

**CIVIL GRAND JURY | 2017-2018**

**CITY AND COUNTY OF SAN FRANCISCO**



# Mitigating the Housing Crisis: Accessory Dwelling Units and Modular Housing



A San Francisco Accessory Dwelling Unit. Photo P Segal

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## SUMMARY

San Francisco has experienced an economic boom in the past decade, and a population surge (18% since 1990).<sup>1</sup> The City has been unable to keep up with housing demands and now faces a severe housing shortage, especially of below-market and middle class housing. Of the relatively few residential building permits that were issued during the past 30 years, virtually all of them were for market-rate housing. San Francisco needs below-market housing, but developers primarily build profitable market rate projects. The City needs to find other sources of affordable housing, and to do so must facilitate less expensive projects without compromising quality of life. The jury looked at two new alternative approaches to housing in San Francisco: the legalization of Accessory Dwelling Units (ADUs), and modular construction. These new approaches to housing in San Francisco, if guided correctly by city government, can improve our city's housing paradigm, where otherwise the city remains dependent on market forces or non-profits. ADUs add value to single-family homes and benefit communities, and modular housing particularly shows promise in helping San Francisco's homeless population.

Regarding ADUs, the laws concerning zoning and other permit considerations affecting ADUs have changed substantially since 2014, and ADU permit applications have been rising dramatically as a result. Regarding modular housing, this type of construction has not yet been used by the City for below-market housing, but an upcoming multi-story homeless housing project at 1068 Mission Street will be built using modular units. Another homeless housing project is in the works at Mission Bay Block 9, and modular construction is also under serious consideration for that project. These are the areas covered by this investigation.

## BACKGROUND

The housing crisis in San Francisco is an ongoing, well-known problem. A host of complications has created a dire shortage in affordable housing as we approach the end of the decade. Although the City's population has surged over the last 25 years, from 723,496 in 1990 to 884,363 in 2017<sup>2</sup> current studies and polls show the population starting to level out, and even decline, probably due to high housing costs.<sup>3</sup> If a city can't sustain working class housing, then not only police, firefighters, teachers, and nurses will be gone, but also a large number of service industry

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<sup>1</sup> See footnote #2 immediately below.

<sup>2</sup> <https://sf.curbed.com/2018/3/26/17165370/san-francisco-population-2017-census-increase>

<sup>3</sup> <http://www.bayareacouncil.org/economy/bacpoll-housing-frustration-spikes/>  
<http://www.bayareacouncil.org/economy/bacpoll-more-people-looking-to-leave-bay-area-as-housing-traffic-problems-mount/>

workers. The need is clear for more below-market housing—without the displacement of existing homes and businesses.

In 2014, the City passed legislation<sup>4</sup> that eased zoning restrictions, so homeowners could construct ADUs on their properties, an option that had previously been impossible without getting a zoning change; a path for legalization was also opened up for existing non-compliant ADUs.<sup>5</sup> Concurrently, the Planning Department launched new programs encouraging homeowners to build ADUs and legalize existing ADUs. In 2017, the program expanded to allow more kinds of ADU construction.<sup>6</sup> ADUs convert existing homeowner space, such as garages, basements, or attics, into separate apartments; in general, they must be built within the existing building envelope. As the program developed, owners of multi-unit properties began applying to add ADUs into their buildings, in areas such as ground-floor garages or common storage space. The jury investigated how effective the ADU program is in practice.

Modular housing is, by all reports, both less expensive and faster to build than traditional construction.<sup>7</sup> Units are built in a factory while the foundation is laid, so cost and time are saved on the production line, and more time is saved from parallel work processes. Thus the technology can potentially address high construction costs and more quickly fill the housing gap. San Francisco is starting to calibrate how much time and money can actually be saved with modular construction, using the upcoming homeless housing project at 1068 Mission Street as a test case.

Modular construction has had a slow start in San Francisco. There are logistical, political, and civil challenges that potentially reduce the benefits of cost reduction and speed substantiated in other cities. However, as the need for new affordable housing continues to increase, the City needs to deal with these challenges and ascertain the magnitude of realizable benefits.

The city is surrounded on three sides by water, and few areas remain for new development without displacing something else. Alternative building approaches can work within these constraints. ADUs offer a practical option: they displace nothing, offer what City agencies call “naturally affordable” rental housing, and retain the historic qualities of neighborhoods. Modular housing provides an alternative, for larger projects, to the high cost of traditional construction in San Francisco. Despite these advantages, numerous factors stand in the way of integrating ADUs and modular construction into the housing fabric. This report examines the pros and cons of both alternatives to conventional development, and offers recommendations for implementation.

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<sup>4</sup> <https://sfdbi.org/adu>

<sup>5</sup> <https://www.sfbos.org/ftp/uploadedfiles/bdsupvrs/ordinances14/o0043-14.pdf>

<sup>6</sup> <https://sfgov.legistar.com/View.ashx?M=F&ID=5170884&GUID=F4CABC66-C96B-41FE-A2AA-321AB6DFF79A>

<sup>7</sup> [http://ternercenter.berkeley.edu/uploads/offsite\\_construction.pdf](http://ternercenter.berkeley.edu/uploads/offsite_construction.pdf)

## METHODOLOGY

The Civil Grand Jury researched what is being done outside San Francisco, and what experts in the field are saying about viable solutions to the housing shortage. Armed with an understanding of the possibilities in alternative housing solutions, we interviewed people in City government, think tanks, and other agencies dedicated to evaluating and implementing these options.

Members of the Civil Grand Jury interviewed personnel from the Planning Department, Department of Building Inspection (DBI), Mayor’s Office of Housing and Community Development (MOHCD), Office of Community Investment and Infrastructure (OCII), and Department of Homelessness and Supportive Housing (DHS). In addition to government agencies, we interviewed experts from UC Berkeley’s Turner Center for Housing Innovation, the San Francisco Bay Area Planning and Urban Research Association (SPUR), the San Francisco Tenants Union, the Building and Construction Trades Council (BCTC), and the San Francisco Apartment Association (SFAA).

Through these interviews, the Jury acquired and analyzed documents and data, most of which are not available online for reference. Members of the Jury visited the Navigation Center at 1950 Mission Street, researched relevant City codes, and U.S. Census data regarding population growth. We also consulted published documents from other sources.

## DISCUSSION

### Accessory Dwelling Units (ADUs): The Promise

ADUs allow for increasing population density without blocking sunlight or changing neighborhood character. These “infill” projects make use of available land, and because ADUs are generally small, they are potentially “naturally affordable”.<sup>8</sup> ADUs offer an alternative to expensive structures that command high rents—a simpler construction project that is, in theory, more affordable to rent.

ADUs should be a win-win for the City and for the homeowners who add them. For the City, ADUs relieve some of the housing production burden. For homeowners, they are a source of additional rental income, or a place to house family members or caregivers. They can be cozy places to retire to without leaving home. Having an extra unit also increases the value of the property.

The Planning Department provides an ADU handbook and video from 2014, explaining the application and permitting process, and demonstrating how an ADU can fit into a home.<sup>9</sup> It states that adding a living space for family members was the most frequently cited reason for a

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<sup>8</sup> From interviews

<sup>9</sup> See Appendix A for the location of these resources.

permit application. As the program has developed, however, the bulk of applications are currently for units in multi-family buildings, primarily using unused ground floor space. The Planning Department recently released a list of over 25,000 lots in the City where at least one ADU is permitted, demonstrating the potential. (see Appendix A). The Planning Department is also working on updating their outreach material, but as of this report, the handbook and video provide the most up to date information. The department has also begun outreach at street fairs to further publicize the ADU program and to encourage permit applications. .

To offset restrictions on where ADUs can be built, the Planning Department initiated a waiver program, in 2016, based on legislation introduced by the Board of Supervisors.<sup>10</sup> Waivers allow viable alternatives to code, or in some cases override code requirements, including required amounts of open space, light exposure, mandatory parking spaces, or impact on density. Code requirements were set in times when conditions were different, such as parking space requirements that are no longer as important, given the growth of public transit and alternative transportation.<sup>11</sup>

During the launch of the ADU program, the Planning Department issued permits in only two neighborhoods, North Beach and the Castro, and the program got off to a slow start with fewer than 6 applications. In 2016, the city opened permitting to all neighborhoods, and the number of applications increased substantially: 43 in 2015, 384 in 2016, and by the third quarter of 2017, there were 531 applications for a total of 1023 applied-for units,<sup>12</sup> as multi-family buildings were now allowed to add multiple ADUs.

Until 2017, the Planning Department permitted only ADU additions that fit within the envelope of the existing building. A change in policy allowed for ADU construction in other pre-existing structures on the property, separate from the original building, as long as certain requirements are met.<sup>13</sup> This program expansion coincided with a substantial increase in permit applications.

### **ADUs, The Reality**

Like everything in San Francisco, building an ADU is expensive, costing anywhere from \$50,000 to \$200,000 or more.<sup>14</sup> ADUs are described as naturally affordable for renters, given the size of an ADU is generally that of a studio apartment. With these relatively low rents, it may take a homeowner a significant period of time to recoup the costs of building. City officials and other experts identified several factors that increase costs and discourage homeowners from

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<sup>10</sup><https://sfgov.legistar.com/View.ashx?M=F&ID=4571286&GUID=3E206909-6E9C-45CF-8A03-7CC4B44A0CBB>

<sup>11</sup> From interviews

<sup>12</sup> Document provided by Planning Dept.

<sup>13</sup> See Appendix D for requirements.

<sup>14</sup> Based on 172 permit applications that were approved before March 2018, provided by DBI

undertaking an ADU project. These include the time it takes to get permits and the costs of multiple permits.

Applying for an ADU permit, as it does for any new residential construction, requires the applicant to pay an architect to draw up plans, and that expenditure does not guarantee permit approval. During the permit process, five City agencies evaluate the design, building and safety code compliance, structural integrity, utility connections, and neighborhood impact. Scrupulous code compliance, a must in earthquake country, also slows the process.

The ADU approval process is slower than the Planning Department claims,<sup>15</sup> although it is getting better. The application must go through many departments, taking what the City estimates as six to nine months. The jury examined DBI records of ADU permits approved during 2015-2017; across 172 permit applications, the average processing time from start to approval was 364 calendar days. Within this time period, the Planning Department spent a median of 199 calendar days reviewing permits.<sup>16</sup>

The Department of Building Inspection has advanced a pre-application option, where interested parties meet with DBI and Fire Department inspectors before beginning the application process, to determine if a location is suitable for an ADU, and what requirements may be waived. DBI has initiated several internal procedures to speed up permit approval, which is highly commendable, including better tracking of permit applications. Once these new processes are fully in place, the department now claims that 92% of ADU applications can be approved over the counter, particularly when presented by an architect or contractor.<sup>17</sup>

In September 2017, shortly before his death, Mayor Ed Lee issued a directive to streamline and expedite the residential permitting process. The Planning Department responded on December 1st, 2017,<sup>18</sup> proposing to:

- 1) review permits jointly with the Department of Building Inspection, rather than separately;
- 2) join the pre-application reviews currently conducted jointly by DBI and Fire;
- 3) establish an ADU liaison in all responsible agencies;
- 4) develop capability for counter review service for Planning, similar to DBI; and

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<sup>15</sup>[http://default.sfplanning.org/plans-and-programs/planning-for-the-city/accessory-dwelling-units/2015\\_ADU\\_Handbook\\_web.pdf](http://default.sfplanning.org/plans-and-programs/planning-for-the-city/accessory-dwelling-units/2015_ADU_Handbook_web.pdf)

<sup>16</sup> See Appendix E for summary of results.

<sup>17</sup> From interviews

<sup>18</sup>[http://default.sfplanning.org/administration/communications/ExecutiveDirective17-02\\_ProcessImprovementsPlan.pdf](http://default.sfplanning.org/administration/communications/ExecutiveDirective17-02_ProcessImprovementsPlan.pdf)

- 5) develop a process with the Rent Board to speed up searches of eviction history for the property, the last major hurdle before permit approval.

Parallel processing of permits among departments has speeded up the approval time to some degree. Planning reported to us that they expect additional internal streamlining to cut their ADU review process to roughly sixty days.

A new City building is under construction at Mission and South Van Ness, where DBI, Planning, and DPW will reside. This will create the opportunity for a one-stop permit counter, relieving applicants from having to travel to various City buildings to obtain their ADU permits. Potentially, an inter-agency office can operate in this building, where point-persons from all the agencies involved in ADU permitting can coordinate their reviews, expedite permits, and improve communications. Interdepartmental meetings have discussed improvements to the permit process, but a one-stop counter and regular meetings are feasible only when these agencies are in the same building. This new building will not be completed for several years.

Some of the provisions in the Planning Department's response could be done before the building's completion. DBI and the Fire Department now consult prior to a formal permit application—the optional pre-application review—and Planning likely could join this review process as it currently exists. Doing so would be a promising start to the agency's plans for a quicker process.

## Fees

Fees charged for permits, at approximately 9% of projected building cost, are high enough to be a barrier for single family homeowners.<sup>19</sup> We understand that city building codes seem to call for permit fees to cover the costs of administering permits and inspections. ADU applications more than doubled each year from 2015 to 2017; this is a promising trend, but managing the increased demand necessitated more staff, which requires additional expenditure. Permit applications were submitted for over 1,000 ADUs in 2017, representing 20% of the late Mayor Lee's call for 5,000 new housing units a year.<sup>20</sup>

Fees during the permitting process cover building inspections and plan reviews. Additionally, there are City fees related to impact on the school district, street tree requirements which involve reviewing plans from the city to identify locations of street utilities, and other infrastructure considerations.

According to the Turner Center,<sup>21</sup> lower ADU permit fees appear to spur construction of ADUs, with Portland, Seattle, and Vancouver, BC cited as specific examples. In San Francisco, the costs

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<sup>19</sup> From interviews.

<sup>20</sup> <https://sfmayor.org/housing-for-residents>

<sup>21</sup> [http://turnercenter.berkeley.edu/uploads/ADU\\_Update\\_Brief\\_December\\_2017\\_.pdf](http://turnercenter.berkeley.edu/uploads/ADU_Update_Brief_December_2017_.pdf)



of construction are high, compared with national averages.<sup>22</sup> DBI records show that approved ADU projects range anywhere from an estimated cost of \$50,000 to \$200,000 per unit. In the jury's analysis of 172 ADU permit records<sup>23</sup> from DBI, permit fees represent about 9% of the projected construction cost of an added ADU. Permit fees could therefore add nearly \$20K to upfront costs, potentially deterring property owners from pursuing a permit that may or may not be approved. The Turner Center notes that the average cost of building an ADU is \$150,000 nationally, but given the higher cost of living in SF, agrees that a \$200,000 average is likely accurate for San Francisco conditions.

If a multi-unit building is undergoing seismic retrofit, either mandated or voluntary, the owner can bypass statutory limitations on the number of ADUs that can be added, and multiple ADUs are consolidated under one permit, rather than requiring a permit for each unit; this gives landlords an advantage over single-family homeowners. Perhaps not incidentally, the majority of ADU applications that we examined were for units in multi-family buildings.<sup>24</sup>

Given that individual homeowners are building voluntarily and at their own expense, and their efforts potentially contribute to the city's housing supply, it seems counterproductive to us to burden them with the additional obligation to finance a city agency's work—particularly in combination with a long and complicated process of permitting. We would like to see San Francisco relieve homeowners' ADU permit expenses and subsidize related building departmental functions from the general fund. This relatively small investment could go a long way to encouraging more ADU construction, which would contribute meaningfully to the housing inventory.

### **Costs and Financing**

Financing is also an issue, as many homeowners, saddled with high mortgage payments and property taxes, may not have the resources to invest in construction with no short-term profit. There may be a longer term profit when the original cost has finally been recouped through rental income, or a medium term profit if the house is sold, but combined with the disincentive of an immediate property tax increase, the prospect of financing such construction can be daunting for any homeowner.

Financing aside, construction costs are a major barrier for single family homeowners. Labor is expensive in San Francisco for many reasons, including the cost of living for workers. The supply of local labor is shrinking in a market with rising demand, which raises construction costs further.<sup>25</sup> <sup>26</sup> Additionally, the North Bay fires have stretched the Bay Area's construction and

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<sup>22</sup> <https://www.bizjournals.com/sanfrancisco/news/2018/01/24/sf-construction-costs-2nd-highest-housing-crisis.html>

<sup>23</sup> From copies of official documents provided by DBI

<sup>24</sup> See Appendix F

<sup>25</sup> <https://turnercenter.berkeley.edu/construction-costs-series>

trade unions very thin.<sup>27</sup> <sup>28</sup> It is axiomatic that where demand is high and supply is low, costs increase.

Most of the labor for ADU construction is non-union.<sup>29</sup> Representatives of the building trades indicate that the trade unions are generally not involved with small ADU construction, as large unions typically stick to large projects with greater emphasis on union labor. The non-union labor pool is more flexible, and it might be possible to supplement it with temporarily less expensive, but well supervised, trainees.

To conclude our discussion of ADUs, we believe that it might be possible to reduce costs for some homeowners if the City developed architectural templates for some single family homes. For example, the developer of most of the homes in the Sunset, Henry Doelger, used five basic architectural plans. If the City offered five standard ADU plans to fit into Sunset District homes, this could speed up the process of approval, add available units more rapidly, and save homeowners some or all of the expense of architectural plans.

## Modular Construction - The Potential

Construction labor is growing more scarce,<sup>30</sup> due in no small part to the high cost of living in San Francisco and the surrounding areas. When construction workers can't afford to live here or within reasonable commute distance, they find work elsewhere. At the same time, the cost of construction for both materials and labor continues to rise. Under these conditions, another alternative to traditional multi-unit residential construction methods offers the potential of noticeably increased efficiency. This alternative is modular housing construction—prefabricated units assembled in factories, delivered as freight, and assembled on site. These housing units have external utility connections already in place when delivered, and are stacked by crane on top of a specially-constructed concrete pad. When all the units are connected, the building's outer skin and roof are added.

Industry experts and local authorities agree that modular construction methods are expected to save both time and money compared to traditional methods. The Mayor's Office of Housing and Community Development (MOHCD) estimates that, in San Francisco, modular construction would reduce building costs by 7-15%, and would reduce time of construction by 10-15%. Estimates for other areas of the country estimate cost savings of 20-30% and time savings of 30-50%, depending on conditions. The Turner Center for Housing Innovation and other independent

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<sup>26</sup> From interviews

<sup>27</sup> From interviews

<sup>28</sup> <http://www.sacbee.com/news/local/article179433551.html>

<sup>29</sup> From interviews

<sup>30</sup> <https://www.mercurynews.com/2018/02/25/hidden-cost-of-housing-how-a-shortage-of-construction-workers-is-making-our-crisis-worse/>

experts also predict time savings of up to 50%.<sup>31</sup> There are several factors that go into these efficiencies:

- Production line efficiency—building identical or similar units one after another in a factory setting allows for more efficient staging of materials and more efficient use of workers’ time. These efficiencies save both time and expense.
- Parallel work—while the housing units are being built in a factory, the specially-constructed on-site concrete foundation pad can be built concurrently, which saves time.
- San Francisco as a special case—logistical, labor, and political issues affect how much time and expense can actually be saved in City-sponsored residential projects that use modular construction. Those issues are detailed in a later section of this report.

Modular construction of residential units is an industry that has been growing and maturing for more than 20 years. Construction techniques for modular units and for the underlying concrete pad have become more sophisticated and precise over time, so that the units fit better on the pad, and fit together without gaps or leaks. Research and testing to improve processes and materials are constants in the industry.

San Francisco’s urgent need for housing and the City’s budget constraints mean that modular construction methods deserve more serious consideration for City-sponsored, below-market residential projects than they have received. The City needs to look beyond and creatively challenge current practices in housing construction.

The first step is now being taken: MOHCD is financing a residential project for homeless people located at 1068 Mission Street, with up to 250 housing units, and they have decided to build it with modular housing units.<sup>32</sup> It should be breaking ground soon, and is planned to be completed in 2021. The units will be built by a company called Factory OS, located in Vallejo. The Carpenters Union has signed an exclusive labor contract with Factory OS to build modular units at that location.

The land for this project was acquired from the federal government in a deal which puts time pressure on the project.<sup>33</sup> Even more pressure, perhaps, is on MOHCD to make this modular project work within the expected time and cost parameters. This is the first City-sponsored modular residential project and it will be the crucible that builds management experience and skill for future modular projects. The concern expressed by MOHCD is that this first project may by itself be used to gauge the viability of modular construction techniques. City authorities have told us that it could take up to five modular projects before they can be sure whether modular

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<sup>31</sup>[http://ternercenter.berkeley.edu/uploads/A.Stein\\_PR\\_Disruptive\\_Development\\_-\\_Modular\\_Manufacturing\\_in\\_Multifamily\\_Housing.pdf](http://ternercenter.berkeley.edu/uploads/A.Stein_PR_Disruptive_Development_-_Modular_Manufacturing_in_Multifamily_Housing.pdf)

<sup>32</sup> From interview

<sup>33</sup> Based on interviews: the project must be completed and occupied with 3 years of the start date or the current property deal will be rescinded. What deal might take its place if the project fails to meet that timeline is unknown.

construction methods should be adopted by them generally. Fortunately another, larger homeless residential project is being planned by the Office of Community Investment and Infrastructure (OCII) for Mission Bay Block 9, and they are strongly considering using modular construction for that project. We hope that modular construction methods for city-supported below-market housing will not be abandoned prematurely, before they have been adequately tested by experience.

There is further potential to the 1068 Mission homeless residential project that would work to reduce the housing shortage and to benefit the homeless themselves. Due to the agreement to obtain this Federal land, the project will not allow any retail on the ground floor. This area could provide space for training for both traditional building skills and new modular construction practices. Also, being trained in the building trades would provide a new path forward for the formerly homeless, and lessen the labor shortage.

### **Modular Construction - The Challenge**

Over the course of our interviews, we learned of a number of logistical challenges associated with modular construction that don't apply to traditional building methods. Some of these are unique to San Francisco, some are built-in parts of the process.

- Transportation—the size of each unit is substantial, and requires a large transport vehicle to move it from the factory to the job site. In addition to traffic issues along the way, this requires more unloading space than normal at the job site.
- Unit storage—to keep work flowing, a number of finished units will have to be stored at the job site before being installed. This requires more storage space than normal at the job site.
- Larger crane—lifting the large units to their place in the building requires a larger crane than normal, and this takes up more than the usual space required for a crane.
- Narrow streets—many San Francisco streets tend to be narrower than other cities. This means that wide vehicle loads and larger unloading areas will have a larger negative impact on traffic than in other cities, and a larger impact than other construction methods in San Francisco.
- Lack of open space—San Francisco does not have a lot of open space in many areas of the city. This means that it can be more difficult to fit into a building site the extra space required for unit storage and a larger crane.
- Vulnerability to weather—unlike traditional construction, modular units are installed before the building's exterior walls or roof, and finished unit interiors can be damaged by rain or excessive moisture. Units are delivered covered in protective wrappings, but at least some of those wrappings must be removed for installation. Manufacturers need to devise means to address this challenge.

Clearly, based on these logistical issues, construction space for a modular project will need to be larger than normal, and extra attention will need to be given to its impact on sidewalks, parking, and traffic. Modular construction may, therefore, not be feasible in some areas of the city.

There are also concerns about inspection of the modular units. Inspection of the interiors of units as they are built must happen at the factory, and currently these inspections are done by state inspectors following state building codes. Construction site inspections, in contrast, are conducted by City officials applying San Francisco building codes, which are in some cases more rigorous than state codes. Since modular unit interiors are finished when they arrive at the construction site, City inspectors can't inspect the plumbing, wiring, and construction integrity. This is a cause for some concern if San Francisco inspectors are not present at the factory. For modular units built outside the city, it may be necessary for City inspectors to travel to the factory to inspect for compliance with San Francisco building codes as the units are built. If this is not done, some San Francisco buildings would end up built to less strict codes than others.

San Francisco's construction trade unions have their own problems with modular construction projects. Some of these unions (plumbing, sheet metal workers, electricians)<sup>34</sup> have existing contracts that forbid them from working with components that were not manufactured with the participation of their union members, and that description would currently include all modular housing units. When those unions can't participate in a project, it becomes a non-union project, and that keeps the other unions from working there as well. Other trade unions that don't have that specific clause in their contracts have agreed to waive that restriction and work on a non-union site only for City-sponsored homeless residential projects, such as the one at 1068 Mission Street, and the one at Mission Bay Block 9, should that one be built with modular construction.

One proposal that would resolve both the problem of local building codes and inspections, and the trade union issues, would be to establish a modular residential unit factory, staffed with union labor, here in San Francisco. Units built in such a factory would be subject to local building codes and would have City inspections. The units would be built within the parameters of existing union contracts, and City-sponsored modular projects would be able to proceed as fully unionized work sites. This may be the only way forward for modular construction of City-sponsored residential projects in San Francisco. Private contractors may choose to build their modular projects using non-union labor, but the City does not have that option for its projects.

Establishing a modular unit factory in the city has other advantages:

- Such a factory would increase middle-class manufacturing jobs in San Francisco.
- A factory employing union labor ensures best practices, good construction quality, and fair wages.
- A factory setting can serve as a training ground for trade union apprentices.

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<sup>34</sup> From interviews

- A modular factory would help retain building trade expertise within the city, and build a stronger labor force.
- Producing modular units in San Francisco would reduce transportation costs from the factory to the building site in the city.

The City and the trade unions are discussing the possibility of such a factory, and have already identified a potential site. There is much to consider, including a possible new paradigm of construction labor. Factory work is very different from on-site construction, and modular construction could end up creating a new factory-based trade union.<sup>35</sup> Most current trade union skills could translate to a factory setting, but someone who has been trained and has worked only in a factory will not have the same skills as a current trade union journeyman. Unions, developers, and the City will have to negotiate these changes.

## CONCLUSION

It clearly doesn't work to depend on developers to provide housing for all San Francisco residents, as below-market and middle class housing are left further and further behind. All construction methods and formats face the escalating costs of construction in the city. A city that has always been a nexus of innovation must actively pursue and implement alternatives to traditional housing construction. We have identified two kinds of alternative building methods that can help to meet the City's housing needs: ADUs in single family homes, and modular construction for multi-unit residential structures .

For ADUs, we wholeheartedly recommend accelerating the permitting process and lowering the fees for building them. Other cities have shown that lowering fees increase homeowners' willingness to apply for permits. This approach would require funding the costs to City departments of ADU permit processing and inspections from other sources, such as the general fund. We also envision creating a job training program within the first homeless housing project to teach homeless workers preparatory skills for construction work.

Modular construction is another alternative worth pursuing more actively than it has been in San Francisco; considered strictly as a construction method, it is both faster and cheaper than conventional construction. It may take as many as five projects using this alternative building process to get a real understanding of the benefits and challenges, specifically in San Francisco. There is only one project currently in the works, and possibly two, if the OCII project commits to modular construction for Mission Bay Block 9. We will need to do more of these.

The City has changed dramatically in the 21st century, and that calls for new ways of addressing the housing needs of a growing population. ADUs offer the possibility of increased density, without changing the look and feel of our neighborhoods, a process pleasing to both proponents of greater density and advocates of protecting neighborhood character. As we face the challenges

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<sup>35</sup> From interviews.

of getting our homeless citizens off the streets and of housing our middle and working classes, cheaper and faster methods are vitally important. Modular construction appears to be one solution, and we will see how these first attempts meet those goals and satisfy those standards. The needs are clear, and these two alternatives offer new ways to deal with a new city.

## FINDINGS

- F1. The City has produced more than the required market rate housing to satisfy market demand using traditional building practices, but not nearly enough below market rate housing. Taking better advantage of alternative construction methods can increase the City's ability to narrow the below-market housing gap. (No recommendation)
- F2. Construction of ADUs can add a meaningful number of moderately priced rental housing units in San Francisco, with no significant burden on City finances. Therefore, encouraging ADU development is of value to San Francisco. (R1, R2, R3, R4, R9, R10)
- F3. The City has provided a program to encourage ADU construction, and as a result, the number of ADU permit applications has been growing dramatically. Further improvements to this program will help ADU construction to continue on a successful trajectory. (R6)
- F4. The length of the permitting process for ADUs is a major factor in limiting the speed of bringing ADUs to market to help meet the housing shortage. Shortening the ADU permitting process both expedites and encourages ADU construction. (R4, R6)
- F5. The Planning Department expects to establish a one-stop permit center in its new building, which would bring together all agencies involved in the permit process, and thereby expedite approvals, but the new building won't be ready until 2020; therefore, interim measures to expedite ADU approvals are needed. (R4)
- F6. The City's ADU program acknowledges the value to the City of increasing ADU construction. Homeowners who construct ADUs do so voluntarily and at their own expense. The additional burden of heavy permit fees is counterproductive to the City's goal of increasing the rate of ADU construction, in that it represents an additional barrier to building ADUs for single family homeowners, and therefore likely reduces the number of applications. (R2, R3)
- F7. Cities that lower permitting fees for ADUs, as Portland, Seattle and Vancouver, BC have done, see an increase in the number of permit applications by single family homeowners; if San Francisco reduces permitting fees for that type of ADU permit applications, they are likely to increase. (R2, R3)
- F8. The City's Building and related construction codes place limitations on what can be built, inhibiting some homeowners from building ADUs. Allowing exceptions from these

requirements, when it can be done without compromising safety, helps homeowners add ADUs to their homes. (R1, R9)

- F9. The Planning Department’s current public outreach program is a good start, but the material needs to be updated, and it is not reaching enough people. Better outreach directed to more homeowners will likely lead to an increase in applications for construction of ADUs in single family homes. (R10)
- F10. Spaces at the 1068 Mission and possibly the Mission Bay Block 9 homeless housing projects may be suitable for construction trade “soft skills” training—preparatory training for construction work. This could be facilitated by DSHS as part of the CityBuild program. The end result could be a strengthened labor force. (R5)
- F11. When the City is building housing using factory-constructed modules from outside the City, the factory construction of those modules is subject to state building codes but not local building codes. If local building codes are not taken into account at the factory, there can be code compliance problems at the project site. (R8)
- F12. Some current trade union contracts prevent the City from using modular construction for City-sponsored below market housing projects, and further slow progress on below market housing. (R11)
- F13. It may take as many as five residential modular construction projects for the City to accurately assess this alternate construction method, including an assessment of cost and time benefits. In addition to the 1068 Mission project, it will be helpful to this assessment if the pending homeless housing project at Mission Bay Block 9 is built using modular construction methods. (R7)
- F14. The building trade unions are open to talks with the City to establish a factory for modular unit construction in San Francisco, staffed by union workers, and committed to best practices, and this is a promising start to trade union acceptance of modular construction technology. (R11)

## RECOMMENDATIONS

The San Francisco Civil Grand Jury:

- R1. Recommends the Planning Department and the Department of Building Inspection jointly review their codes and submit joint recommendations to the Board of Supervisors no later than April 1, 2019 for code amendments designed to encourage homeowners to build more ADUs. (F2, F8)



- R2. Recommends the Board of Supervisors amend existing City codes and ordinances, before June 30, 2019, to waive or reduce ADU permit fees, with the understanding that reduced departmental revenues would be made up from the City's general fund. (F2, F6, F7)
- R3. Recommends the Board of Supervisors structure fees separately for ADUs in single family residences and ADUs in multi-unit buildings, specifically designed to ease the permitting costs for single family homeowners. (F2, F6, F7)
- R4. Recommends the five agencies involved with ADU permitting establish a shared meeting space by January 1, 2019, and not wait for the completion of the new shared agency building. This space would be used by point persons from each of the five permitting agencies to expedite the ADU permit approval process. (F2, F4, F5)
- R5. Recommends that MOHCD and OCII require the managers of 1068 Mission Street and possibly Mission Bay Block 9 to reserve ground floor space for use in training construction workers, including training in ADU construction methods and modular unit construction work. (F10)
- R6. Recommends the Department of Building Inspection work with the Department of the Controller to develop meaningful, outcome-based performance metrics on ADU permit approval duration, to be reported on OpenData starting January 2019. (F3, F4)
- R7. Recommends the Office of Community Investment and Infrastructure make its best effort to encourage the developer to use modular construction for the Mission Bay Block 9 homeless housing project. (F13)
- R8. Recommends the Department of Building Inspection regularly inspect modular factories outside the City, if those factories are building housing for the City, to ensure construction is built to comply with City codes. (F11)
- R9. Recommends the Planning Department waive parking space requirements for ADUs built in single-family residences. (F2, F8)
- R10. Recommends the Planning Department expand its public outreach on ADUs to increase homeowner awareness of ADU opportunities. (F2, F9)
- R11. Recommends the Mayor support the establishment of a union-staffed modular housing factory in San Francisco. (F12, F14)

## REQUIRED RESPONSES

Pursuant to Penal Code section 933. The San Francisco Civil Grand Jury requests responses as follows:

From the following individuals:

Director, Mayor's Office of Housing and Community Development (MOHCD)  
(F10, F11, F12, F13, F14)  
(R5, R8)

Director, Planning (City Planning) Department  
(F2, F4, F5, F6, F7, F8, F9)  
(R1, R4, R9, R10)

Director, Department of Building Inspection  
(F2, F3, F4, F5, F6, F7, F8, F11)  
(R1, R4, R6, R8)

Chief, Fire Department  
(F2, F4, F5)  
(R4)

Director, Department of Public Works  
(F2, F4, F5)  
(R4)

General Manager, Public Utilities Commission  
(F2, F4, F5)  
(R4)

Controller, Office of the Controller  
(No Findings to Respond To)  
(R6)

Director, Department of Homelessness and Supportive Housing  
(F10)  
(R5)

Director, Office of Community Investment and Infrastructure  
(F10, F11, F13)  
(R5, R7, R8)

San Francisco Board of Supervisors  
(F2, F6, F7)  
(R2, R3)

Office of the Mayor  
(F12, F14)  
(R11)

## GLOSSARY

ADUs: Accessory Dwelling Units. Living spaces added to existing residential properties, sometimes referred to as “in-law” units.

DBI: Department of Building Inspection.

DPW: Department of Public Works.

DHSH: Department of Homelessness and Supportive Housing.

Modular Units: Prefabricated housing units assembled at a factory for delivery to a construction site.

MOHCD: Mayor’s Office of Housing and Community Development.

OCII: Office of Community Investment and Infrastructure. Successor to the San Francisco Redevelopment Agency.

SFPUC: San Francisco Public Utilities Commission.

SPUR: A think tank formerly known as the San Francisco Bay Area Planning and Research Association.

Terner Center for Housing Innovation: A think tank affiliated with UC Berkeley.

## APPENDICES

Appendix A: City lots where ADU additions are currently allowed:

[https://data.sfgov.org/Housing-and-Buildings/Accessory-Dwelling-Units-ADU-/9ci8-cnht?category=Housing-and-Buildings&view\\_name=Accessory-Dwelling-Units-ADU-](https://data.sfgov.org/Housing-and-Buildings/Accessory-Dwelling-Units-ADU-/9ci8-cnht?category=Housing-and-Buildings&view_name=Accessory-Dwelling-Units-ADU-)

Appendix B: ([https://data.sfgov.org/Housing-and-Buildings/Accessory-Dwelling-Units-ADU-/9ci8-cnht?category=Housing-and-Buildings&view\\_name=Accessory-Dwelling-Units-ADU-](https://data.sfgov.org/Housing-and-Buildings/Accessory-Dwelling-Units-ADU-/9ci8-cnht?category=Housing-and-Buildings&view_name=Accessory-Dwelling-Units-ADU-)

Appendix C: The video (<https://www.youtube.com/watch?v=y9ymJxOBSHI&feature=youtu.be>) shows how a unit is installed and the process of application to build one

Appendix D: Until 2017, the city only allowed ADUs within the envelope of the existing building. Starting in 2017, the city allowed ADUs in other existing structures on the property, such as free-standing garages. Additionally, if a property has a large porch extending over a yard,

the owner can extend an ADU to the dimensions of the porch.<sup>36</sup> Additionally, in 2017, Ordinance 162-17 was passed, easing ADU restrictions regarding the number of ADUs that can be built in a multi-unit building and exemptions to Costa Hawkins.<sup>37</sup>

Appendix E: Review of 172 ADU permit records for duration of permit process per department.

	Intake to Planning GAP	Days in Planning	Planning to DBI GAP	Days In DBI	Days After Planning	Total Days	Total "Gap" Days
Highest Value	169	747	31	376	423	858	170
2nd Highest Value	96	479	23	316	415	747	97
Lowest Value	0	0	0	0	1	24	0
2nd Lowest Value	0	0	0	0	21	33	0
Average	9.14	199.15	1.77	79.63	156.33	364.61	10.89
Median	2	175.5	1	52.5	140	348.5	4

Appendix F: Review of 172 ADU permit applications for number of units built compared to number of pre-existing units.

<sup>36</sup><https://sfgov.legistar.com/View.ashx?M=F&ID=5170884&GUID=F4CABC66-C96B-41FE-A2AA-321AB6DFF79A>

<sup>37</sup><https://sfbos.org/sites/default/files/o0162-17.pdf>

Permit Application distribution by # of units of original building

Data source: June 2015 - Dec 2017 from DBI

<i>COUNT</i> <i># OF</i> <i>EXISTING</i> <i>UNITS</i>	<i>ADUs added per application</i>							Grand 6 Total
	0	1	2	3	4	5	6	
0		1	1					2
1	1	16						17
2		8	1					9
3		5	3					8
4		3	1					4
5		6	1					7
6		24	9	8	3			44
7		2	2	1				5
8		4	1	1				6
9		7	3	3				13
10		1	1					2
11		1	1					2
12		6	8	6		2		22
13		1						1
14		1	1		1			3
15		1			1		2	4
16		2						2

17			1			1		2
18						1	1	2
19			1					1
20			1					1
21							1	1
23			1					1
24		2						2
27				2	1			3
28				1				1
29			1					1
30					2			2
34			1					1
42			1					1
49			1					1
55		1						1
<b>Grand Total</b>	<b>1</b>	<b>92</b>	<b>41</b>	<b>23</b>	<b>7</b>	<b>4</b>	<b>4</b>	<b>172</b>

#### Appendix G: Rules for Calculation of Permit Fees in San Francisco City Codes

The San Francisco Building Code provides for fees in sections 107A and 110A, and spells out fee calculations in enormous detail in Table 1A-A, section 110A. Parenthetically, these sections note that other departments may also charge fees, including Public Works, Planning, Fire, and other agencies. The San Francisco Planning Code states in section 350(a) that the Planning Department "...shall charge fees," and that "...the Board of Supervisors may modify the fees by ordinance at any time."

### BIBLIOGRAPHY

Beyer, Scott. San Francisco's Bureaucracy, Unions Stifle Modular Housing For Homeless. *Forbes*, September 23, 2016.

Cohen, Josh. Urbanists, Architects Say Backyard Cottages Are a Must in Affordable Housing Push. *Next City*, October 30, 2017.

Dineen, JK. SF set to start process for building modular housing for formerly homeless. *San Francisco Chronicle*, January 22, 2018.

Eisen, Tracy. SF's Population Is Growing Way Faster Than Its Housing Stock. *Curbed San Francisco*. February 4, 2015.

Hogan, Mark. ADU Handbook. [sf.gov](http://sf.gov)

Landes, Emily. Bay Area home inventory reaches 'crisis level.' *SFGate*, January 19, 2018.

Metcalf, Gabriel. Sand Castles Before the Tide? Affordable Housing in Expensive Cities. *Journal of Economic Perspectives*, Volume 32, Number 1, Winter 2018. Pp. 59-80.

Metcalf, Gabriel. [The Permanent Housing Crisis. SPUR Urbanist, August 29, 2017.](#)

Sabatini, Joshua. Just 23 in-laws built after two years as SF seeks to iron out approval process. *San Francisco Examiner*, February 25, 2018.

Sabatini, Joshua. SF turns to modular construction of Mission Bay homeless housing to expedite project. *San Francisco Examiner*, April 25, 2018.

Wang, Kristy. Is San Francisco Finally Ready to Make In-Law Units Legal? *SPUR*, July 5, 2016.

Terner Center for Housing Innovation, [Jumpstarting The Market For Accessory Dwelling Units: Lessons Learned From Portland, Seattle, And Vancouver](#) , April 2017