

# From Air Mattresses to Unregulated Business: An Analysis of the Other Side of Airbnb

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**PennState**



## Authors

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## About Penn State School of Hospitality Management

The Penn State University School of Hospitality Management is located at the main campus of The Pennsylvania State University in University Park, PA and serves approximately 740 students. It is one of the three oldest continually-operating hospitality management programs in the United States and offers a Bachelor of Science (B.S.), Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) in Hospitality Management. The school houses the Center for Hospitality Real Estate Strategy under the direction of Dr. John W. O’Neill.

## Methodology

This report represents the first, comprehensive national look at the rise of hosts who are essentially operating an unregulated business on the Airbnb platform. The analysis includes 12 of nation’s largest metropolitan statistical areas (MSAs): New York, Chicago, Los Angeles, Philadelphia, Miami, Houston, Dallas, Phoenix, San Antonio, San Diego, San Francisco, and Washington, D.C. And the research focuses on hosts who rent multiple units and the length of time they are renting their units.

The data used in this report were sourced from Airdna, which tracks Airbnb revenues and operations and provides pricing and revenue data to Airbnb operators. Airdna conducts a continuous search of the Airbnb web site, resulting in each Airbnb listing being analyzed once every seven days. Research partner, Kalibri Labs, a hospitality research firm, sorted the data, which included Airbnb operators from September 2014 through September 2015. Analysts at Pennsylvania State University performed all of the calculations on the data, examining over 416,000 lines of data and over 9.5 million variables. In contrast, a release by Airbnb of its own data at the end of 2015, included only about 170,000 lines of data. This study was funded through a grant provided by the American Hotel & Lodging Educational Foundation with additional funds provided by the American Hotel & Lodging Association. All data excludes all shared rooms and apartments and unique units, such as boats, tree houses and tents.

# A National View: Executive Summary

As the popularity—and controversy—over short-term rental platforms grows in the public arena, this report takes a closer look at the hosts dominating one of the most trafficked platforms, Airbnb. The company, valued at some \$24 billion dollars, has a reported 2 million listings worldwide. In media interviews and public materials, Airbnb suggests that its hosts are largely using the platform to make some additional money on the side. It states that “a typical listing earns \$5,110 a year, and is typically shared less than 4 nights per month.”<sup>1</sup>

But that does not represent the full picture.

This report represents the first comprehensive look at the commercial activity being conducted on Airbnb. By analyzing hundreds of thousands of data points, the report reveals an alarming trend with respect to two overlapping groups of hosts, multiple-unit operators who are renting out two or more units, and full-time operators who are renting their unit(s) 360 or more days per year. These two subsets of operators are generating a substantial amount of Airbnb’s revenue. Hosts who rent fewer than 360 days, but still far more than occasionally (for instance, more than 180 days), also contribute greatly to Airbnb’s bottom line.

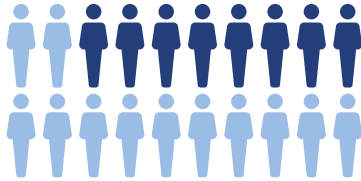
1. <https://www.airbnbaction.com/data-on-the-airbnb-community-in-nyc/>

# Key Findings

Two overlapping groups of operators, multiple-unit operators and full-time operators, are a growing percentage of total Airbnb hosts and are generating a disproportionate share of the company's revenue in major U.S. cities.

## Multi-Unit Hosts

There is an explosion of multi-unit operators, defined as hosts renting out two or more units. We found this to be an issue in all 12 of the cities we analyzed, which also represent the largest cities in the country.



**\$500 Million**



**\$1.3 billion Revenue**

**Multiple-unit operators** (2+ units) account for nearly **40% of the revenue on Airbnb;**

That translates to over **\$500 million dollars of the \$1.3 billion in revenues Airbnb** generated from whole units in the 12 cities studied between September 2014 and September 2015.

## Full-Time Hosts

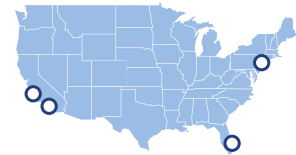
A growing number of hosts are using the Airbnb platform to operate an unregulated, full-time business. **Nearly 30 percent of Airbnb revenue is derived from this group of full-time hosts.** They are becoming bigger and more prominent.



**2,675 full-time operators** (renting 360+ days per year) recorded **\$378,173,374 in revenue**, or a very high **average of \$142,331 per host** during the time period studied.



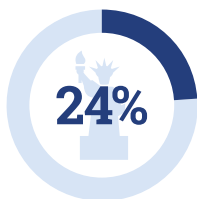
**The growth in Airbnb hosts accelerated over the summer months and remained steady**, indicating a considerable long-term trend if left unchecked and unregulated.



The cities with the largest number of full-time operators include:

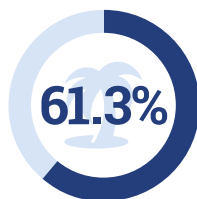
- East Coast**
- New York and Miami**
- West Coast**
- Los Angeles and San Francisco**

## By The Numbers



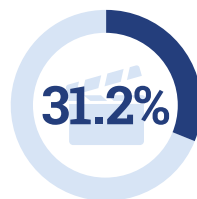
### New York

24% of the revenue (**\$116,427,278**) was derived from full-time hosts who made up 3% of operators



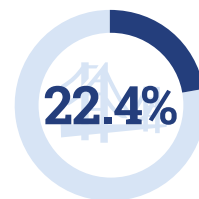
### Miami

61.3% of the revenue (**\$77,694,157**) was derived from full-time hosts who made up 7.3% of operators



### Los Angeles

31.2% of the revenue (**\$86,254,017**) was derived from full-time hosts who made up 4% of operators



### San Francisco

22.4% of the revenue (**\$43,559,557**) was derived from full-time hosts who made up 2.9% of operators

## National Trends

Airbnb host revenue has increased significantly. The total 12-city sample shows that monthly host revenue increased from \$78.1 million for the month of September 2014 to \$124.3 million in September 2015, representing a 59.2 percent increase. Monthly revenue peaked during the summer of 2015 when there was \$139.8 million in revenue in July and \$135.9 million in August, though revenue remained near those levels in September 2015, as well, at \$124.3 million.

The growth in Airbnb mega-operators (those renting out three or more units) was the largest, increasing from \$16.1 million in September 2014 to \$29.2 million in September 2015, an 81.4 percent increase. Airbnb mega-operators increased from 1,171 in September 2014 to 2,193 in September 2015, an 87.3 percent increase.

These mega-operators generated a disproportional share of revenue compared to one or two unit hosts. They represented 7 percent of hosts, but generated 25 percent of revenue (\$325,972,137) during the period studied.

The broader subgroup of multi-unit operators who rented two or more units represented 16.8 percent of total hosts, generating 39.0 percent of revenue.

Full-time operators offering units at least 360 days over the 12 months ending September 2015, generated an even more disproportionate share of revenue. They represented only 3.3 percent of hosts, but generated 28.5 percent of revenues.

### Glossary Of Terms:

**Host:** Person or entity renting out at least one residential unit on the Airbnb platform.

**Full-time operator:** Any host renting out unit(s) 360 or more days per year.

**Multi-unit operator:** Any host renting out two or more units.

**Mega-operator:** Any host renting out three or more units.



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# APPENDIX: Data Tables

## JANUARY 2016



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In order to produce the January 2016 report entitled, "From Air Mattresses to Unregulated Business: An Analysis of the Other Side of Airbnb," researchers from Penn State's School of Hospitality Management reviewed Airbnb listing data in 12 major U.S. cities from September 2014 through September 2015. The tables below provide a detailed snapshot of the data and calculations reflected in the report.

### Glossary Of Terms:

**Host:** Person or entity renting out at least one residential unit on the Airbnb platform.

**Full-time operator:** Any host renting out unit(s) 360 or more days per year.

**Multi-unit operator:** Any host renting out two or more units.

**Variable operator:** Host renting a variable number of units (1, 2, or more) 360 or more days per year.

	TOTALS	FULL-TIME OPERATORS				ALL OPERATORS					MULTI-UNIT OPERATORS	
		Count No.	Revenue	Full-Time %	Revenue %		Count No.	Revenue	Host %	Revenue %	Host %	Revenue %
Totals	1 unit Full-Time Operators	381	\$23,189,136	0.6%	2.9%	1 unit Hosts	66,253	\$808,880,283	83.2%	61.0%	16.8%	39.0%
	2 unit Full-Time Operators	136	\$15,806,606	1.7%	8.2%	2 unit Hosts	8,067	\$191,745,971	10.1%	14.5%		
	3+ unit Full-Time Operators	130	\$34,622,137	2.4%	10.6%	3+ unit Hosts	5,320	\$325,972,137	6.7%	24.6%		
	Variable Full-Time Operators	2,010	\$304,555,495									
	Total Full-Time Operators	2,657	\$378,173,374	3.3%	28.5%	Total Hosts	79,640	\$1,326,598,391				
Averages	1 unit Revenue per Host		\$60,864					\$12,209				
	2 unit Revenue per Host		\$116,225					\$23,769				
	3+ unit Revenue per Host		\$266,324					\$61,269				
	Variable Operator Revenue per Host		\$151,520									
	Total Operators		\$142,331					\$16,657				

	CITY-BY-CITY MARKET BREAKDOWN	FULL-TIME OPERATORS				ALL OPERATORS					MULTI-UNIT OPERATORS	
		Count No.	Revenue	Full-Time %	Revenue %		Count No.	Revenue	Host %	Revenue %	Host %	Revenue %
Chicago	1 unit Full-Time Operators	16	\$740,028	0.4%	2.3%	1 unit Hosts	3,952	\$32,778,397	84.4%	61.9%	15.6%	38.1%
	2 unit Full-Time Operators	6	\$604,412	1.2%	8.1%	2 unit Hosts	484	\$7,454,736	10.3%	14.1%		
	3+ unit Full-Time Operators	2	\$218,589	0.8%	1.7%	3+ unit Hosts	246	\$12,758,589	5.2%	24.1%		
	Variable Full-Time Operators	87	\$11,174,019									
	Total Full-Time Operators	111	\$12,737,048	2.4%	24.0%	Total Hosts	4,681	\$52,991,722				
Dallas	1 unit Full-Time Operators	3	\$70,417	0.4%	1.2%	1 unit Hosts	754	\$5,768,286	85.7%	71.2%	14.3%	28.8%
	2 unit Full-Time Operators	0	\$0	0.0%	0.0%	2 unit Hosts	93	\$1,194,593	10.5%	14.7%		
	3+ unit Full-Time Operators	0	\$0	0.0%	0.0%	3+ unit Hosts	33	\$1,138,525	3.8%	14.1%		
	Variable Full-Time Operators	19	\$1,466,203									
	Total Full-Time Operators	22	\$1,536,619	2.5%	19.0%	Total Hosts	880	\$8,101,404				
Houston	1 unit Full-Time Operators	4	\$182,396	0.5%	2.8%	1 unit Hosts	791	\$6,590,280	82.7%	59.3%	17.3%	40.7%
	2 unit Full-Time Operators	1	\$67,851	1.2%	5.4%	2 unit Hosts	82	\$1,256,421	8.6%	11.3%		
	3+ unit Full-Time Operators	0	\$0	0.0%	0.0%	3+ unit Hosts	83	\$3,275,544	8.6%	29.5%		
	Variable Full-Time Operators	25	\$2,811,727									
	Total Full-Time Operators	30	\$3,061,974	3.1%	27.5%	Total Hosts	956	\$11,122,244				

	CITY-BY-CITY MARKET BREAKDOWN				FULL-TIME OPERATORS					ALL OPERATORS				MULTI-UNIT OPERATORS	
	Count No.	Revenue	Full-Time %	Revenue %	Count No.	Revenue	Host %	Revenue %	Host %	Revenue %					
Los Angeles	1 unit Full-Time Operators	58	\$3,084,637	0.5%	2.1%	1 unit Hosts	11,568	\$147,031,991	80.6%	53.3%	19.4%	46.7%			
	2 unit Full-Time Operators	28	\$2,619,341	0.4%	6.8%	2 unit Hosts	6,934	\$38,790,301	10.9%	14.0%					
	3+ unit Full-Time Operators	14	\$2,476,889	0.3%	2.7%	3+ unit Hosts	5,368	\$90,276,285	8.5%	32.7%					
	Variable Full-Time Operators	477	\$78,073,149												
	Total Full-Time Operators	577	\$86,254,017	4.0%	31.2%	Total Hosts	14,350	\$276,098,577							
Miami	1 unit Full-Time Operators	15	\$734,376	0.4%	1.5%	1 unit Hosts	3,812	\$48,182,992	69.8%	38.0%	30.2%	62.0%			
	2 unit Full-Time Operators	13	\$1,137,499	1.6%	6.0%	2 unit Hosts	806	\$18,802,013	14.7%	14.8%					
	3+ unit Full-Time Operators	93	\$27,542,346	11.0%	46.1%	3+ unit Hosts	846	\$59,756,325	15.5%	47.1%					
	Variable Full-Time Operators	277	\$48,279,936												
	Total Full-Time Operators	398	\$77,694,157	7.3%	61.3%	Total Hosts	5,464	\$126,741,330							
New York	1 unit Full-Time Operators	176	\$11,380,675	0.7%	3.4%	1 unit Hosts	26,064	\$330,018,181	85.7%	68.0%	14.3%	32.0%			
	2 unit Full-Time Operators	54	\$6,880,481	1.9%	9.1%	2 unit Hosts	2,795	\$75,332,717	9.2%	15.5%					
	3+ unit Full-Time Operators	11	\$2,662,608	0.7%	3.3%	3+ unit Hosts	1,549	\$79,899,091	5.1%	16.5%					
	Variable Full-Time Operators	668	\$95,503,514												
	Total Full-Time Operators	909	\$116,427,278	3.0%	24.0%	Total Hosts	30,409	\$485,249,989							
Philadelphia	1 unit Full-Time Operators	3	\$92,712	0.2%	1.0%	1 unit Hosts	1,682	\$9,462,339	85.1%	63.4%	14.9%	36.6%			
	2 unit Full-Time Operators	2	\$168,361	1.1%	9.9%	2 unit Hosts	177	\$1,700,949	8.9%	11.4%					
	3+ unit Full-Time Operators	2	\$160,809	1.7%	4.3%	3+ unit Hosts	118	\$3,755,321	6.0%	25.2%					
	Variable Full-Time Operators	34	\$3,769,056												
	Total Full-Time Operators	41	\$4,190,937	2.1%	28.1%	Total Hosts	1,976	\$14,918,609							
Phoenix	1 unit Full-Time Operators	2	\$83,051	0.1%	0.3%	1 unit Hosts	1,616	\$25,212,436	86.1%	59.4%	13.9%	40.6%			
	2 unit Full-Time Operators	0	\$0	0.0%	0.0%	2 unit Hosts	168	\$3,572,524	9.0%	8.4%					
	3+ unit Full-Time Operators	0	\$0	0.0%	0.0%	3+ unit Hosts	92	\$13,688,969	4.9%	32.2%					
	Variable Full-Time Operators	22	\$2,271,708												
	Total Full-Time Operators	24	\$2,354,759	1.3%	5.5%	Total Hosts	1,876	\$42,473,930							
San Antonio	1 unit Full-Time Operators	4	\$112,638	1.7%	4.9%	1 unit Hosts	241	\$2,302,590	75.7%	60.7%	24.3%	39.3%			
	2 unit Full-Time Operators	1	\$43,200	2.1%	6.9%	2 unit Hosts	47	\$629,824	14.9%	16.6%					
	3+ unit Full-Time Operators	1	\$73,932	3.3%	8.6%	3+ unit Hosts	30	\$861,727	9.4%	22.7%					
	Variable Full-Time Operators	8	\$531,271												
	Total Full-Time Operators	14	\$761,040	4.4%	20.1%	Total Hosts	319	\$3,794,140							
San Diego	1 unit Full-Time Operators	11	\$567,636	0.3%	1.7%	1 unit Hosts	3,155	\$34,092,001	83.2%	60.4%	16.8%	39.6%			
	2 unit Full-Time Operators	3	\$305,445	0.8%	3.6%	2 unit Hosts	390	\$8,386,002	10.3%	14.9%					
	3+ unit Full-Time Operators	3	\$582,233	1.2%	4.2%	3+ unit Hosts	247	\$13,938,263	6.5%	24.7%					
	Variable Full-Time Operators	89	\$12,550,769												
	Total Full-Time Operators	106	\$14,006,082	2.8%	24.8%	Total Hosts	3,792	\$56,416,266							
San Francisco	1 unit Full-Time Operators	65	\$4,757,052	0.7%	3.6%	1 unit Hosts	9,068	\$132,790,276	85.1%	68.2%	14.9%	31.8%			
	2 unit Full-Time Operators	24	\$3,524,249	2.3%	12.6%	2 unit Hosts	1,032	\$27,918,038	9.7%	14.3%					
	3+ unit Full-Time Operators	3	\$608,114	0.5%	1.8%	3+ unit Hosts	552	\$34,105,384	5.2%	17.5%					
	Variable Full-Time Operators	216	\$34,670,141												
	Total Full-Time Operators	308	\$43,559,557	2.9%	22.4%	Total Hosts	10,651	\$194,813,698							
Washington	1 unit Full-Time Operators	24	\$1,383,518	0.6%	4.0%	1 unit Hosts	3,694	\$34,650,514	86.2%	64.3%	13.8%	35.7%			
	2 unit Full-Time Operators	4	\$455,768	1.1%	6.8%	2 unit Hosts	374	\$6,707,854	8.7%	12.5%					
	3+ unit Full-Time Operators	1	\$296,616	0.5%	2.4%	3+ unit Hosts	219	\$12,518,114	5.1%	23.2%					
	Variable Full-Time Operators	88	\$13,454,004												
	Total Full-Time Operators	117	\$15,589,906	2.7%	28.9%	Total Hosts	4,287	\$53,876,482							

All data exclude all shared rooms and apartments. Also, unique units, such as boats, tree houses and tents are excluded.