, or have lunch. Another aspect that is shown in this image but not in the other is that of a transit system. A bus stop is seen on the left side of the street, which allows those nearby to take public transit if they want to. This, along with the other features previously described, ultimately helps to decrease car dependency, something that could be attractive to a recent college graduate.
Apartments

The images used for our walkability analysis of our chosen apartments in San Francisco are located at the following locations:

1. Gough Street Apartments
   a. 115 Gough St. San Francisco, CA 94102

2. Apartment for Rent
   a. 468 Fell St. San Francisco, CA 94102

3. Apartment for Rent
   a. 230 Lily St. San Francisco, CA 94102

All three of these apartments are located on a three or four-lane road, which is generally not conducive to walkability. This is largely due to the expansive right-of-way that is required to cross as well as the vast increase in daily traffic counts. There are remediation efforts that could be implemented on roads this large in order to increase pedestrian safety, such as street islands and curb bumps, but none are seen here.

Additionally, in contrast to the accessory dwelling unit locations, no bike-pedestrian facilities are seen. Generally, on a roadway this wide, a cycle track or buffered bicycle lane would be needed, but neither appear to be present. One positive aspect regarding bike-pedestrian facilities, however, is the fact that a rideshare can be seen on the far left side of the image taken by the apartment at 230 Lily St.

Figure 4.20: an image of the street outside of Gough St. Apartments.
Source: Google Earth
This allows an individual to pay and ride a bike to work or to the store, even if they do not personally own one. This eases access to alternative forms of transportation, which is a substantial benefit.

Both street trees and on-street parking appear to be prevalent at all three apartment locations, which is beneficial to walkability as it provides further barriers between the pedestrian and the road. The sidewalks also appear to be all well-kept, which allows individuals who may have mobility issues to better use the pedestrian network, such as the elderly or physically disabled.
An area of walkability that these three apartments may have an advantage with, however, is with proximity to mixed-use development. Since apartments in general are located in a more commercial area of a large city like San Francisco, there are typically more amenities within walking distance. This is beneficial to an individual who lives nearby as it allows them to access many of their basic needs.

**Conclusions for San Francisco**

Overall, it seems that accessory dwelling units appear to be located in more “pedestrian-friendly neighborhoods in San Francisco than apartments. This could largely be due to the fact that the apartments chosen in general seem to be located in more dense, commercial areas. This environment then, of course, brings more traffic as more people are there on a regular basis. Regardless, with “walkability” being a feature that is mentioned in the top five of close to a quarter of young adult respondents\(^61\), it is evident that this is crucially important to them. With that being the case, perhaps accessory dwelling units are a preferable means to live in San Francisco.

**Walkability: Santa Barbara**

As done with San Francisco, two locations were picked within our chosen geographical area in Santa Barbara. Google Street View images were used to further evaluate the walkability of the area. It is worth re-stating that the density and city fabric of Santa Barbara is far different from San Francisco, so walkability ratings reflect this fact.

**ADUs**

These are the locations of the two photos taken for accessory dwelling units in Santa Barbara:

1. Near the intersection of Sola St. and Gillespie St.
2. Near the intersection of Valerio St. and Chino St.

These two photos are strikingly similar in regard to street makeup. Both locations, although blocks apart, are suburban and are primarily single-family residential.

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In general, this setting in and of itself is not conducive to walkability as it is designed largely around the automobile and oftentimes only includes one type of zoning.

Both locations have large street trees with on-street parking, which is a positive attribute, as stated previously. The roads are also not extraordinarily wide, which helps to calm driver speeds as narrow roads typically mean slower vehicles. Additionally, even though there are no bike-ped facilities provided, bicycling would be supported as the traffic counts appear to be very low.

However, just because a person can ride their bicycle does not mean that they will. Perhaps the largest issue that is present in these two photos is the fact that there is...
one type of zoning present: single-family residential. There does not appear to be any stores or commercial districts nearby. This means that, even if the infrastructure in the area supports pedestrians, people are still going to use their cars simply due to the fact that it is easier. In a city like San Francisco, if the features and facilities are in place to encourage walkability, then it is likely people will, as there are typically varying land uses nearby. However, this does not appear to be the case for the chosen ADU locations in Santa Barbara.

**Apartments**

The locations of the images taken for the two apartments previously chosen in Santa Barbara are:

1. CityWalk
   a. 1412 San Pascual St. Santa Barbara, CA 93101
2. Ivy at Carrillo
   a. 520 W. Carrillo St. Santa Barbara, CA 93101

When looking at the street makeup of these two locations, they actually have moderately different situations in regard to walkability, with one being far better than the other.

*Figure 4.25: an image of the street outside of Ivy at Carrillo.*

*Source: Google Earth*
Ivy at Carrillo is located on what appears to be a major four lane road in Santa Barbara. In general, this is not conducive to walkability. While there is a sidewalk provided on either side, which is the bare minimum, it has no vegetative buffer and instead directly abuts the nearby roadway. This vastly increases the amount of danger present, and it could be assumed that whoever decides to use this sidewalk is doing so by necessity. Biking is virtually impossible at this location.

CityWalk, on the other hand, appears to be marginally more walkable than Ivy at Carrillo. Regarding its direct surroundings, it appears that it is primarily made up of two-lane roads with on-street parking. Additionally, a tree strip is provided between the

**Figure 4.26: an image of the street outside of CityWalk.**
*Source: Google Earth*

**Figure 4.27: an image of the walkable district nearby CityWalk.**
*Source: Google Earth*
sidewalk and the road, which helps to increase pedestrian safety and walkability, along with the on-street parking. Biking does appear to be possible here, as the traffic count seems to be rather low, and the road is only two lanes.

Additionally, it looks as if there is a commercial district very close by to CityWalk. This area seems to have grocery stores and other land uses that would be beneficial to an individual living nearby. This area is within walking and biking distance, so if a person who lived at CityWalk would not want to have to drive to get groceries or other necessities, that option would be available. This is largely beneficial, as it provides a destination for someone to go to should they decide to forgo a vehicle.

**Conclusions for Santa Barbara**

Overall, it appears that many of the areas examined in Santa Barbara simply are not very walkable due to a multitude of reasons such as road width, lack of pedestrian safety, and lack of proximity to mixed-use developments. This is not unexpected since Santa Barbara is a largely suburban city that is more auto centric than San Francisco. However, this does begin to lead to some worthwhile conclusions that could imply that ADUs are simply better fitted in a dense urban environment.
Final Implications and Conclusions

To re-state what was said towards the beginning of this exploration, the ultimate goal of this undergraduate thesis was to determine whether accessory dwelling units could be an affordable housing option for young adults amidst rising housing costs and accruing student debt. Case studies in both San Francisco and Santa Barbara were conducted, and observations were compared with nearby apartments. From these case studies, the following conclusions were reached:

1. ADUs aren’t necessarily applicable everywhere and may be better utilized in a larger city.
2. Since ADUs are typically not listed on mainstream platforms, it may be harder for young adults to find them.
3. Regarding widespread ADU implementation, much is still left to be done.

Conclusion #1: ADUs and their ideal setting

Throughout the case studies of both San Francisco and Santa Barbara, it became abundantly clear that accessory dwelling units would perhaps be best served in one setting in particular: a large, dense city. This is due to two reasons primarily:

1. Larger cities typically have more listings, and thus a larger housing supply for young adults to choose from.
2. Walkability is generally easier to accomplish in denser settings.

Regarding the first point, it was very clear that San Francisco not only had cheaper listings than Santa Barbara, but also a wider variety. This allows prospective tenants to choose a unit that fits them best, and for a reasonably decent price. On the other hand, a smaller city such as Santa Barbara simply does not have the housing supply to compete. Since the setting is largely suburban, a young adult would have to search extensively to find an ADU that not only matches their needs, but also matches their price-range. When everything is said and done, many apartments in Santa Barbara will offer you more for a comparable price.
The same cannot be said for San Francisco, which offers you much more for less, when comparing accessory dwelling units to nearby apartments.

Walkability was also much easier accomplished in San Francisco in comparison to Santa Barbara. When looking at local streetscapes, bike-ped facilities, public transit, and mixed use was prevalent more times than not. This could mainly be attributed to San Francisco’s density; since there are more people per square mile, it is more likely that these features are effective and successful. However, since Santa Barbara is primarily suburban, many of the ADUs are located in strictly single-family residential neighborhoods. This greatly inhibits walkability, as there is only one use present. This could largely be the case for most cities of similar size.

Conclusion #2: the feasibility of finding ADU listings

In both cities examined, it was quickly observed that ADU listings simply are not as easy to find as apartment listings. This is primarily due to the fact that most apartments are listed on a mainstream platform such as Apartments.com or Zillow. Accessory dwelling units, on the other hand, were primarily able to be found on a website such as Craigslist. Even then, some listings are not explicitly described as “in-law units” or “granny flats”, making it even harder for young adults to determine what they are viewing. Adding to this dilemma is the fact that Craigslist has a fairly large social stigma surrounding it. Many people view this website as unsafe or full of scams, which may further discourage individuals from using it in order to find housing. Because of this, it could be said that this is a large barrier for young adults looking to save money on housing.

Conclusion #3: much is still left to be done

The last conclusion, and perhaps the most obvious and far-reaching, is that there is still a lot left to be done regarding ADU implementation nationwide. Currently, accessory dwelling units are a housing type that is very popular and well-known on the two coasts. This is primarily due to a desperate need for more forms of affordable housing, especially in cities like San Francisco and Washington D.C. In the majority of middle America, however, accessory dwelling units are still largely unknown and unheard of.
Overwhelmingly, this could be attributed to a general lack of education and lack of need. Many individuals in this part of the country simply have never heard of this housing type, and since there is still a large abundance of land in much of the country, there is virtually no need for alternative forms of infill housing. However, if people began to learn about the benefits of ADUs and their general affordability in this area of the country, the possibilities are practically endless.

Final Thoughts

The short answer to the original question, “can ADUs be an affordable form of housing for young adults?” is yes, in certain settings. Overall, it seems as if accessory dwelling units simply would not be as successful in a town like Fayetteville merely due to its density or lack thereof. For traditional college towns that do not possess significant density of any sort, it is questionable whether young adults would view ADUs as a viable option when comparing them to nearby apartments. However, for a significant metropolitan area that likely possesses multiple universities such as Washington D.C. or Seattle, WA, accessory dwelling units would likely be more viable due to the larger housing supply and overall increase in walkability. To put it simply, if a young adult is moving to a large city, they absolutely should consider ADUs as a legitimate form of housing. However, if they are looking at a smaller, less dense city, they may be better suited looking elsewhere.
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