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BAY AREA COUNCIL ECONOMIC INSTITUTE

LIMITS ON HOMESHARING:

MAKING SENSE OF THE SAN FRANCISCO POLICY PROPOSAL

As San Francisco grapples with its housing affordability crisis, short-term rentals—like those facilitated by homesharing sites Airbnb, FlipKey, and HomeAway—have come under heavy scrutiny from housing advocates and policymakers.

Short-term rentals, or the concept of homesharing, have been subject to numerous attempts at regulation. They were first regulated in San Francisco in 2015 when the Board of Supervisors passed a law limiting homesharing to 90 days per year when the host is not present. This existing law has no cap on the number of days a private or shared room in a larger unit (where the host is present) can be rented.

In mid-October, San Francisco Board of Supervisors President London Breed introduced stricter legislation that would impose a 60-day cap on the total number of days a housing unit can be rented out as a short-term rental. The 60-day cap would apply to all types of rentals, regardless of whether the host is present or not.

As a follow-on to our recent report, *Solving the Housing Crisis*, this white paper analyzes the effects of the proposed 60-day cap on San Francisco's supply of housing and on the income generated by its residents through homesharing.

We estimate that a 60-day cap will have no impact on housing supply when compared to the current policy. Market conditions in the majority of San Francisco neighborhoods require a two-bedroom unit to be rented in the short-term market for over 150 days per year to make homesharing a viable option over a traditional long-term lease. Because the current 90-day cap falls well below this threshold, hosts of entire homes that still choose to place units on the short-term rental market must be subject to other constraints that would not be impacted by a new cap. These constraints might include a need to keep the unit available for personal use or an unwillingness to take on the burden of compliance with city rental regulations.

The lower cap will have income implications for 1,500 San Francisco households. We estimate that host households that would be regulated under the cap will lose an aggregate of $11 million in rental income per year. This income is key for many San Francisco households that rely on homesharing to make their rental and mortgage payments. With the loss of income, 300 San Francisco households will no longer be able to affordably live within the city as they will move above the 30% housing cost-to-income threshold that traditionally defines affordability.

A 60-day cap for short-term rentals in San Francisco will result in:

1,500

Hosts lose income

$11 Million

Total host income lost

300

Households lose affordability

HOW WILL A 60-DAY CAP IMPACT THE HOUSING SUPPLY?

Opponents of short-term rentals have cited homesharing as a cause of San Francisco's housing affordability crisis by claiming that the practice takes units that would otherwise be occupied by San Francisco residents off of the traditional market.

To analyze how a 60-day 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 269 days in Bernal Heights at the high end and 106 days in Russian Hill at the low end to justify a short-term rental over a long-term lease.

KEY FINDING: A cap of 60 days will have no supply effect compared to the current 90-day cap. Given that the 90-day cap is well below the breakeven point for all San Francisco neighborhoods, an even stricter regulation will have no effect on hosts' decision to place the unit on the short-term market. If hosts could be making more income on the long-term rental market and are choosing not to do so, there must be another constraint that would persist even if the 60-day cap policy is enacted.

Breakeven Analysis:	Long-Term Rentals		Short-Term Rentals		
	2BR Long-Term Monthly Rent ($)	Average Annual Income, Long-Term Rental ($)	Average 2BR Daily Short-Term Rental Price ($)	Average Daily Income, Short-Term Rental ($)	Breakeven Number of Short-Term Rental Days
Bernal Heights	5,367	50,236	249	187	**269**
Castro/Upper Market	5,308	49,682	303	227	**219**
Haight Ashbury	5,383	50,383	301	226	**223**
Inner Richmond	4,199	39,303	267	200	**196**
Inner Sunset	3,868	36,205	224	168	**216**
Marina	4,755	44,504	390	292	**152**
Mission	5,060	47,365	286	215	**221**
Nob Hill	3,776	35,345	328	246	**144**
Noe Valley	4,930	46,143	310	233	**198**
North Beach	4,577	42,842	351	263	**163**
Outer Richmond	3,699	34,622	232	174	**199**
Pacific Heights	4,917	46,019	369	277	**166**
Potrero Hill	5,206	48,733	349	262	**186**
Russian Hill	5,000	46,799	587	440	**106**
South of Market	4,907	45,929	398	299	**154**
Western Addition	4,768	44,628	471	354	**126**

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.

HOW WILL A 60-DAY CAP IMPACT HOUSING AFFORDABILITY?

Leveraging the unique methodology we created in *Solving the Housing Crisis*, we analyze the proposed policy's impact on the incomes of hosts, many of whom rely on homesharing income to make their rental and mortgage payments.

Using data compiled by the *San Francisco Chronicle* for Airbnb hosts in 2016, we can estimate the average amount of income per host that would be lost under the 60-day cap 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—and then distribute units across four buckets for the number of days occupied per year.

Using this information, we then calculate both the number of listings impacted and the amount of income affected by the proposed 60-day cap under each short-term rental category:

- 402 hosts of entire homes would lose a total of $1.6 million annually, or an average of $3,975 per host.
- For shared rooms, 128 hosts would lose an aggregate of $591,150 annually, or an average of $4,618 per host.
- For private room hosts, 976 would lose nearly $9.0 million total, an average of $9,209 per host.

2016 San Francisco Airbnb Listings by Type and Occupied Duration

	ENTIRE HOME	SHARED ROOM	PRIVATE ROOM
AVG PRICE PER DAY	$261	$61	$116
5 to 48 days	1,548	136	990
52 to 90	528	46	338
96 to 186	602	53	385
192 and above	508	45	325
TOTAL LISTINGS	3,186	279	2,039

Household Income Impact for Short-Term Rental Hosts

	# of Hosts Impacted	Revenue Lost	Average
Entire Home	402	$ 1,598,103	$ 3,975
Shared Room	128	$ 591,151	$ 4,618
Private Room	976	$ 8,987,796	$ 9,209
TOTALS	**1,506**	**$ 11,177,050**	

KEY FINDING: Across all types of short-term rentals, a reduced cap will limit the income-generating potential of San Francisco households. A 60-day cap would jeopardize over $11 million in earnings spread across 1,506 households. The lost income will push 301 households above the 30% housing cost-to-income ratio, making them housing cost burdened in San Francisco.

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 the San Francisco Controller's Office from 2014. We then applied a 20.3% price growth rate over two years, which was found in a *San Francisco Chronicle* analysis of entire home Airbnb listings, to reach a short-term rental price for 2016.
- 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 listings and average daily rate were compiled by the *San Francisco Chronicle* in May 2016. Its estimates for the number of days per year each entire home was rented on Airbnb use review information, with the assumptions that three of four guests leave a review and an average stay is four days. We used the calculated distribution for entire homes and applied it to shared rooms and private rooms to find similar "days-per-year-rented" metrics.

Analyzing a 60-Day Homesharing Cap: Entire Homes

Since San Francisco already has a policy in place that limits 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 the lowered cap.

We use 528 entire homes that are rented between 52 and 90 days on Airbnb and distribute these units equally across each day range in the category. For example, 13 units are rented for 90 days, 13 for 89 days, 13 for 88 days, and so on (we conservatively place units that are lost due to rounding at the bottom 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).
2. Aggregate the total number of revenue days lost for each "day tier" (i.e., 13 homes in the 90-day tier will lose 30 days of revenue each, for an aggregate of 390 days lost).
3. Apply the average daily rate of $261 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 60-Day 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, 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 52 days rented to 192 days rented, matching the analysis of the *San Francisco Chronicle*.

Again, we equally distribute the number of listings across each category. For the category of "192 and above," we conservatively place all 45 listings for shared rooms and all 325 listings for private rooms in the "192-day tier."

We can then aggregate the number of revenue days lost for each "day tier," and apply the average daily rate of $61 for shared rooms and $116 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 2014 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 36.7% of households in the remaining sample, representing 102,059 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 (m_p) to the proportion of households expected to lose income from the policy and recalculated the housing cost-to-income ratio:

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

Using $\hat{h}$ we can determine how many households have unaffordable housing after their loss of income ($\hat{Q}_{NA}$) = # 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 ($\Delta = Q_{NA} - \hat{Q}_{NA}$), and found this number to be equal to 301.