



HOMESHARING IN SAN FRANCISCO: A REVIEW OF POLICY CHANGES AND THEIR IMPACTS

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Housing affordability issues in San Francisco have come to a head in the last few years as average rental prices have grown from \$2,200 per month in 2010 to over \$3,600 per month at the end of 2017. With wages growing at a slower pace, higher rents have pushed some families to relocate while other households are kept from accessing the San Francisco housing market.

Coincidentally, the practice of homesharing via short-term rentals on platforms such as Airbnb, VRBO, and HomeAway has grown significantly in San Francisco over this same time. This overlap has made homesharing a divisive issue. Its proponents say the ability to generate revenue by sharing their home allows them to continue living in San Francisco affordably. Detractors say permanent vacation rentals are taking housing units off of the traditional market, raising home and rental prices, and changing the character of their neighborhoods.

This division has also made homesharing an ongoing topic for policymakers, with city hall debating numerous

policy measures and voters weighing in at the ballot box. Most recently, Airbnb and HomeAway agreed to put in place a system that ensures all hosts are registered with the city's Office of Short-Term Rentals ("OSTR"). Requiring all hosts on the platform to register (with limited exceptions), in combination with a primary residency requirement, will effectively eliminate hosts that rent their entire unit on the short-term market for more than 90 days per year and provide the city with the data necessary to implement a real enforcement mechanism for the first time.

In creating a registration system with strict qualification guidelines, San Francisco policymakers have ensured that homesharing has no impact on the traditional rental market. The policies enacted solve for the unique issue that local policymakers were trying to address, but they may not be applicable to other cities that face their own set of economic circumstances related to the growth of the short-term rental market.

SAN FRANCISCO'S HISTORY OF REGULATING HOMESHARING

While the agreement between the city and homesharing platforms is the most comprehensive attempt to enable the growth of homesharing while limiting its negative aspects, it is not the first regulation placed on short-term rentals in San Francisco. The following list details homesharing regulations dating back to 2014:

- **October 2014: The San Francisco Board of Supervisors votes to legalize homesharing in San Francisco.** While companies like Airbnb, HomeAway, and VRBO were operating well before this legislation passed, home rentals of less than 30 days were technically illegal in San Francisco. However, the city had little power to enforce this rule. The legislation limited homesharing to 90 days per year when the host is not present (i.e., entire home rentals). This law had no cap on the number of days a private or shared room in a larger unit (where the host is present) could be rented. Additionally, hosts were required to sign up through a city registry, collect transient occupancy taxes, and carry liability insurance. Airbnb assisted its hosts in complying with these requirements by collecting occupancy taxes (and transmitting them to the city) and providing liability insurance.
- **July 2015: Board of Supervisors creates Office of Short-Term Rentals to enforce 90-day un-hosted cap.** At the same time, the Board of Supervisors voted down a proposal to cap any type of short-term rental at 75 days per calendar year.
- **November 2015: San Francisco voters reject Proposition F.** With only a small portion of short-term rentals registered with the city, Proposition F would have restricted all such private rentals to 75 days per year and imposed provisions designed to ensure that short-term rentals were paying hotel taxes and following city code. It also would have required guest and revenue reports from hosting platforms every three months and imposed fines for illegal posting. In addition, Proposition F would have authorized private action lawsuits against those suspected of violating the law.
- **June 2016: The Board of Supervisors passed legislation requiring short-term rental companies to verify that all listings have a San Francisco registration number before posting them online.** When the city identifies unregistered rentals (at this point, only 1,400 of approximately 7,000 listing had registered), the legislation requires the platform to respond with details about those properties within one business day or face fines of up to \$1,000 per day. Airbnb and HomeAway challenged the new rule in a court complaint filed later in the month.
- **December 2016: Mayor Lee vetoes 60-day cap legislation.** Board of Supervisors President London Breed introduced stricter legislation that would have imposed a 60-day cap on short-term rentals. The 60-day cap would have applied to all types of rentals, regardless of whether the host is present or not. The Board of Supervisors voted to approve the cap, but the legislation was vetoed by Mayor Lee.
- **May 2017: Airbnb and HomeAway agree to settle their lawsuit with the city.** As part of the settlement, homesharing platforms will collect data from their hosts that will be passed on to the city's Office of Short-Term Rentals. This pass-through registration ("PTR") system will block unregistered short-term rentals from being listed and will give the city information to vet hosts. The companies also agreed to cancel reservations and deactivate listings if the city notifies them of an invalid registration. Once the system is fully implemented in January 2018, hosts will no longer be able to list their homes on the various platforms without first registering.

The following sections will highlight how PTR works in practice and what the future of homesharing in San Francisco looks like in the wake of PTR. As an update to our November 2016 report, *Limits on Homesharing*, this report will also analyze the potential effects of additional restrictive short-term rental regulations on housing affordability.

THE BASICS OF PASS-THROUGH REGISTRATION

Per the terms of a settlement agreement reached between the city, Airbnb, and HomeAway, San Francisco's homesharing pass-through registration ("PTR") system meets compliance standards set by legislation passed in June 2016 by the Board of Supervisors. Beginning September 6, 2017, Airbnb began allowing hosts to register through its online platform, with Airbnb then submitting registration applications to the Office of Short-Term Rentals on behalf of its hosts.

To be eligible for registration, hosts must prove that the listed unit is their primary residence and hosts are only allowed to register at one address. Hosting platforms are required to remove any remaining unregistered San Francisco listings by January 2018.

Hosts will have to provide quarterly reports to the Office of Short-Term Rentals on their rental activity. The 90-day cap on unhosted stays remains in place, and the PTR system and reporting requirements will allow the city to

flag listings that are not in compliance with the law.

Hosting companies will cancel reservations and deactivate listings if the city notifies them of an invalid registration going forward. Hosting platforms must also submit a monthly affidavit to the city affirming that they have verified that all hosts using the service are registered with the Office of Short-Term Rentals. Once the system is fully implemented in January 2018, hosts will no longer be able to list their homes on the various platforms without first registering.

While PTR provides San Francisco with a mechanism to effectively collect data on and monitor the city's short-term rental market, it is important to note that the restrictions included in the registration process have limited applicability to other U.S. markets—few of which face the extreme housing affordability challenges that are experienced in San Francisco.

HOW PASS-THROUGH REGISTRATION ADDRESSES THE CRITIQUES OF THE SHORT-TERM RENTAL MARKET

With housing affordability and displacement becoming key issues in San Francisco, short-term rental platforms have often been targeted by neighborhood groups and affordability advocates as a major cause of the problem. San Francisco Chronicle articles entitled "Is Airbnb to blame for high housing prices in SF?" and "Airbnb irks Twin Peaks neighbors" highlight arguments from those opposed to the growing prevalence of homesharing. The PTR system and other pieces of the recent homesharing settlement with the city address many of these concerns as detailed below:

ARGUMENT #1: Homesharing is the cause of San Francisco's housing affordability crisis

Critics of short-term rentals often point to the fact that some can effectively operate as hotels with an absentee owner, bringing in new guests each week throughout

the year to occupy an entire unit. Under San Francisco law, these types of rentals have always been illegal, but the city faced challenges in effectively policing such activity. Airbnb also recognized the potential negative implications of this type of hosting, and it removed 1,400 listings from its platform through its One Host, One Home policy which limited hosts to only sharing listings at one address within the city.

The primary residence requirement, in combination with all hosts on the platform being registered with the city, ensures that property owners listing multiple units in San Francisco will no longer be able to use homesharing platforms as a way to generate revenue.

The 90-day cap on unhosted rentals also ensures that there cannot be competition between the long-term and short-term rental market in San Francisco. The

analysis in the next section shows that across San Francisco, units would have to be booked on the short-term market for much more than 90 days for property owners to place a full unit on the short-term market instead of the traditional long-term market. Renting a full unit for more than 90 days in San Francisco without an owner present is illegal, and it will now be strictly enforced through the data collected by the Office of Short-Term Rentals.

Even before the settlement and the implementation of PTR, short-term rentals had little impact on home prices in San Francisco. In 2015, the San Francisco Chronicle found that 352 entire home rentals were operating as full-time vacation rentals on Airbnb—accounting for less than 0.1% of the city’s total housing inventory as of the end of 2016. With Airbnb’s One Host, One Home policy, many of these illegal units were removed. Our own report on housing affordability in San Francisco also showed that the strictest regulations on homesharing would actually create more affordability issues as local income is lost.

ARGUMENT #2: All short-term rentals are vacation rentals

According to data tracked by AirDNA, approximately 58% of the more than 7,800 Airbnb listings in San Francisco are for entire homes (as of June 2017). The bulk of those listings are for units that are rented out while the primary occupants are away for work or travel. Another portion of entire home listings—such as those listed by traditional hotels, bed and breakfasts, and listings of more than 30 days—are exempt from the primary residence requirement and 90-day cap.

PTR ensures that non-conforming rentals (i.e., homes that are not primary residences) are not registered in the first place. With no city registration, a host will not be able to list a unit on any homesharing platform. In addition to the registration system eliminating multiple units listed by the same host, the 90-day hosting cap also means that no short-term rental can

be operated as a vacation rental. Shared rentals and private room rentals where a host remains present will remain uncapped under the settlement; however, these listings are much less likely to generate neighborhood complaints when compared against short-term rentals from absent hosts.

ARGUMENT #3: The city does not have adequate tools to track short-term rentals and remove those that are illegal

Even with a dedicated Office of Short-term Rentals and a 90-day cap on unhosted rentals—both of which have been in place for multiple years—the city struggled to track down hosts and understand their activity on homesharing platforms. Under the PTR system and the city’s new rules for host reporting, the Office of Short-Term Rentals can deny a registration it deems illegal and it will have quarterly data on host activity. Required host registration and data reporting makes the 90-day cap and primary residency requirements truly enforceable for the first time. Homesharing platforms are also required to remove any postings that the city flags as invalid or face a fine.

ARGUMENT #4: Landlords lose control of how their property is being used

While notification of landlords when a unit is hosted on the short-term rental market has been a law since 2014, the lack of a comprehensive registration system kept many landlords in the dark about how their units were being used by tenants. Under the PTR system, the city will send a notice to the property owner to inform him or her of the tenant’s intention to list the unit on a homesharing platform. This will occur when the Office of Short-Term Rentals receives a host’s application, which will then be cross-checked against city real estate ownership records. The mandatory registration system eliminates the gaps in notification that existed prior to the institution of PTR, providing landlords the information they need to determine how they want their property to be used.

WILL MORE RESTRICTIVE CAPS IMPACT HOUSING SUPPLY IN SAN FRANCISCO?

The key pieces of the city registration requirement for hosts make it nearly impossible for homesharing to impact the market for long-term housing.

While PTR addresses all remaining concerns about homesharing’s impact on housing affordability, the possibility for tighter rental caps on short-term rentals remains. Last year, we analyzed how a 60-day cap might impact housing affordability in San Francisco. While no such proposal currently exists, a more restrictive 60-day limit has been the preference of the San Francisco Board of Supervisors in the past.

Below, we show that the existing 90-day cap is already effective in limiting competition between the short-term and long-term rental markets. The primary residency requirement provides an added layer of enforcement, as owners of multiple properties that were operating commercially on homesharing platforms will not be able

to register more than one unit. The data shown for long-term rentals is taken from Rent Jungle, while short-term rental rates are taken from InsideAirbnb.

We acknowledge that short-term rentals that are hosted may allow home buyers and renters to “over-buy,” (for example, a single person may rent a two-bedroom apartment and place the extra bedroom onto the short-term rental market; in absence of homesharing, another roommate could have occupied the unit full-time).

However, these instances are likely to have limited effect on unit occupancy in San Francisco as the long-term rental market for single bedrooms would be far more lucrative than the less certain income from homesharing. Therefore, there are no economic incentives to convert bedrooms into short-term rentals. When these instances do occur, they are likely motivated by a desire to add income while maintaining a non-shared residence.

Breakeven Analysis:

	Long-Term Rentals		Short-Term Rentals		Breakeven Number of Short-Term Rental Days
	2BR Long-Term Monthly Rent (\$)	Average Annual Income, Long-Term Rental (\$)	Average Home/Apartment Daily Short-Term Rental Price (\$)	Average Daily Income, Short-Term Rental (\$)	
Bernal Heights	5,216	48,818	204	153	319
Castro/Upper Market	4,310	40,341	248	186	217
Haight Ashbury	4,649	43,517	252	189	230
Inner Richmond	4,425	41,415	237	178	233
Inner Sunset	4,164	38,978	272	204	191
Marina	4,263	39,902	333	250	160
Mission	4,378	40,976	208	156	263
Nob Hill	3,961	37,073	241	181	205
Noe Valley	4,560	42,685	274	206	208
North Beach	3,441	32,210	262	197	164
Outer Richmond	4,338	40,607	202	152	268
Pacific Heights	4,919	46,046	354	266	173
Potrero Hill	4,980	46,612	290	218	214
Russian Hill	5,156	48,264	342	257	188
South of Market	4,891	45,781	334	251	183
Western Addition	4,451	41,658	266	200	209

Note: Short-term rental prices are based on listed values and include those units/rooms that are posted but go unrented. Because of this, the short-term rental prices shown are likely slightly inflated and breakeven numbers are likely higher in reality.

To analyze how a more restrictive cap might affect housing supply, we assume that homeowners and landlords seek to maximize their income in deciding between listing a unit on the long-term rental market or sharing the unit on a short-term basis. Thus, there is some breakeven level where both options provide a homeowner or landlord with the same level of income. Our analysis of 16 San Francisco neighborhoods shows that hosts would need to share their unit on the short-term rental market for 319 days in Bernal Heights at the high end and 160 days in the Marina at the low end to justify a short-term rental over a long-term lease.

KEY FINDING: Given the high breakeven requirement to make short-term rentals more profitable than long-term rentals, one can conclude that the 90-day cap is sufficient in ensuring that short-term rentals are not displacing units from the traditional long-term rental market.

WILL A TIGHTER CAP IMPACT HOUSING AFFORDABILITY?

The preceding analysis shows that a cap more restrictive than 90 days will have no impact on the supply of housing and in turn, no impact on housing affordability. Where a more restrictive cap will impact affordability is in reducing revenue acquired by San Francisco residents through homesharing platforms.

Leveraging the unique methodology we created in our 2016 report *Solving the Housing Affordability Crisis*, we analyze the impact of more restrictive caps on the incomes of hosts, many of whom rely on homesharing income to make their rental and mortgage payments.

Using data compiled by the data service AirDNA, we can estimate the average amount of income per host that would be lost under more restrictive caps for all types of short-term rentals, as compared to the current 90-day cap when the host is not present. We first catalogue short-term rentals into three categories: entire home, shared rooms, and private rooms. According to AirDNA data—which scrapes data from Airbnb’s

platform—there were 7,812 active short-term rental listings in San Francisco as of June 2017. We note that the number of active listings in 2018 is likely to be somewhat lower with the requirement for homesharing platforms to remove unregistered listings. Given the difficulty in projecting the number and type of listings removed, we use the June 2017 data in our analysis.

From this data and other figures collected from AirDNA, we are able to divide these short-term rentals by duration, as shown below. AirDNA only reports occupancy data in three month increments (from 0-3 months, 4-6 months, and 7-9 months), so we must make some assumptions to target the grouping that utilizes the short-term rental market from 60 to 90 days (i.e., the group of hosts impacted by a stricter cap). Using data compiled by the San Francisco Chronicle in 2016, which breaks out homesharing occupancy rates in a greater number of increments, we can infer that approximately three-quarters of hosts in AirDNA’s 0-3 month tier rent their units out on homesharing platforms for fewer than

2017 San Francisco Airbnb Listings by Type and Occupied Duration

	ENTIRE HOME	SHARED ROOM	PRIVATE ROOM
MEDIAN PRICE PER DAY	\$258	\$49	\$110
60 days and under	2,333	127	1,502
61-90 days	799	44	514
91-180 days	783	43	504
181 days and above	691	37	445
TOTAL LISTINGS	4,605	251	2,965

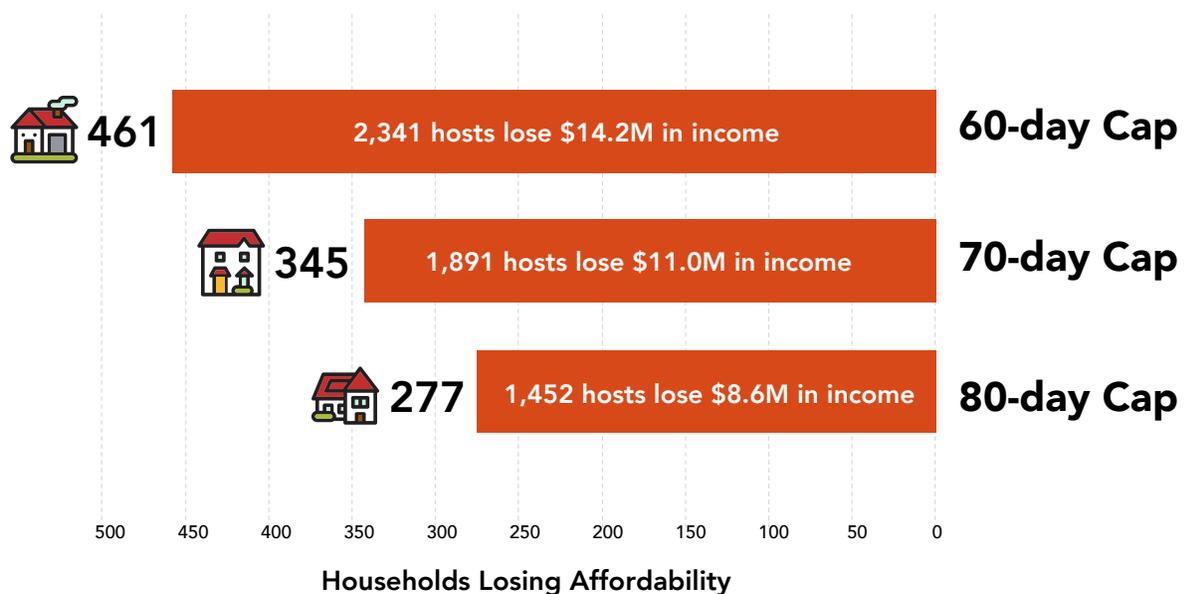
60 days per year. We place the remainder of the hosts in AirDNA’s 0-3 month tier into our 61-90 day tier.

Using this distribution and the median price per day tracked by AirDNA, we are able to understand how more restrictive caps at various levels will impact host income. The most restrictive cap analyzed—at 60 days regardless if the unit is hosted or unhosted—would impact 2,341 San Francisco households and displace revenue of over \$14 million each year compared to existing regulations. A cap of 80 days still has effects on 1,452 households that would lose over \$8 million in revenue in aggregate. Much of this impact stems from hosts of private rooms, which do not have any

strict caps in San Francisco currently but have been the subject of previously discussed city legislation. As shown below, these caps and the loss of income would create an unaffordable housing situation (meaning payment of greater than 30% of income on housing) for between 277 and 461 San Francisco households.

Even if existing hosts were “grandfathered” and not subject to any additional hosting caps in the future, lost host income would still be significant in the long term. As hosts churn and residents move in and out of San Francisco, an increasing percentage of listings would become subject to any new regulations.

Implications of Homesharing Caps for San Francisco Households



KEY FINDING: Any cap that is less than 90 days will have a negative income effect for between 1,450 and 2,340 San Francisco households. In aggregate, up to \$14.2 million in homesharing revenue will be jeopardized. More restrictive caps of 60, 70, and 80 days and the resultant income loss will push between 277 and 461 households above the 30% housing cost-to-income ratio, making them housing cost burdened in San Francisco. We show these negative affordability effects in the chart above.

TECHNICAL APPENDIX

EXPLANATION OF BREAKEVEN ANALYSIS

We leverage the methodology used by San Francisco's Office of the Controller in its May 2015 report, *Amending the Regulation of Short-Term Residential Rentals*. The report compiles information on two-bedroom units in San Francisco—those most likely to be subject to the type of serial short-term renting that would effectively take a unit out of the housing supply for a middle-class household. We utilized a number of datasets and assumptions to arrive at our breakeven calculations:

- To find average rents for two-bedroom units, we multiplied Rent Jungle data on current San Francisco average rents by neighborhood for all units by a factor of 1.2, which is the ratio of average rents for two-bedroom units to average rents for all units in San Francisco.
- To calculate the two-bedroom short-term rental price, we utilized rental data compiled by InsideAirbnb for each San Francisco neighborhood.
- Income calculations utilize assumptions from the San Francisco Controller's Office on applicable costs. Short-term rental hosts receive income of 75% of revenue after adjusting for costs, while long-term lessors receive income of 78% of revenue.

EXPLANATION OF AFFORDABILITY ANALYSIS

The numbers presented for total Airbnb listings by type and average daily rate were compiled by AirDNA in June 2017.

Analyzing a More Restrictive Homesharing Cap: Entire Homes

Since San Francisco legislation and the PTR system limit short-term rentals when the host is not present to 90 days, we assume that all entire home listings are covered under this policy. This means that those units that are occupied between 61 and 90 days are the only

listings that would be affected by a lowered cap. We use 799 entire homes that are rented between 61 and 90 days on Airbnb and distribute these units equally across each day range in the category. For example, 25 units are rented for 90 days, 25 for 89 days, 25 for 88 days, and so on (we conservatively place units that are lost due to rounding at the low end of the range).

We take the following steps to arrive at a total number of hosts impacted and dollars lost:

1. Calculate the number of revenue days lost for each "day tier" (i.e., entire homes that we estimate had been listed for 62 days annually will lose two days of revenue under a 60-day cap).
2. Aggregate the total number of revenue days lost for each "day tier" (i.e., 25 homes in the 90-day tier will lose 30 days of revenue each under a 60-day cap, for an aggregate of 750 revenue days lost).
3. Apply the average daily rate of \$258 to the number of days lost across all tiers and find the total number of hosts that would lose some revenue as a result of the lower cap.

Analyzing a More Restrictive Homesharing Cap: Shared and Private Rooms

While entire home hosts will be subject to the potential loss of between 0 and 30 days of revenue at the 60-day cap, shared and private room hosts will be subject to the loss of more revenue days because they are currently more lightly regulated. Employing a similar methodology as used for entire homes, we create tiers of "days rented" for shared and private rooms from 60 days rented to 181 days. Again, we equally distribute the number of listings across each category.

For the category of "181 and above," we conservatively place all 37 listings for shared rooms and all 445 listings for private rooms in the "181-day tier." We can then aggregate the number of revenue days lost for each "day tier," and apply the average daily rate of \$49 for shared rooms and \$110 for private rooms to the total number of days lost across all tiers.

Analyzing the Change in Affordability

To calculate changes in housing cost burden, we utilized the publicly-available 2015 sample of the American Community Survey, focusing on households in San Francisco that paid for housing in that year. To identify households burdened with unaffordable housing, we constructed a measure of monthly housing costs (hc), which equaled gross rent for renters and owner costs for homeowners, and used this variable to generate a new measure (h) of the burden of housing costs as a proportion of household income (m):

$$h = \frac{hc}{m}$$

Households that do not pay for housing (e.g., outright owners, renters with non-cash rent, homeless) and households with negative or unavailable income were dropped. This sample was also truncated at $h=1$. Using the definition of housing affordability as housing costs that are 30% or less of income, we found that 98,381 San Francisco households, have unaffordable housing ($Q_{NA} = \#$ households where $h > 0.3$).

To quantify the impacts of the 60-day homesharing cap on affordability for San Francisco households, we re-calculated the housing cost-to-income ratio by adjusting household income. To this end, we randomly assigned the average monthly change in income for each homesharing category (mp) to the proportion of households expected to lose income from the policy and recalculated the housing cost-to-income ratio:

$$\hat{h} = \frac{hc}{m - mp}$$

Using \hat{h} we can determine how many households have unaffordable housing after their loss of income ($(Q_{NA}^{\hat{h}}) = \#$ households where $\hat{h} > 0.3$). Since this exercise involved random assignment of income, we repeated it 10,000 times and took the average of the results to generate an estimate of the post-policy number of households with unaffordable housing. By comparing the base number of households with unaffordable housing to the post-policy number, we estimate the total number of households losing affordable housing ($\Delta = Q_{NA} - Q_{NA}^{\hat{h}}$).