

# AIRBNB RISING: SHORT-TERM RENTALS AND THE “GIG ECONOMY”

*Uber is redefining the transportation industry now; Airbnb is doing it to the hotel industry. You can expect that to happen in every single industry.*

– Masayoshi Son, Chief Executive Officer,  
SoftBank

**L**et there be no doubt. Airbnb is a disrupter. The international, internet-based firm that connects owners of rental properties (“hosts”) with prospective short-term renters (“guests”) is upending conventional ways of doing business and in the process challenging the market positions of the traditional hotel and motel lodging industry.

Founded in 2008, Airbnb asserts that it is active in more than 65,000 cities and 191 countries and that it has facilitated the accommodation of more than 200 million guests.<sup>1</sup> Airbnb claims to have more than 3 million rental listings worldwide and its estimated market value exceeded \$31 billion in early 2017.<sup>2</sup> Airbnb is now nearly as valuable as the Marriott International hotel group and almost twice as valuable as Hilton Worldwide Hotels, with a workforce that is 1 percent the size of either hotel chain.<sup>3</sup>

**The Commonwealth has not been left behind. Airbnb is growing rapidly in many of Virginia’s major markets and its rise presents challenges to policymakers and the traditional lodging sector. In August 2017, 10,395 Airbnb listings (mostly involving residential homes) were in Virginia, led regionally by Northern Virginia with 3,863.<sup>4</sup>**

1 Airbnb, “About Us,” <https://www.airbnb.com/about/about-us>.

2 Lauren Thomas, “Airbnb just closed a \$1 billion round and became profitable in 2016,” March 9, 2017, CNBC. <https://www.cnbc.com/2017/03/09/airbnb-closes-1-billion-round-31-billion-valuation-profitable.html>.

3 Maya Kosoff, “Why Airbnb is now almost twice as valuable as Hilton,” March 20, 2017, *Vanity Fair*, <https://www.vanityfair.com/news/2017/03/why-airbnb-is-now-almost-twice-as-valuable-as-hilton>.

4 Airdna data for the Commonwealth received in September 2017.



Virtually every new economic phenomenon that upends customary ways of doing business stimulates concerns and the rise of Airbnb is no exception. Conventional hotels and motels question whether Airbnb is “playing by the rules” and many cities and counties worry that they are not collecting all taxes due.

This chapter analyzes the development of Airbnb and places this phenomenon in the broader context of the rise of the “gig economy” – a world in which occasional contractors, part-time workers and temporary economic arrangements increasingly hold sway. What we are observing is Joseph Schumpeter’s “creative destruction” in action – yet another example of the never-ending churn in the economic system that drives out the old and brings in the new.<sup>5</sup>

## Airbnb In Virginia

To say that the rise of Airbnb is nothing short of remarkable may be an understatement. Starting with the rental of an air mattress in San Francisco in 2008, Airbnb has rapidly emerged in terms of listings, funding and name recognition. Airbnb continues to expand its business model, now offering “experiences” (hosted tours) and an increasing number of connections to travel websites. The Commonwealth is no exception to the rapid rise of Airbnb and its challenge to the established lodging industry.

To track Airbnb’s activities in Virginia, one must rely upon data produced by Airdna, a separate and independent organization that generates numbers and analytics focusing on vacation rental entrepreneurs and investors.<sup>6</sup> Throughout this chapter, unless otherwise noted, we use data from Airdna to examine the listing, revenue and occupancy of Airbnb-hosted properties. While there are many other potential short-term rental hosts, including Flipkey, Homeaway and VRBO, individual listing data for

these sites are not readily available and Airbnb is clearly the dominant player in this growing market.

**Airbnb’s growth in Virginia has been meteoric. Graph 1 illustrates the almost fivefold increase in Airbnb listings, from 2,023 in October 2014 to 10,395 in August 2017. Graph 2 highlights that total revenue from Airbnb rentals in Virginia rose from \$1.52 million to \$17.39 million over the same period. Revenues from Airbnb rentals grew more than 1,000 percent in Virginia in less than three years.**<sup>7</sup>

How does this compare to the traditional lodging sector? **Graph 3 shows that the revenues of Airbnb’s Virginia hosts rose from only 0.49 percent of the revenues of traditional hotels and motels in October 2014 to 4.67 percent in August 2017. This is an almost tenfold increase over a three-year period.**

When we examine the performance of the traditional lodging sector, the growth in Airbnb listings and revenue becomes even more remarkable. Here we use data from STR Global (formerly known as Smith Travel Research), a company that provides high-quality data on the performance of hotels and motels. **Comparing October 2014 to August 2017, the supply of traditional hotel rooms in Virginia increased by only 1.7 percent. Revenue for hotels and motels from August 2015 to August 2017 only increased by 8 percent.<sup>8</sup> While the Airbnb rental sector may be smaller than the traditional lodging sector, Airbnb is a rising competitor.**

What kinds of properties are driving this growth in listings and revenue? Hosts can choose to rent out a portion of their property (known as “private room rentals”) or to rent out the entire property (known as “entire place rentals”). As displayed in Graph 4, the growth of Airbnb’s revenue in Virginia is mostly due to entire place rentals rather than private room rentals. Revenues from entire place rentals increased from \$1.15 million in October 2014 to \$14.98 million in August 2017. **While private room revenues increased sixfold during this period, entire place revenues increased thirteenfold.**

<sup>5</sup> Joseph Schumpeter (1883-1950) was an Austrian-born economist who spent much of his career at Harvard. His *Capitalism, Socialism and Democracy* (1942) is considered a classic in the literature of economic development.

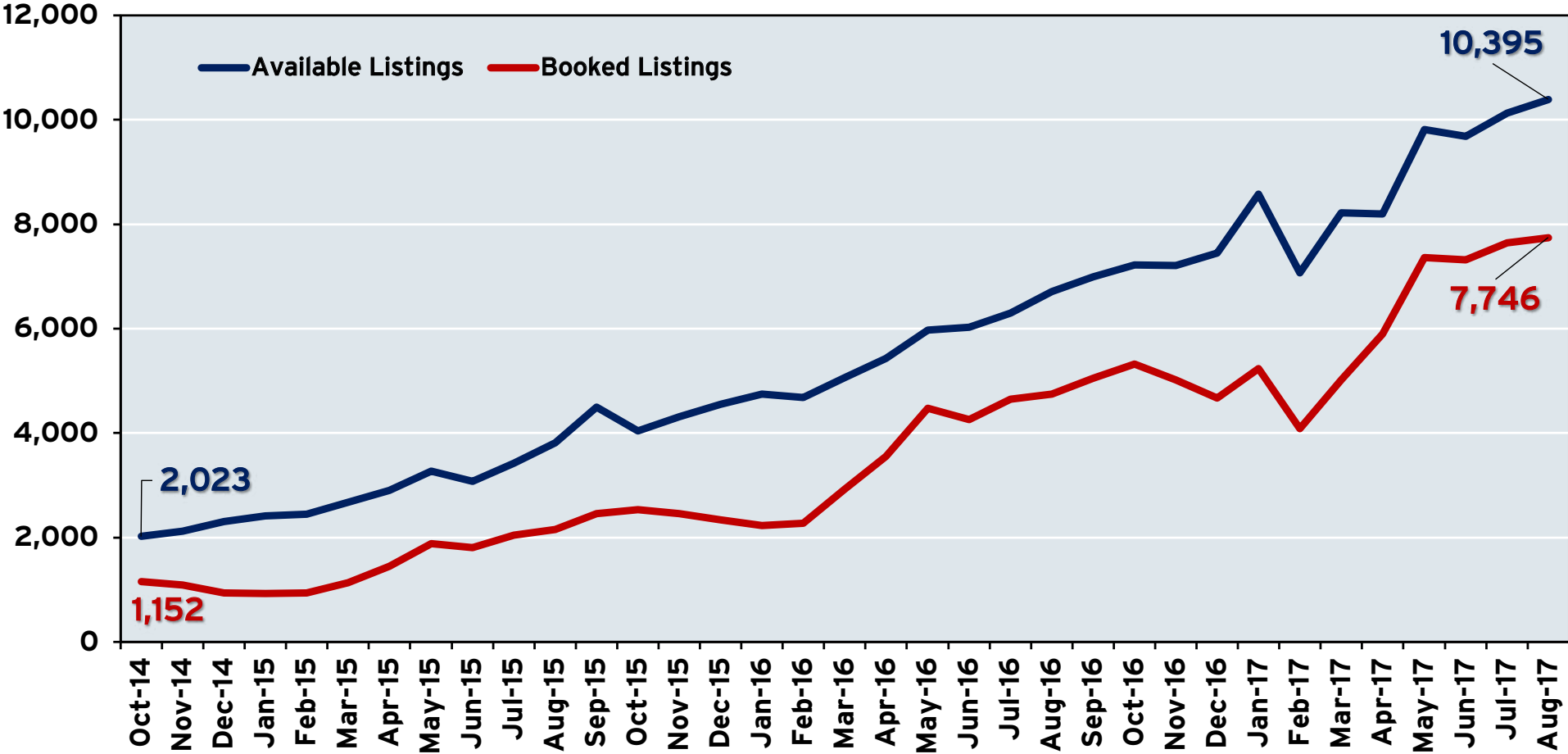
<sup>6</sup> As Airbnb does not provide open access to its data, Airdna tracks the performance of listings and predicts whether properties are booked or not. For more information, see [www.airdna.co/methodology](http://www.airdna.co/methodology).

<sup>7</sup> This is consistent with the reported national Airbnb growth rate in revenues in 2016 of 138 percent. Airbnb’s revenues grew from an estimated \$2.4 billion in 2015 to \$5.7 billion in 2016. Chris Kirkham and Greg Bensinger, “Hotel Group Assails Airbnb Model,” *The Wall Street Journal*, 269 (March 20, 2017), B4.

<sup>8</sup> STR trend reports: Jan. 24, 2017, and Sept. 15, 2017.

GRAPH 1

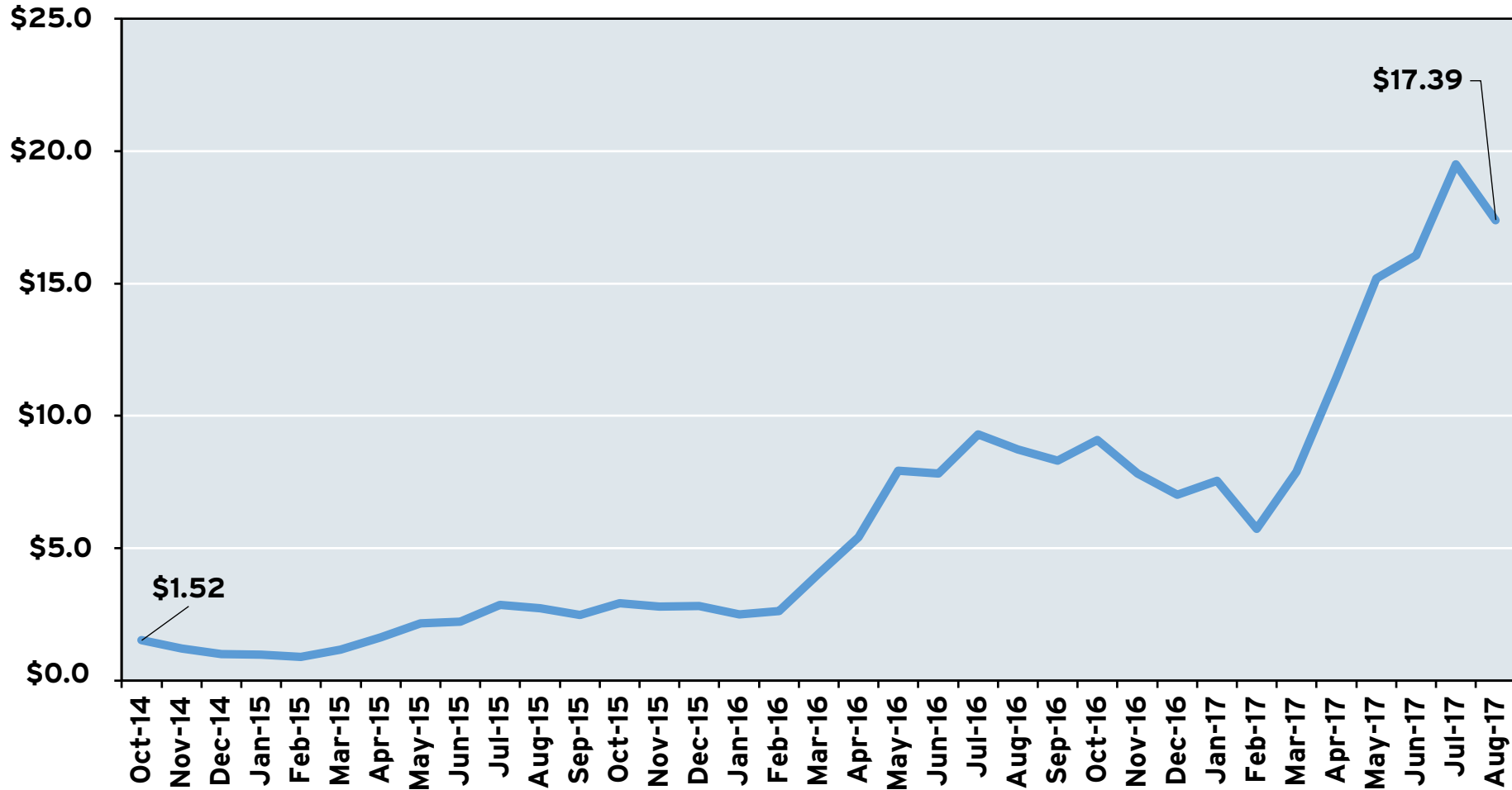
AVAILABLE AND BOOKED LISTINGS OF ALL AIRBNB PROPERTIES:  
VIRGINIA, OCTOBER 2014 TO AUGUST 2017



Source: Airdna data for the Commonwealth received in September 2017

GRAPH 2

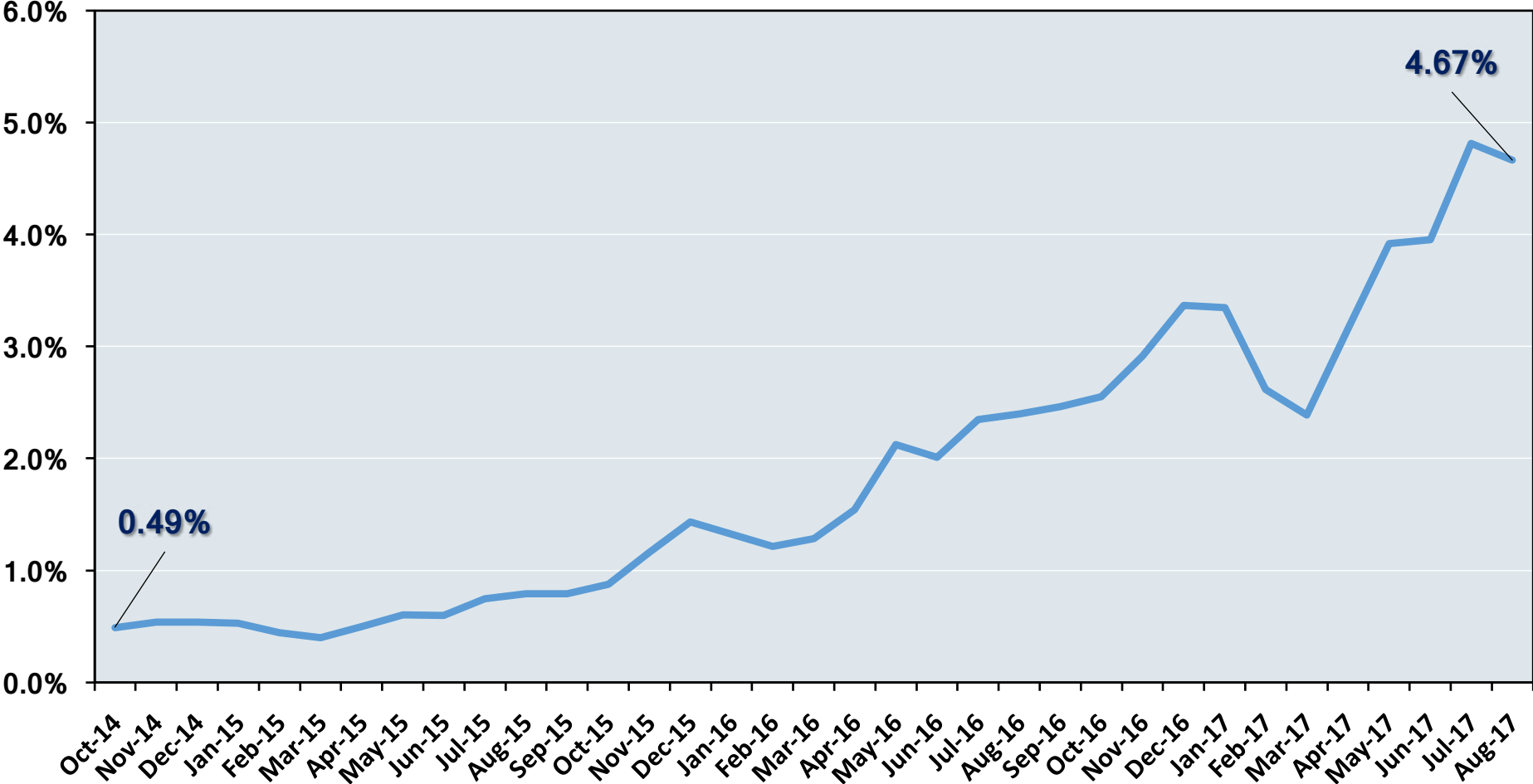
TOTAL MONTHLY REVENUE FROM ALL AIRBNB PROPERTIES: VIRGINIA, OCTOBER 2014 TO AUGUST 2017  
(MILLIONS OF \$)



Source: Airdna data for the Commonwealth received in September 2017

**GRAPH 3**

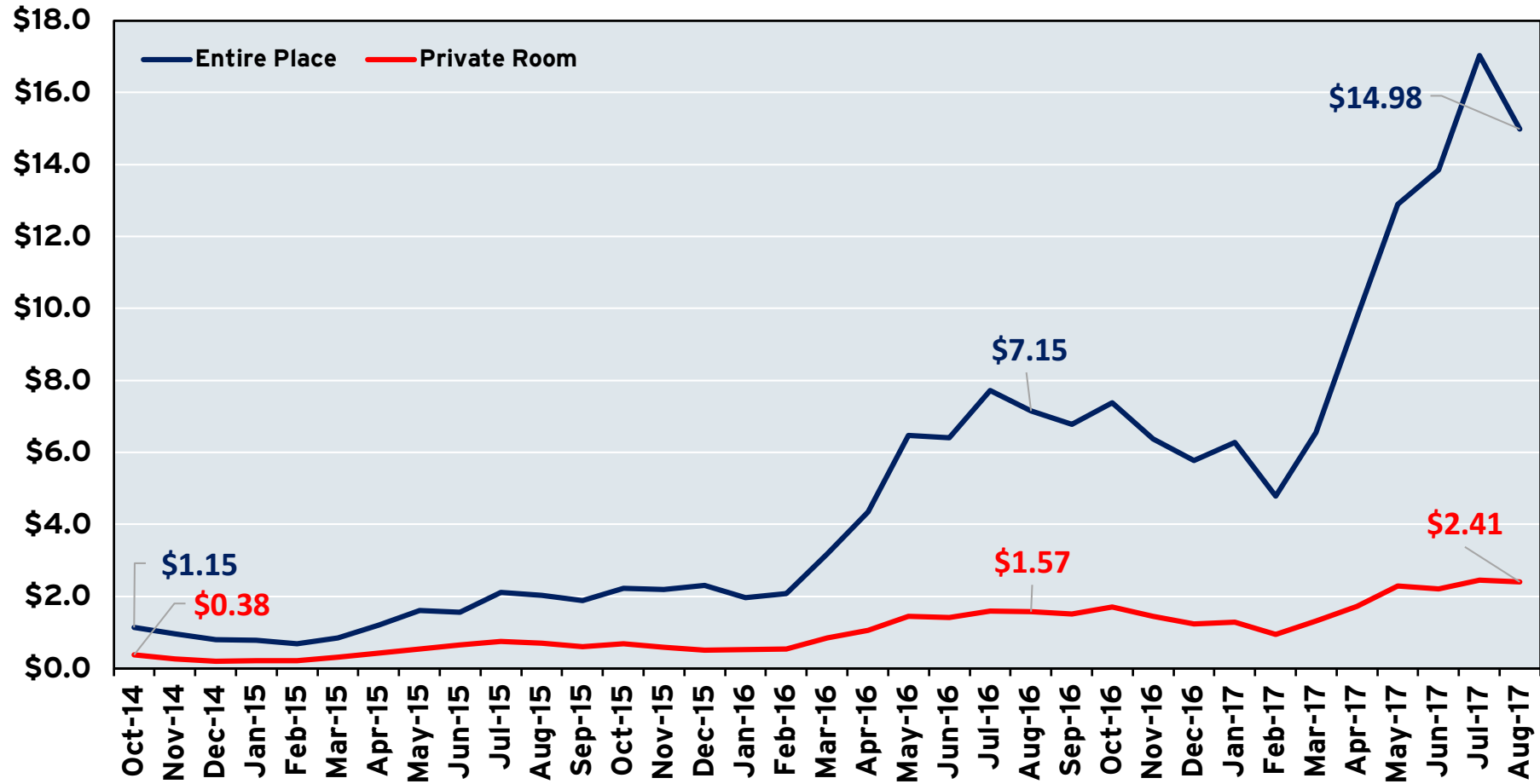
**RATIO OF AIRBNB'S REVENUE TO TOTAL CONVENTIONAL HOTEL REVENUE:  
VIRGINIA, OCTOBER 2014 TO AUGUST 2017**



Source: Airdna data for the Commonwealth received in September 2017

GRAPH 4

**AIRBNB'S REVENUE FROM ENTIRE PLACE AND PRIVATE ROOM RENTALS:  
VIRGINIA, OCTOBER 2014 TO AUGUST 2017 (MILLIONS OF \$)**



Source: Airdna data for the Commonwealth received in September 2017

So far, our discussion has focused on Airbnb listings. A listing on Airbnb might consist of a shared room, a private room, a studio apartment or several rooms within a house that are available for rent. **The number of listings understates the number of rooms available through Airbnb.** This is an important point to consider when one attempts to estimate the performance of Airbnb rentals and draw comparisons with traditional hotels and motels.

In August 2017, 7,746 (74.5 percent) of the 10,395 Airbnb listings in Virginia were “active” (actually booked listings) in Airdna’s terminology, meaning these listings were currently rented or had been rented in the last month. On average, each active listing in Virginia involved 1.8 rooms. This means that many of the most active listings for Virginia for the period in question were for multiple rooms, confirming that property listings understate the number of rooms offered for rent. As illustrated in Graph 5, the share of revenue derived from the rental of properties involving four or more bedrooms has steadily climbed from about 14 percent in October 2014 to almost 31 percent in August 2017.

Our “more Airbnb rooms than listings” conclusion is consistent with a recent study conducted for the American Hotel and Lodging Association by CBRE, a well-known national real estate firm. While the association is hardly a neutral party in terms of its attitudes toward Airbnb, its commissioned study concluded that one-third of Airbnb’s revenues now come from individuals and investors who own or control multiple units (see Graph 6).

When compared to the total number of rooms available in traditional hotels and motels in Virginia, Airbnb’s active listings of rooms in August 2017 was less than 9 percent of the total. To some this might suggest that the fears of Airbnb are overstated, but we must draw attention to the fact that Airbnb is less than 10 years old. Imagine if the number of hotel rooms increased by 9 percent in less than 10 years in Virginia; this would represent a remarkable growth in the number of hotels and motels. We are confident in our conclusion that Airbnb (and similar firms) have become an integral part of the lodging market in Virginia.

Airbnb’s greatest impact on the conventional hotel and motel market in Virginia occurs either during peak tourist times, such as the Fourth

of July and Labor Day or in specific locations – for example, Northern Virginia during special events, such as the presidential inauguration. During these time periods, Airbnb’s listings surge and it appears that the availability of Airbnb as an option discourages conventional hotels and motels from increasing their prices as much as they might have in the past. Put simply, it appears that Airbnb reduces the profit margins of conventional hotels and motels during such peak-load periods.

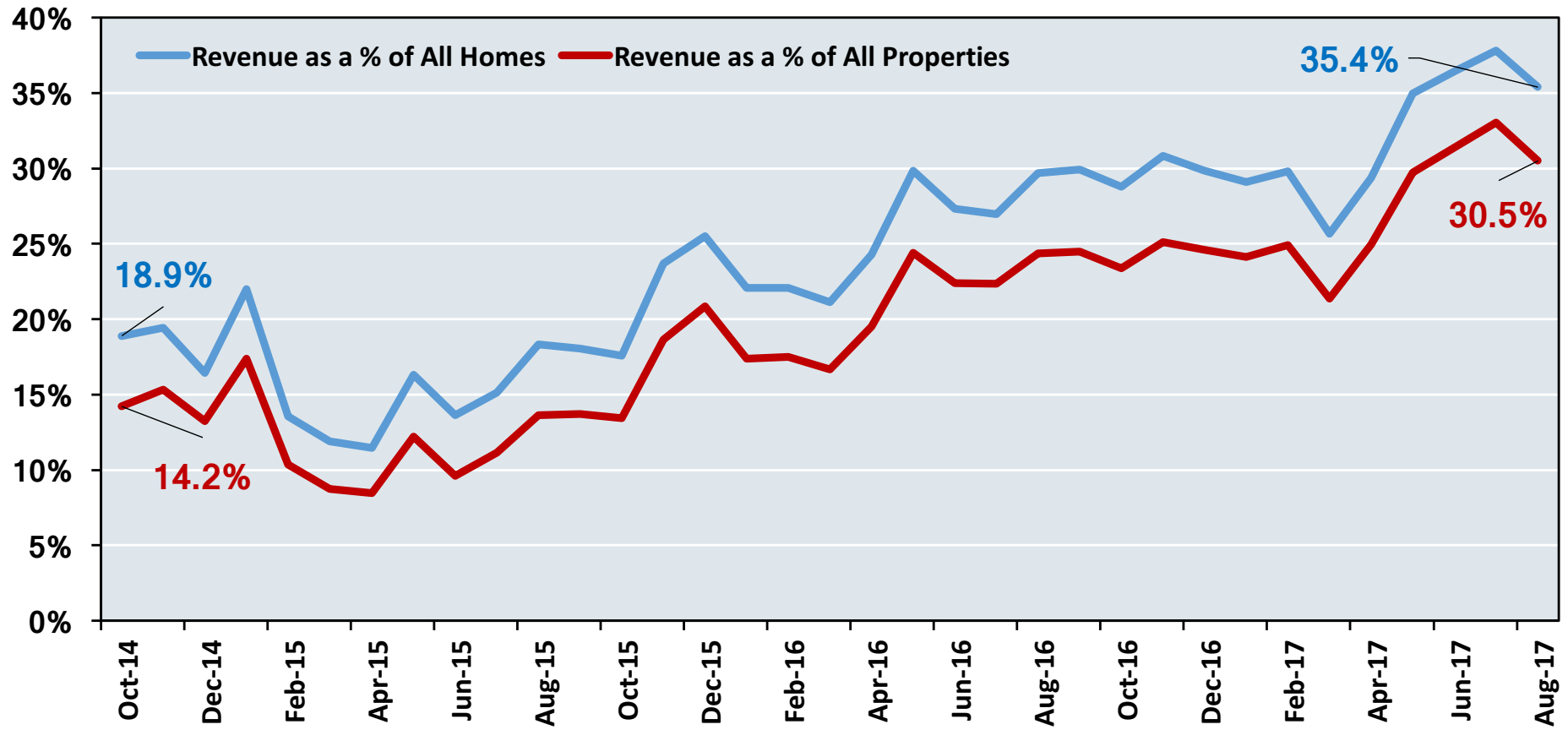
Airbnb often stresses the role of single-bedroom rentals by its residential single-family hosts when it interacts with city and county governments. This provides it with political cover because many elected officials are reluctant to impose regulations on individual homeowners who believe they have the right to use their property as they see fit. While single-room rentals in residential homes may have been the backbone of Airbnb in its formative days, this no longer holds true. We estimate that 80 percent of Airbnb’s revenues in Virginia Beach are derived from full houses, apartments and condos, and that 65 percent of these revenues come from properties with multiple bedrooms.

The American Hotel and Lodging Association fervently argues that firms such as Airbnb functioning in the short-term rental arena are hotels for all intents and purposes, albeit ones that often do not have to comply with all the rules and regulations confronting standard hotels. Not surprisingly, the association advocates a legal and enforcement crackdown on Airbnb and similar firms, which increasingly have become viable competitors to the association’s members. The association’s reaction in this regard is like that observed when any established industry is confronted with a new viable competitor that appears to be upending previously well-established rules. Witness the reactions of taxicab companies to Uber and Lyft, established commercial banks to internet competitors such as Synchrony and Quicken, some universities to online learning sites and of course dozens of competitors across many industries to Amazon, Facebook and Google.



GRAPH 5

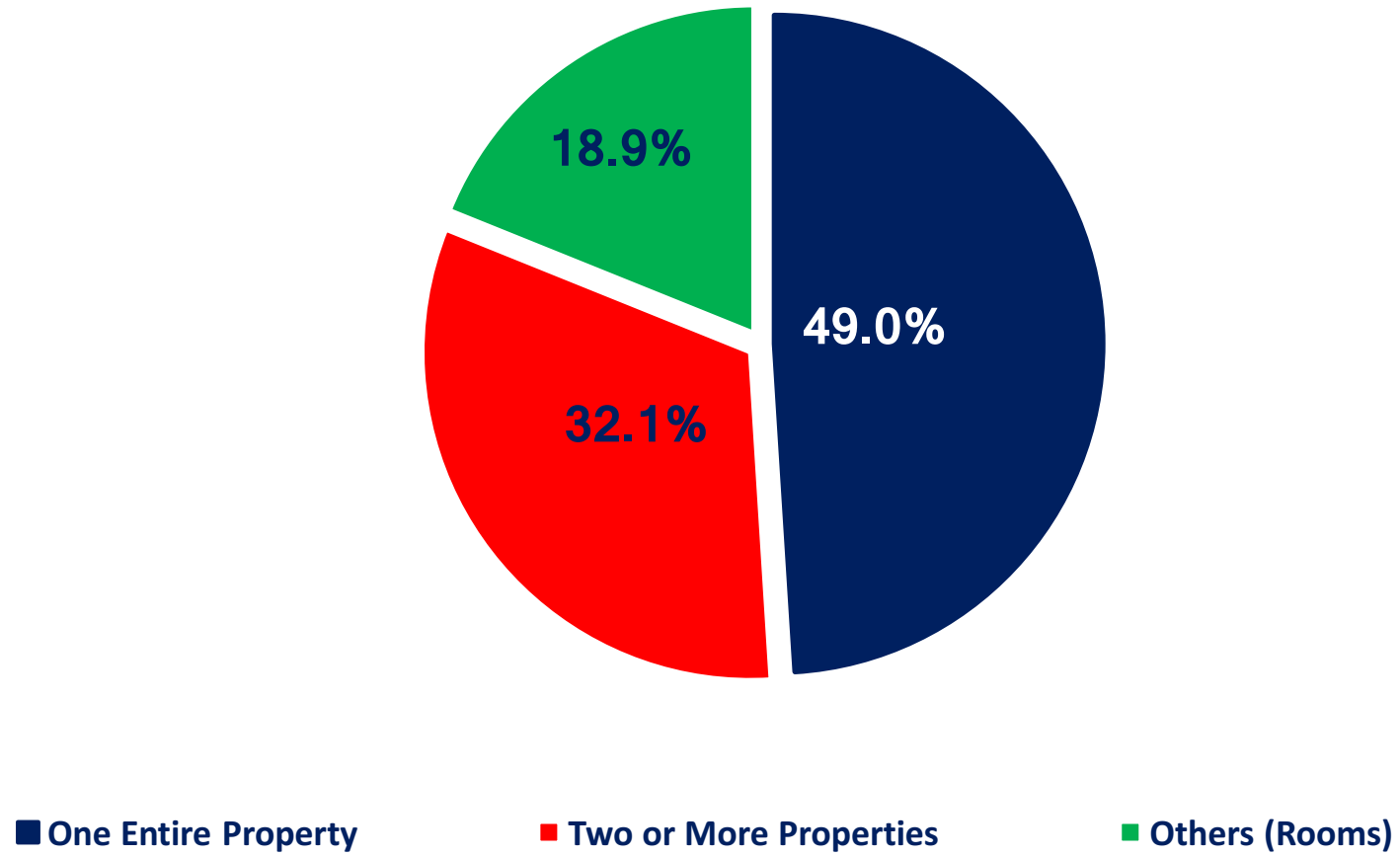
SHARE OF AIRBNB REVENUE ACCOUNTED FOR BY FOUR OR MORE BEDROOMS IN HOMES:  
VIRGINIA, OCTOBER 2014 TO AUGUST 2017



Source: Airdna data for the Commonwealth received in September 2017

**GRAPH 6**

**AIRBNB REVENUE SOURCES: UNITED STATES, 2016**



Source: Chris Kirkham and Greg Bensinger, "Hotel Group Assails Airbnb Model," The Wall Street Journal, 269 (March 20, 2017), B4

## The Rapid Growth Of Airbnb In Virginia's Metro Areas

We now turn to examining the rise of Airbnb in Virginia's metropolitan areas (MSAs). On average, these metro areas account for about 91 percent of total hotel revenue and 90 percent of total Airbnb revenue. Because of how STR Global defines hotel markets and how the Bureau of Economic Analysis defines MSAs are somewhat different, we combine the Harrisonburg and Staunton/Waynesboro metro areas into one market. Since we are only examining Airbnb in the Commonwealth, the data for the Kingsport-Bristol MSA represent only the Virginia portion of this metro area.

**Airbnb represents a growing share of the lodging market in each of Virginia's metropolitan areas.** Graph 7 displays the revenues of Airbnb hosts in August 2017. Hampton Roads generated the largest amount of revenue in August 2017 (\$4.83 million), followed closely by Northern Virginia (\$4.10 million). The Virginia portion of the Kingsport-Bristol MSA had the lowest amount of total monthly revenue, slightly less than that of Roanoke.

When we examine the share of Airbnb revenue to hotel revenue, however, a different story emerges from the data. While Charlottesville's total Airbnb revenue for August 2017 was only about \$2.5 million, this amounted to almost 22 percent of total hotel and motel revenues in that region. Lynchburg's total Airbnb revenue for August 2017 was \$780,000, but this was equivalent to 15 percent of the total revenue of the traditional lodging sector in that area. While many believe that Airbnb is limited to dense, urban markets, Graph 8 shows that, as a percentage of hotel revenue, Airbnb is performing well in less urbanized markets.

Because Charlottesville and Lynchburg stand out, let's take a closer look at those metro areas. Over the past two years, the number of hotel rooms in Lynchburg has remained constant, with about 2,700 rooms available for rent. Hotel revenues in Lynchburg increased about 7 percent between August 2015 and August 2017, slightly below the 8 percent average growth rate for the Commonwealth. Charlottesville, on the other hand,

has seen its supply of hotel rooms grow by about 6.5 percent, while hotel revenues grew by about 19 percent over the same period. The traditional lodging sector is underperforming the Commonwealth in Lynchburg, but outperforming it in Charlottesville.

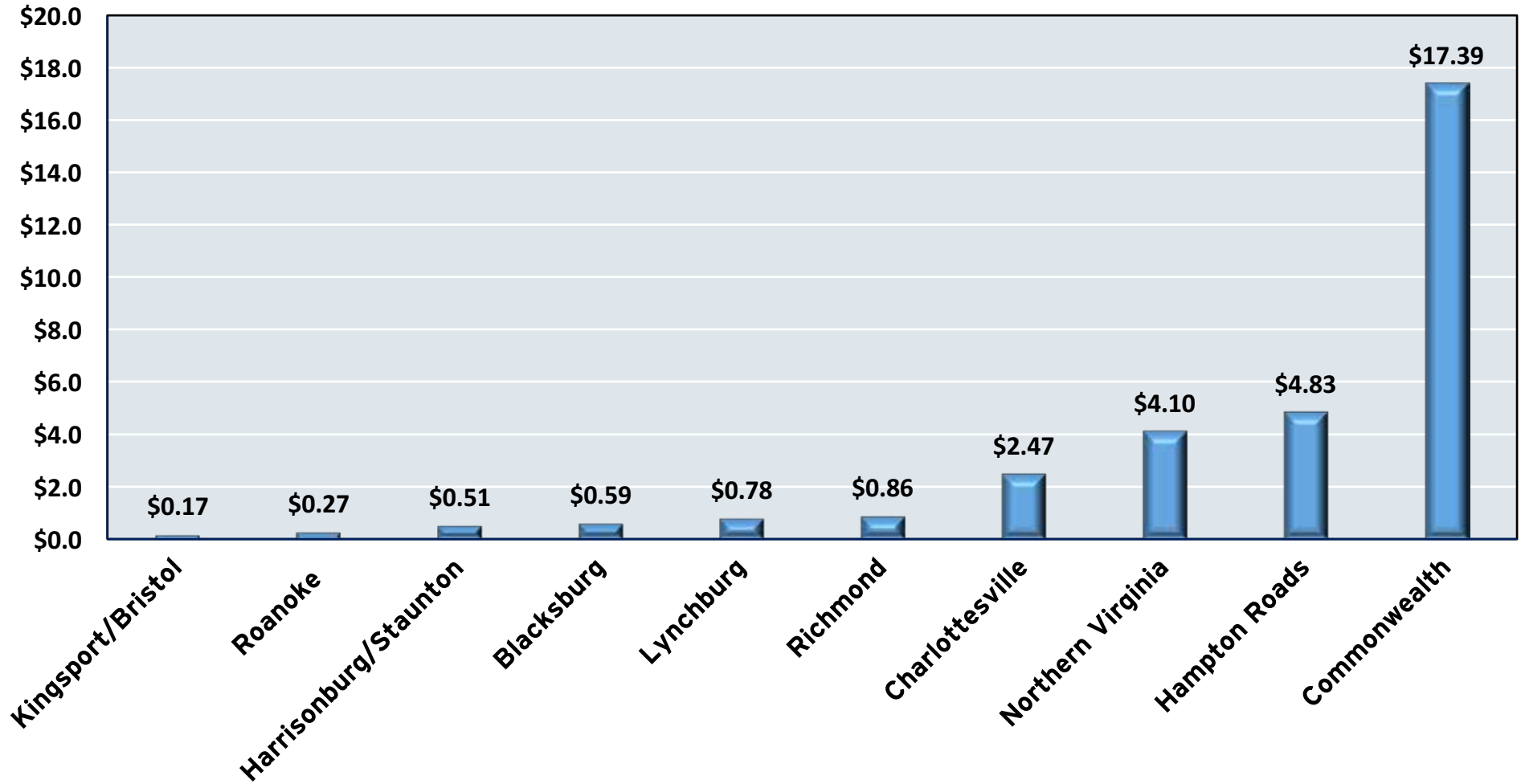
What happened to Airbnb during the same period? In Lynchburg, available Airbnb listings grew from 54 in October 2014 to 479 in August 2017, an increase of 787 percent (Graph 9). Booked listings grew from 36 to 348 for the same period, an increase of 867 percent. **Total revenue from Airbnb-related rentals in Lynchburg jumped from about \$30,000 to \$780,000 in the same period, a twenty-sixfold increase in less than three years (Graph 10).**

In Charlottesville, available Airbnb listings grew from 323 in October 2014 to 1,052 in August 2017, an increase of 226 percent (Graph 11). Booked listings grew from 218 to 883, an increase of 305 percent over the same period. Total revenue from Airbnb rentals increased from about \$380,000 to \$2.47 million, an increase of 550 percent (Graph 12). **Not only were more listings available for rent in Lynchburg and Charlottesville, but also a higher percentage of listings were rented over time.**

What is driving the revenue growth in Lynchburg and Charlottesville? In Lynchburg, revenues from entire place rentals increased by almost 3,370 percent in less than three years (Graph 13). For the same period, Charlottesville saw an increase of about 600 percent in Airbnb revenues from entire place rentals (Graph 14). **As with the Commonwealth, the rise in entire place rentals is driving the rapid growth in the Airbnb rental market.**

**GRAPH 7**

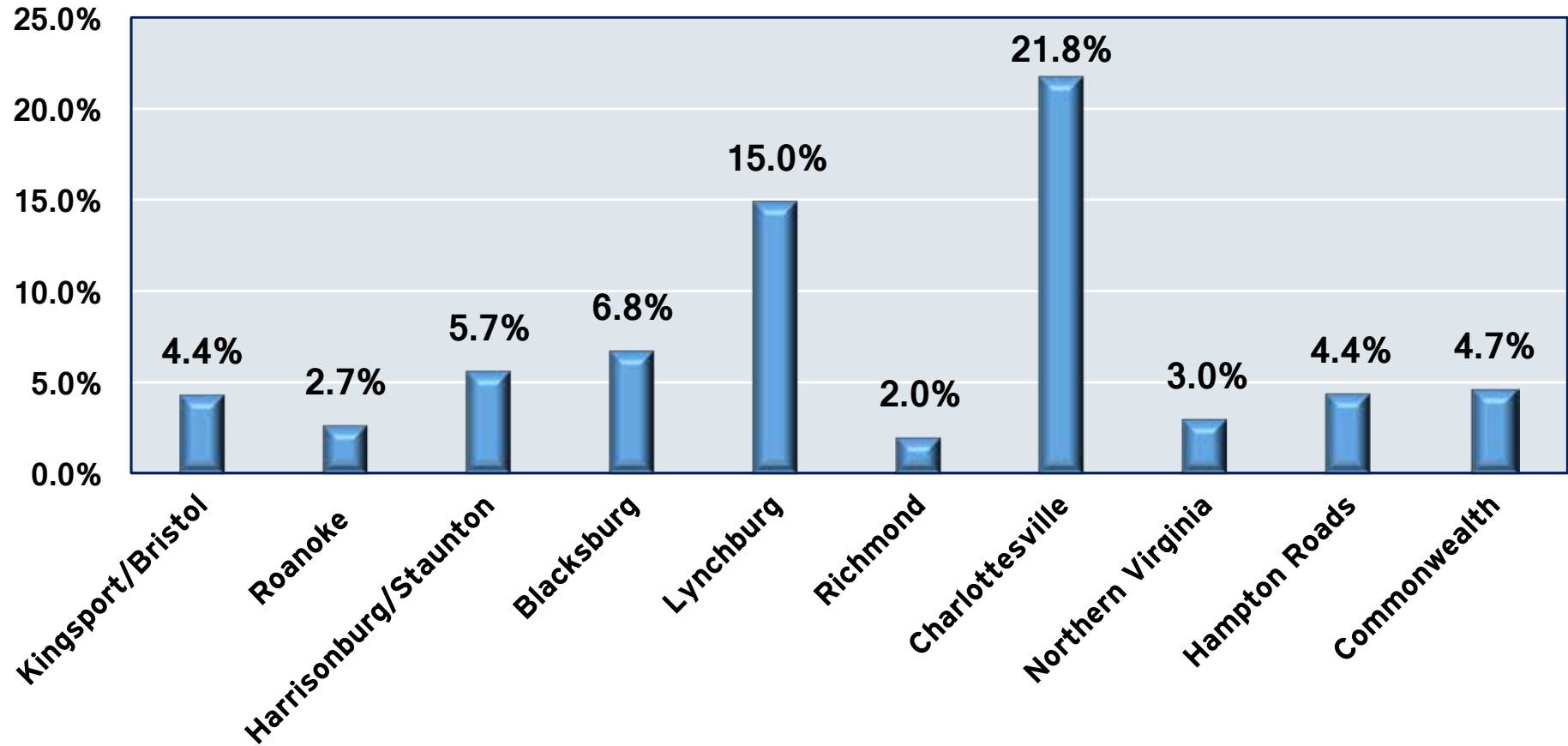
**REVENUES OF AIRBNB HOSTS IN VIRGINIA AND ITS MAJOR METROS IN AUGUST 2017  
(MILLIONS OF \$)**



Source: Airdna data for the Commonwealth received in September 2017

GRAPH 8

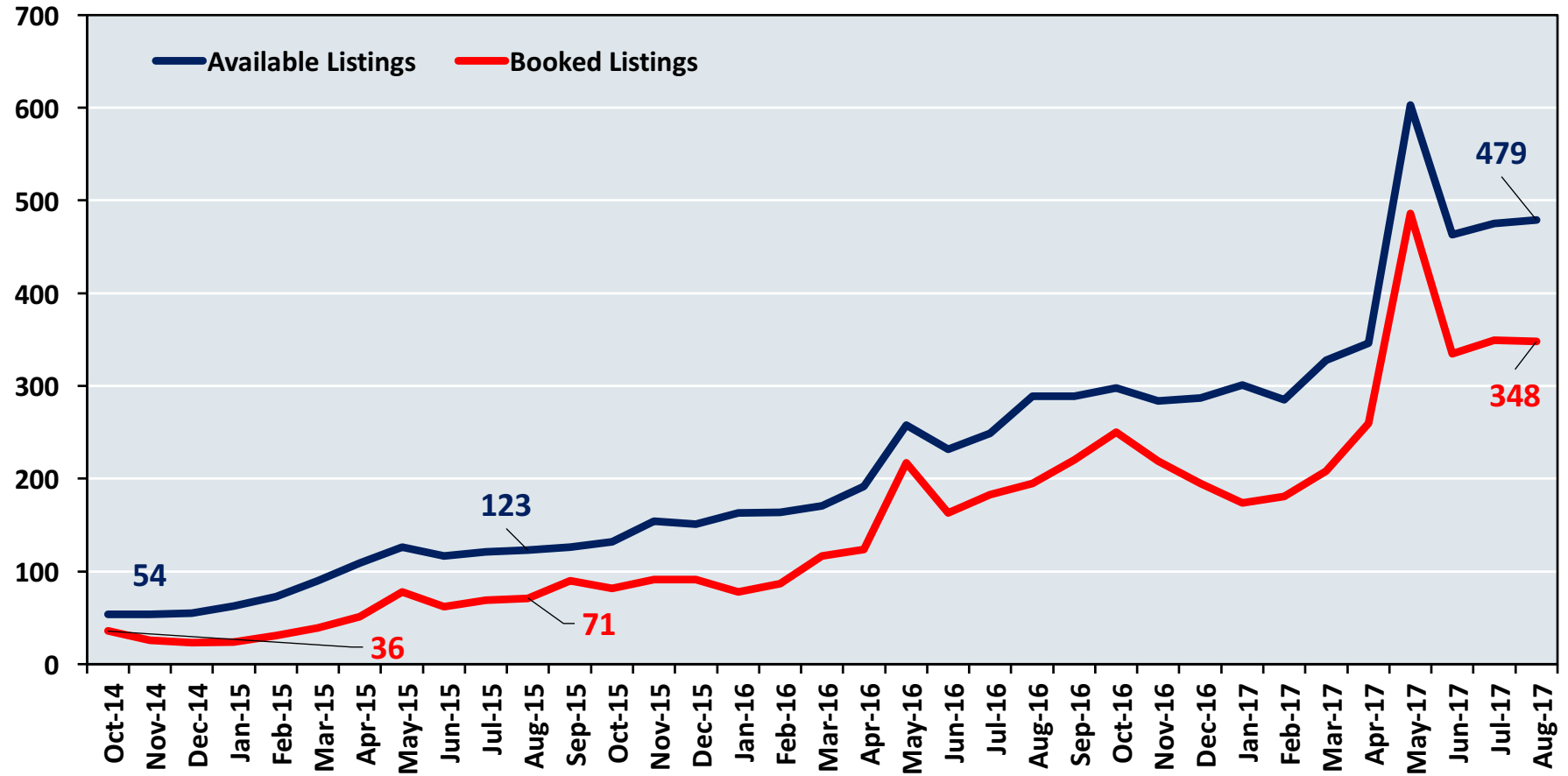
RATIO OF AIRBNB'S REVENUE TO HOTEL REVENUE IN VIRGINIA AND ITS MAJOR METROS IN AUGUST 2017



Sources: Airdna data for the Commonwealth received in September 2017 and STR trend reports

GRAPH 9

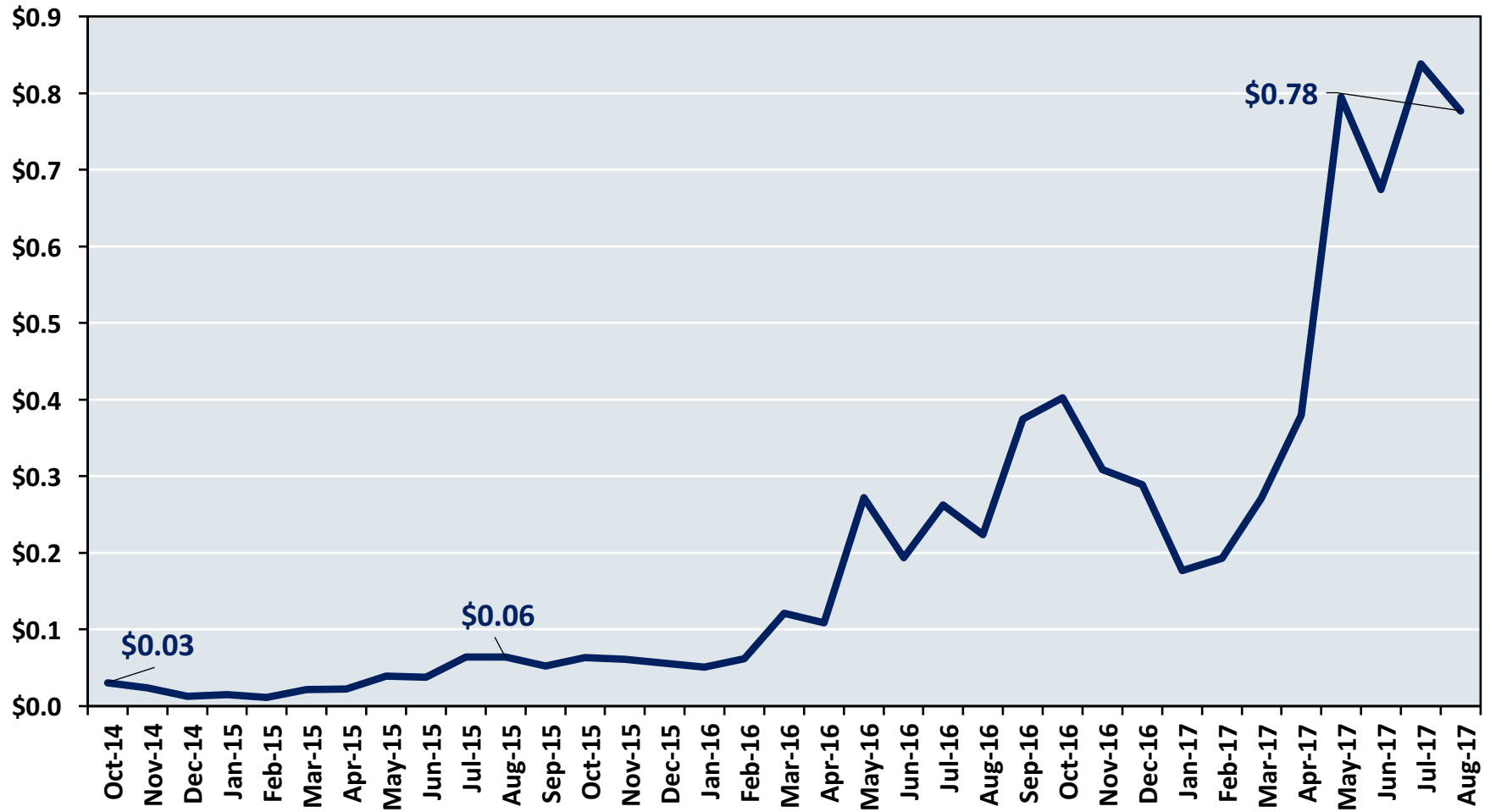
AVAILABLE AND BOOKED LISTINGS OF ALL AIRBNB PROPERTIES:  
LYNCHBURG, OCTOBER 2014 TO AUGUST 2017



Source: Airdna data for the Commonwealth received in September 2017

GRAPH 10

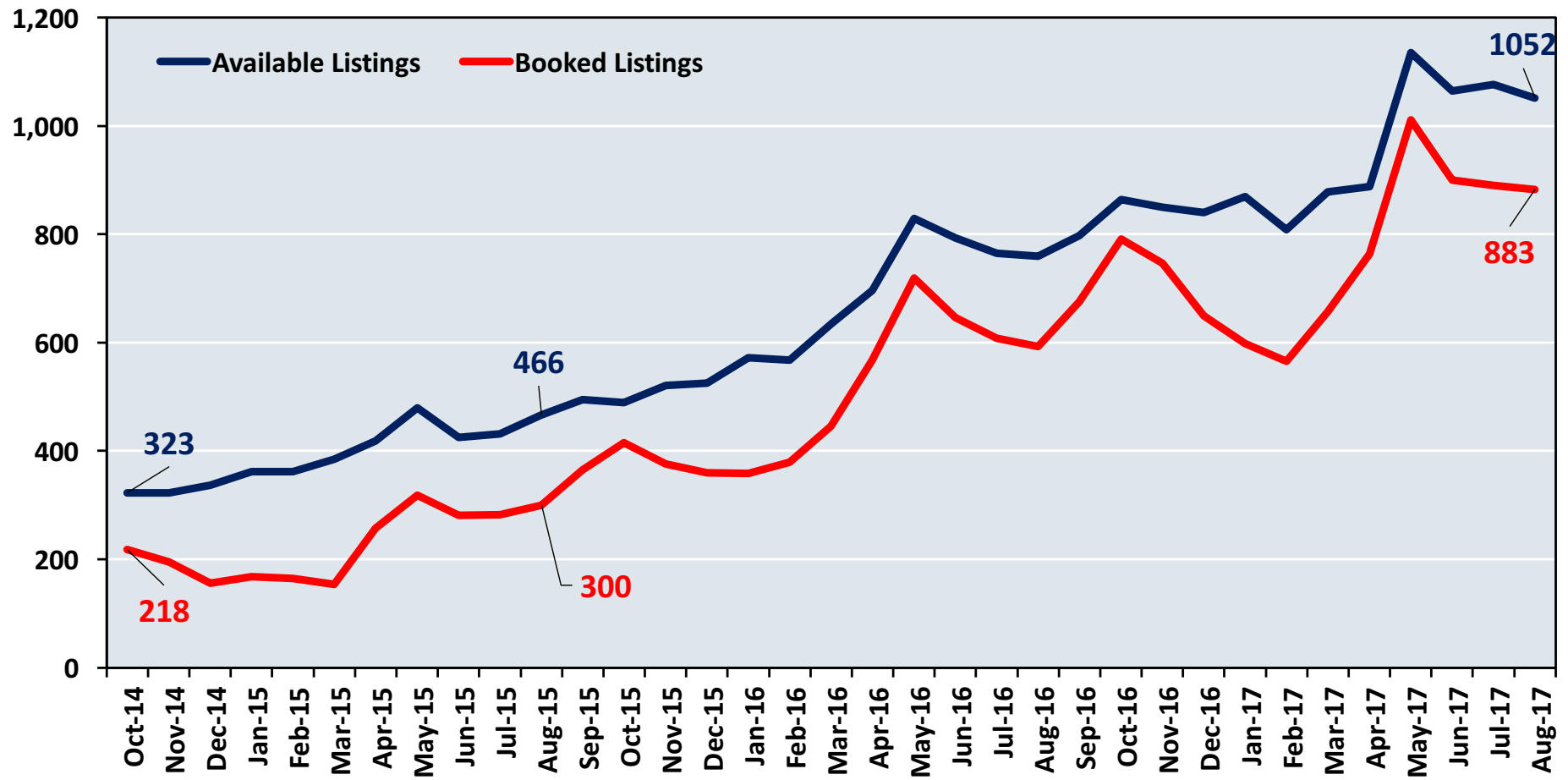
**TOTAL MONTHLY REVENUE FROM ALL AIRBNB PROPERTIES:  
LYNCHBURG, OCTOBER 2014 TO AUGUST 2017 (MILLIONS OF \$)**



Source: Airdna data for the Commonwealth received in September 2017

GRAPH 11

AVAILABLE AND BOOKED LISTINGS OF ALL AIRBNB PROPERTIES:  
CHARLOTTESVILLE, OCTOBER 2014 TO AUGUST 2017

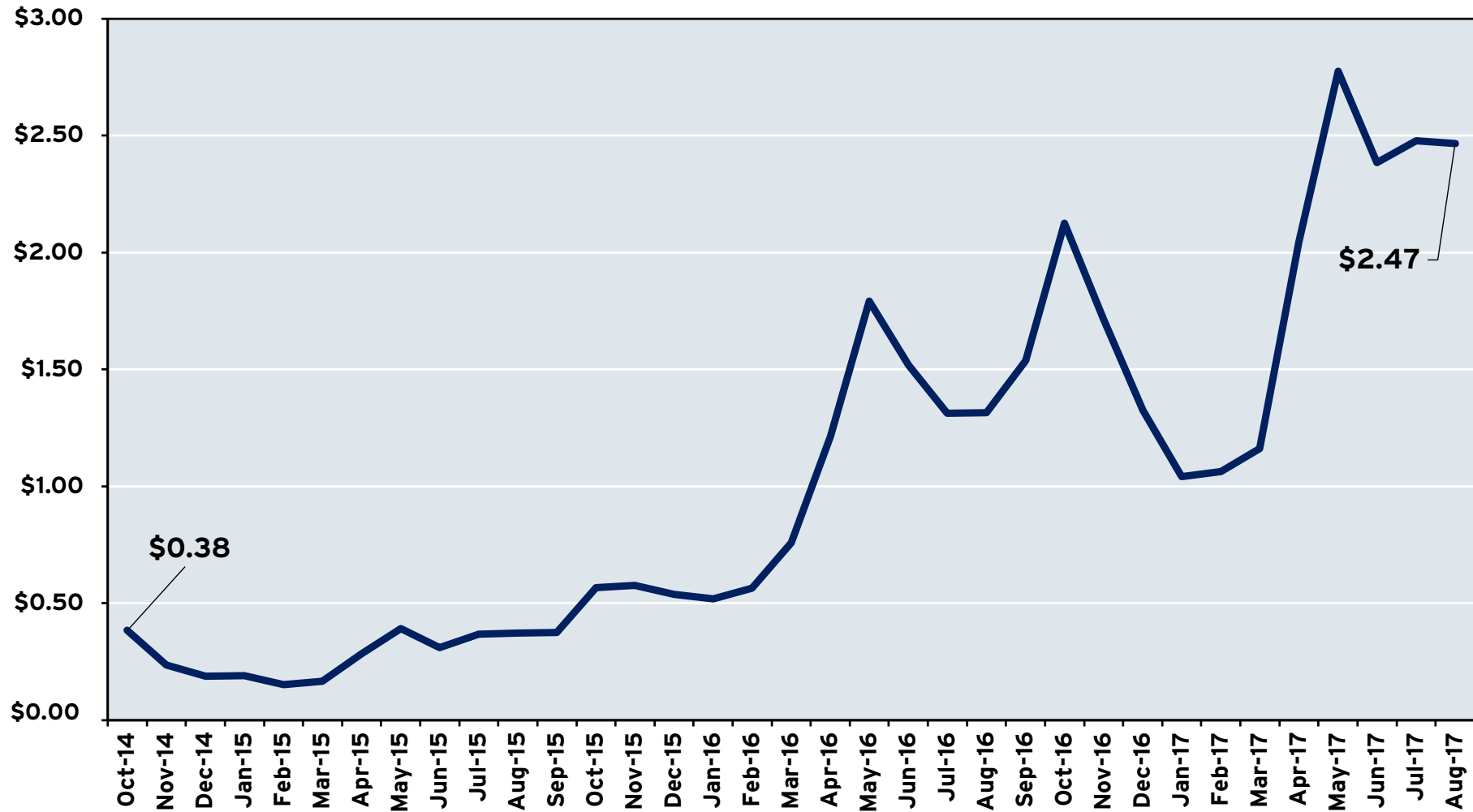


Source: Airdna data for the Commonwealth received in September 2017



GRAPH 12

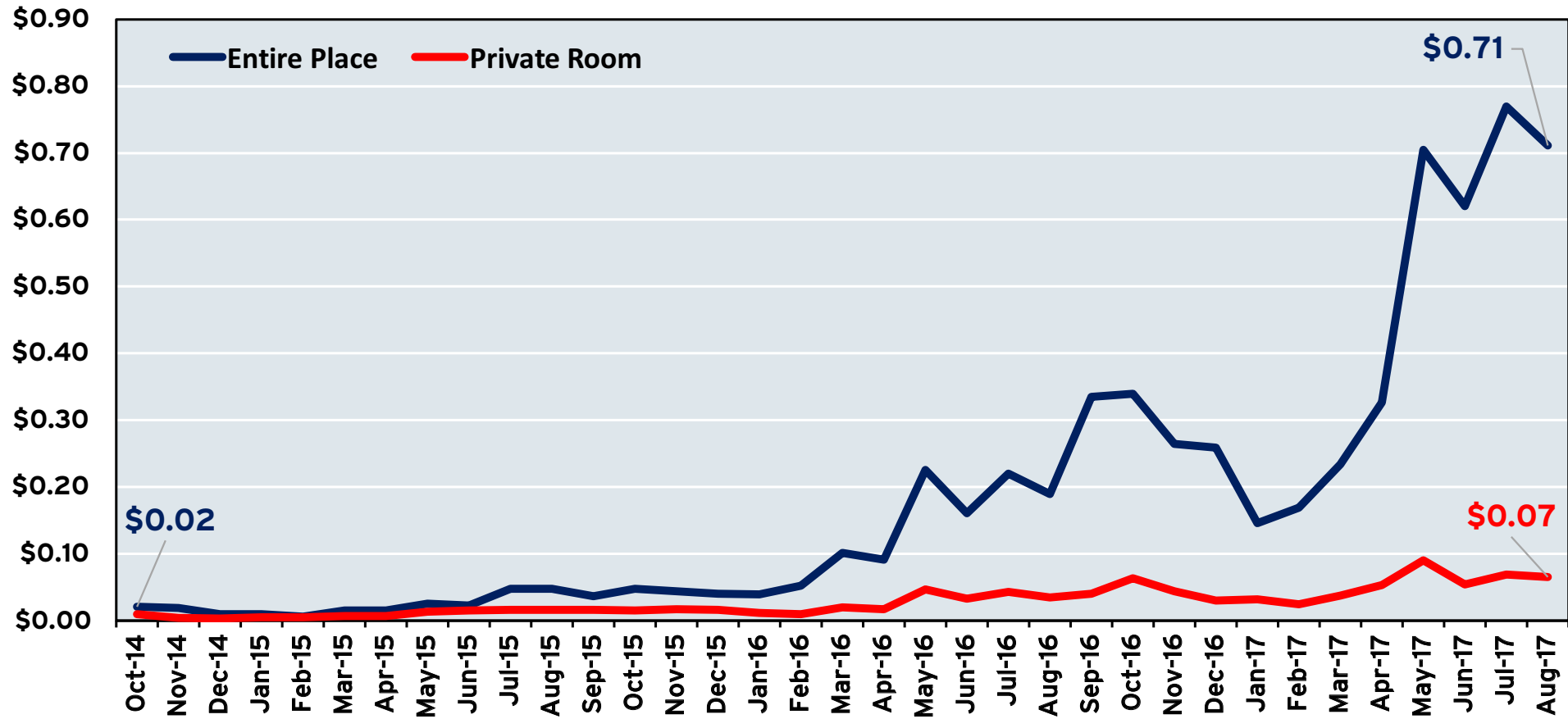
**TOTAL MONTHLY REVENUE FROM ALL AIRBNB PROPERTIES:  
CHARLOTTESVILLE, OCTOBER 2014 TO AUGUST 2017 (MILLIONS OF \$)**



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GRAPH 13

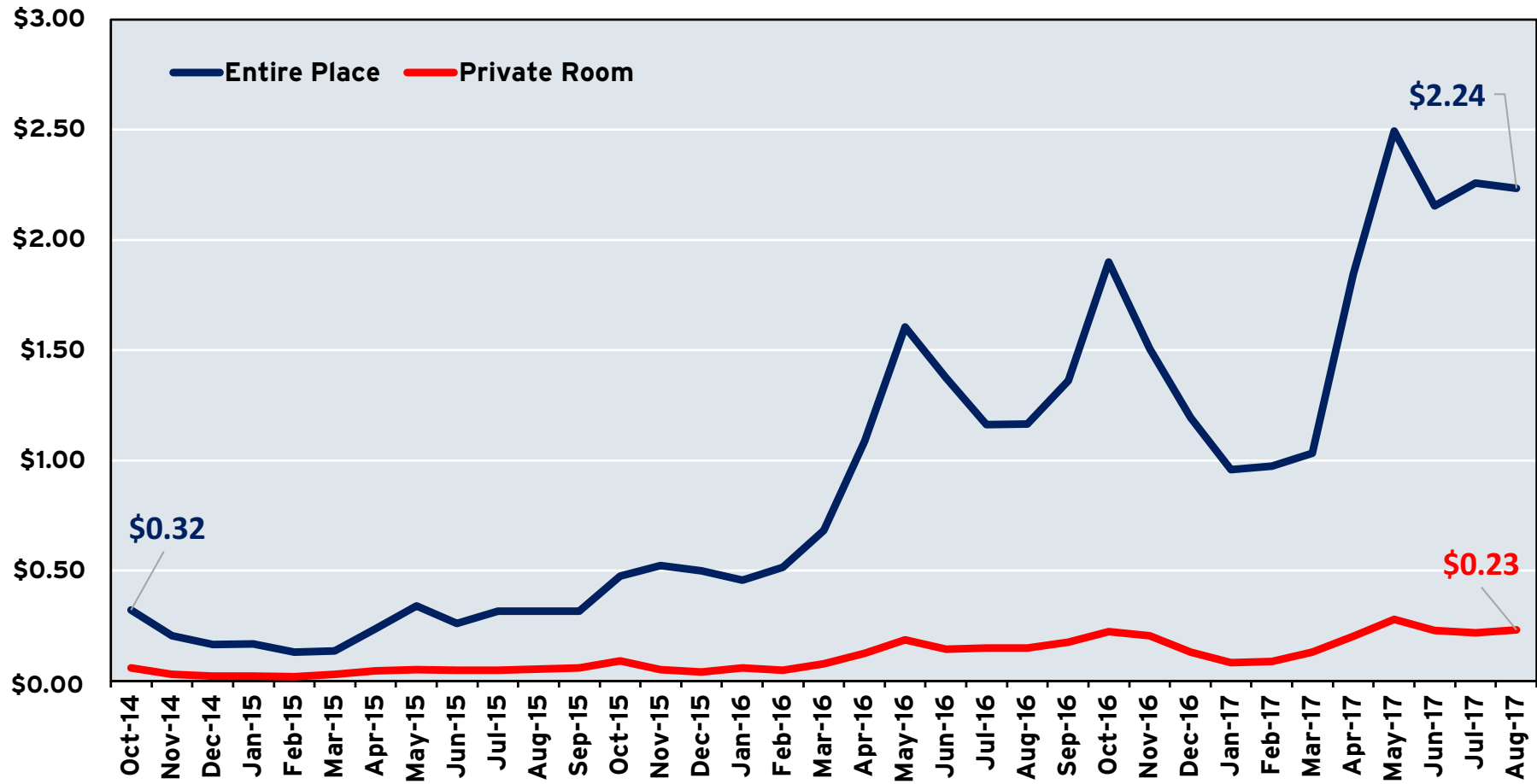
**AIRBNB'S REVENUE FROM ENTIRE PLACE AND PRIVATE ROOMS:  
LYNCHBURG, OCTOBER 2014 TO AUGUST 2017 (MILLIONS OF \$)**



Source: Airdna data for the Commonwealth received in September 2017

GRAPH 14

**AIRBNB'S REVENUE FROM ENTIRE PLACE AND PRIVATE ROOMS:  
CHARLOTTESVILLE, OCTOBER 2014 TO AUGUST 2017 (MILLIONS OF \$)**



Source: Airdna data for the Commonwealth received in September 2017

# Some Measures Of The Performance Of Hotels And Airbnb

With Airbnb’s rapid increases in listings and revenues, one might conclude that its rentals are outperforming the traditional hotel industry. Before we can reach this conclusion, however, we need to compare apples to apples; that is, we need to use comparable measures of performance over the short term and across traditional lodging sectors.

The gold standard of the lodging industry is revenue per available room (RevPAR). RevPAR captures the average revenue received by a host per room available and captures both supply and demand influences. STR Global uses *room nights* to calculate the measures and, as we noted

previously, we need to calculate on a similar basis for Airbnb’s rentals because its listings are not equal to room nights.

How has the traditional lodging sector been performing in Virginia’s metropolitan areas? We look at data for 2016 and 2017 in the months of January and July. Typically, the demand for hotel rooms is the lowest in January and highest in July. As illustrated in Table 1, the Commonwealth overall and every one of Virginia’s metros saw growth in hotel RevPAR from January 2016 to January 2017, with the exceptionally large increase for Northern Virginia likely associated with the presidential inauguration and the Women’s March on Washington. The story is more nuanced when we compare July 2016 to July 2017. **One possible explanation is that Airbnb hosts exit the market when there is low demand and enter the market when demand is higher. This would limit the ability of hoteliers to increase prices during periods of peak demand.**

TABLE 1

NOMINAL REVPAR FOR HOTELS: VIRGINIA AND SELECTED METROS, 2016 AND 2017

	Jan-16	Jul-16	Jan-17	Jul-17	Growth Jan-Jan	Growth July-July
<b>Virginia</b>	<b>\$40.51</b>	<b>\$84.09</b>	<b>\$48.24</b>	<b>\$85.17</b>	<b>19.08%</b>	<b>1.28%</b>
Blacksburg	\$28.42	\$61.34	\$28.86	\$60.34	1.55%	-1.63%
Charlottesville	\$51.12	\$98.97	\$52.70	\$102.09	3.09%	3.15%
Hampton Roads	\$26.90	\$105.38	\$30.85	\$108.31	14.68%	2.78%
Harrisonburg-Staunton	\$34.08	\$67.12	\$36.45	\$67.08	6.95%	-0.06%
Kingsport-Bristol, VA	\$24.00	\$49.20	\$24.02	\$47.54	0.08%	-3.37%
Lynchburg	\$35.27	\$61.82	\$40.26	\$55.41	14.15%	-10.37%
Northern Virginia	\$55.15	\$91.51	<b>\$73.45</b>	\$94.01	<b>33.18%</b>	2.73%
Richmond	\$44.15	\$66.28	\$45.27	\$64.88	2.54%	-2.11%
Roanoke	\$29.98	\$53.74	\$30.90	\$53.70	3.07%	-0.07%

Source: STR trend reports: Jan. 24, 2017, and Sept. 15, 2017

How did Airbnb hosts fare during this period? As shown in Table 2, RevPAR for Airbnb hosts was lower than that of hotels. Airbnb hosts didn't earn as much per available room as traditional hoteliers. On the other hand, Airbnb RevPAR increased quite dramatically in Virginia and almost all the metropolitan areas. With few exceptions, RevPAR increased in every metro area, regardless of the period in question. While RevPAR

for hotels jumped 33 percent in Northern Virginia in January 2017, Airbnb RevPAR jumped over 100 percent. These large increases in RevPAR suggest that Airbnb hosts can not only command higher prices over time for their rooms and houses, but they also are gaining the ability to engage in "surge pricing" for special events, such as the presidential inauguration.

**TABLE 2**  
**NOMINAL AIRBNB REVPAR: VIRGINIA AND SELECTED METROS, 2016 AND 2017**

	Jan-16	Jul-16	Jan-17	Jul-17	Growth Jan-Jan	Growth July-July
<b>Virginia</b>	<b>\$11.77</b>	<b>\$32.95</b>	<b>\$19.30</b>	<b>\$37.53</b>	<b>63.98%</b>	<b>13.90%</b>
Blacksburg	\$6.34	\$16.42	\$14.10	\$27.04	122.40%	64.68%
Charlottesville	\$17.74	\$34.37	\$22.65	\$42.07	27.68%	22.40%
Hampton Roads	\$9.55	\$47.65	\$13.52	\$45.02	41.57%	-5.52%
Harrisonburg-Staunton	\$17.32	\$26.99	\$15.98	\$32.06	-7.74%	18.78%
Kingsport-Bristol, VA	\$2.35	\$13.89	\$3.02	\$20.82	28.51%	49.89%
Lynchburg	\$7.37	\$23.04	\$11.18	\$34.01	51.70%	47.61%
Northern Virginia	\$13.29	\$36.27	\$26.86	\$33.03	102.11%	-8.93%
Richmond	\$10.93	\$26.50	\$18.30	\$28.94	67.43%	9.21%
Roanoke	\$7.20	\$26.18	\$9.45	\$35.34	31.25%	34.99%

Source: Airdna data for the Commonwealth received in September 2017

# Comparing Airbnb In Virginia Cities To Out-Of-State Cities

How do Virginia cities compare to other markets where Airbnb is concerned? We have selected cities in six metropolitan regions in other states where Airbnb is active for comparison. It should be noted that, since we do not have access to STR data on metropolitan areas outside of Virginia, all comparisons, including those for cities in Virginia, are based on Airdna reports. In all the comparator cities, Airbnb listings grew rapidly from 2011 through 2016 (see Table 3). While some of the rapid growth can be attributed to the initially small number of the overall

listings, even those markets with relatively large Airbnb listing pools saw double- and triple-digit growth over this period. Between 2015 and 2016, the Airbnb market segment in the city of Virginia Beach grew the fastest of any of the 12 cities listed in Table 3.

Virginia Beach, however, stands out in term of the nature of its rentals. Using active-listing data from March 2017, Table 4 enables us to see that over one-quarter of listings in Virginia Beach were for four-plus bedroom listings, 10 percentage points higher than the next city, Nashville. This reflects the existence of many large, four-plus bedroom buildings along the oceanfront that are rented to large groups for weekends or entire weeks. Parenthetically, these also tend to be the Airbnb properties that generate the most complaints concerning unruly behavior, illegal parking, trash and the like.

**TABLE 3**

**CURRENTLY ACTIVE AIRBNB LISTINGS: SELECTED CITIES, 2011-2016**

	2011	2012	2013	2014	2015	2016	Growth 2015-2016
Arlington	30	53	94	178	448	982	119.20%
Charleston	10	28	74	156	395	906	129.37%
Jacksonville	4	8	18	45	132	311	135.61%
Lynchburg	5	..	..	14	74	172	132.43%
Nashville	18	50	147	525	1,600	3,400	112.50%
New Orleans	65	200	545	1,100	2,400	4,600	91.67%
Norfolk	2	6	8	14	63	153	142.86%
Portland	82	226	527	1,100	2,200	3,800	72.73%
Richmond	4	9	25	71	459	642	39.87%
Roanoke	..	1	3	9	38	90	136.84%
Savannah	17	35	106	166	283	619	118.73%
<b>Virginia Beach</b>	<b>1</b>	<b>9</b>	<b>20</b>	<b>47</b>	<b>156</b>	<b>392</b>	<b>151.28%</b>

Source: Airdna reports

TABLE 4

## DISTRIBUTION OF ACTIVE AIRBNB LISTINGS: SELECTED CITIES, MARCH 2017

	Studio	1 Bedroom	2 Bedroom	3 Bedroom	4+ Bedroom
Arlington	6.45%	45.66%	32.37%	9.83%	5.68%
Charleston	4.26%	28.61%	32.60%	23.52%	11.00%
Jacksonville	4.38%	32.50%	34.38%	19.38%	9.38%
Lynchburg	11.84%	28.95%	31.58%	15.79%	11.84%
Nashville	4.50%	22.44%	31.48%	25.80%	15.79%
New Orleans	6.51%	37.22%	34.57%	14.04%	7.66%
Norfolk	5.75%	25.29%	43.68%	14.94%	10.34%
Portland	15.42%	41.59%	27.66%	9.86%	5.48%
Richmond	6.19%	37.61%	28.76%	19.47%	7.96%
Roanoke	8.16%	34.69%	24.49%	24.49%	8.16%
Savannah	4.43%	35.82%	34.75%	15.60%	9.40%
<b>Virginia Beach</b>	<b>6.86%</b>	<b>23.53%</b>	<b>27.45%</b>	<b>16.18%</b>	<b>25.98%</b>

Source: Airdna reports

With respect to occupancy, Arlington leads Virginia cities in terms of its average Airbnb occupancy rate (see Table 5). Here, however, we must be careful because Airdna listing data ordinarily assume a one-listing, one-room relationship when the typical listing involves an average of almost two rooms. Hence, the occupancy data presented in Table 5 are biased strongly upward – perhaps as much as 100 percent on average. Portland’s 60.33 percent Airbnb occupancy rate, for example, in fourth quarter 2016 may be in the range of 30 to 35 percent.

In general, the less seasonal a market, the higher its average occupancy rate. Airbnb activity in Arlington is not as closely tied to tourism as it is in Virginia Beach.

STR data reveal an average occupancy rate of 57.9 percent for conventional hotels and motels located in Virginia for the fourth quarter of 2016. The unweighted average Airbnb occupancy rate was 47.8 percent in the same period, but as just noted, this does not consider the

phenomenon of multiple rooms per listing. Airbnb properties tend to be occupied less than traditional hotels, suggesting that many hosts struggle to rent their properties on a consistent basis.

Remember that RevPAR is revenue per available room and refers to the average revenue received by a host per room available. Again, however, we must issue a caution. Airdna’s data report RevPAR per listing and there usually are multiple rooms attached to a single listing. Consequently, Airdna’s data are biased strong upward here as well.

**TABLE 5****AVERAGE AIRBNB OCCUPANCY RATES: SELECTED CITIES, 2016**

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
<b>Arlington</b>	<b>57.67%</b>	<b>70.67%</b>	<b>66.33%</b>	<b>57.67%</b>
<b>Charleston</b>	<b>43.33%</b>	<b>63.67%</b>	<b>55.00%</b>	<b>44.67%</b>
<b>Jacksonville</b>	<b>64.00%</b>	<b>61.33%</b>	<b>58.33%</b>	<b>58.00%</b>
<b>Lynchburg</b>	<b>30.67%</b>	<b>39.00%</b>	<b>45.00%</b>	<b>44.33%</b>
<b>Nashville</b>	<b>44.00%</b>	<b>59.33%</b>	<b>55.67%</b>	<b>46.67%</b>
<b>New Orleans</b>	<b>47.33%</b>	<b>52.67%</b>	<b>38.00%</b>	<b>43.00%</b>
<b>Norfolk</b>	<b>34.00%</b>	<b>49.33%</b>	<b>53.33%</b>	<b>42.67%</b>
<b>Portland</b>	<b>56.00%</b>	<b>74.00%</b>	<b>84.67%</b>	<b>60.33%</b>
<b>Richmond</b>	<b>38.33%</b>	<b>51.00%</b>	<b>55.33%</b>	<b>51.67%</b>
<b>Roanoke</b>	<b>32.00%</b>	<b>53.67%</b>	<b>58.67%</b>	<b>47.67%</b>
<b>Savannah</b>	<b>48.33%</b>	<b>56.33%</b>	<b>51.67%</b>	<b>44.00%</b>
<b>Virginia Beach</b>	<b>30.33%</b>	<b>52.67%</b>	<b>59.33%</b>	<b>32.33%</b>

Source: Airdna market reports

Note: Smith Travel Research reported a room occupancy rate of 57.9 percent for conventional hotels and motels located in Virginia for fourth quarter 2016.



With this caveat in mind, we can observe in Table 6 that Arlington once again leads the Virginia pack, though Lynchburg, Norfolk, Richmond and Virginia Beach all recorded considerably higher growth rates in their RevPARs between 2015 and 2016.

There are two additional inferences we can draw from Table 6. One is that there is wide dispersion in RevPARs among the cities and in RevPAR growth rates as well. The other is that if we were to divide the reported Airbnb RevPARs by two to take account of the listings versus rooms problem, then the average October 2016 RevPAR of \$75.48 in conventional hotels and motels was substantially higher than actual Airbnb RevPAR in any of the 12 cities covered.

Turning next to Airbnb revenues, we examine total earnings of Airbnb hosts from various rentals in 2016. Virginia Beach stands out from the

other cities in this regard because it has the highest percentage of revenue earned through listings for four bedrooms or more (see Table 7). Virginia Beach’s share of revenue from four or more bedroom rentals (36.6 percent of revenue earned) eclipsed that of all other cities in our sample.

**If tax revenue collections are a major concern for cities, then the data in Table 7 strongly suggest that cities’ attention should be focused on the multiple-bedroom Airbnb properties. In a city such as Virginia Beach, almost three-quarters of all revenue earned by Airbnb hosts is derived from multiple-bedroom properties,<sup>9</sup> while it is 66 percent in Richmond and almost 63 percent in Arlington.**

<sup>9</sup> We estimate that almost 80 percent of the lodging taxes that the city of Virginia Beach collects from Airbnb hosts is derived from hosts who rent full houses, apartments or condos.

**TABLE 6**  
**NOMINAL AIRBNB REVPAR PER LISTING: SELECTED CITIES, 2015 AND 2016**

	May-15	Oct-15	May-16	Oct-16	Growth May-May	Growth Oct-Oct
<b>Arlington</b>	<b>\$ 83.43</b>	<b>\$ 77.00</b>	<b>\$ 99.82</b>	<b>\$ 86.86</b>	<b>19.65%</b>	<b>12.80%</b>
Charleston	\$ 97.71	\$ 92.29	\$ 134.11	\$ 111.86	37.24%	21.21%
Jacksonville	\$ 42.86	\$ 51.29	\$ 54.11	\$ 47.00	26.25%	-8.36%
Nashville	\$ 81.43	\$ 100.43	\$ 128.93	\$ 133.14	58.33%	32.57%
New Orleans	\$ 95.14	\$ 90.71	\$ 106.79	\$ 86.57	12.24%	-4.57%
Norfolk	\$ 58.29	\$ 35.86	\$ 69.82	\$ 54.57	19.79%	52.19%
Portland	\$ 70.71	\$ 79.14	\$ 84.11	\$ 77.43	18.94%	-2.17%
Richmond	\$ 54.14	\$ 52.71	\$ 67.32	\$ 70.00	24.34%	32.79%
Roanoke	\$ 56.86	\$ 50.57	\$ 48.75	\$ 54.14	-14.26%	7.06%
Savannah	\$ 81.57	\$ 74.57	\$ 114.11	\$ 111.00	39.89%	48.85%
Lynchburg	\$ 38.00	\$ 37.00	\$ 63.93	\$ 50.14	68.23%	35.52%
Virginia Beach	\$ 59.71	\$ 39.14	\$ 97.68	\$ 58.86	63.58%	50.36%

Source: Airdna reports

Note: Smith Travel Research reports that RevPAR in conventional hotels and motels in Virginia was \$75.48 in October 2016 and that it grew 6.6 percent between October 2015 and October 2016.

TABLE 7

DISTRIBUTION OF AIRBNB EARNINGS BY RENTAL TYPE: SELECTED CITIES, 2016

	Shared Revenue	Private Revenue	Studio Revenue	1-Bedroom Revenue	2-Bedrooms Revenue	3-Bedrooms Revenue	4-Bedrooms Revenue
Arlington	3.06%	8.79%	9.78%	15.60%	19.90%	17.08%	25.80%
Charleston	1.09%	7.50%	10.93%	15.48%	16.37%	18.40%	30.22%
Jacksonville	2.41%	9.84%	12.11%	14.77%	17.23%	17.90%	25.73%
Lynchburg	0.00%	10.76%	12.57%	15.98%	20.45%	11.93%	28.30%
Nashville	2.60%	6.74%	11.90%	13.16%	14.17%	20.78%	30.66%
New Orleans	3.05%	6.31%	10.29%	11.18%	14.82%	18.14%	36.22%
Norfolk	0.56%	11.28%	11.62%	16.17%	20.96%	18.78%	20.62%
Portland	3.78%	7.23%	12.28%	12.65%	16.04%	21.03%	26.98%
Richmond	2.85%	6.95%	9.05%	14.49%	14.77%	19.49%	32.39%
Roanoke	0.00%	10.35%	15.09%	14.71%	17.80%	19.74%	22.30%
Savannah	1.76%	9.37%	11.42%	11.96%	15.72%	15.67%	34.11%
Virginia Beach	1.04%	9.66%	2.26%	12.12%	17.65%	20.67%	36.59%

Source: Airdna reports

**The moral to the story revealed by the data in Table 7 is once again that cities that decide to devote considerable resources to forcing compliance from hosts renting shared or private rooms are likely to find that the costs of doing so will exceed the incremental revenues they receive from this enforcement.** Simply put, this is not where the revenue is. The hundreds of small Airbnb hosts who come and go from the market are difficult to track and would present significant challenges to enforcement personnel. **Further, we predict that specialized, possibly hard-to-track Airbnb imitators will rise in importance as they address the specific circumstances of populations, ranging from gay people and Catholics to women and military veterans. The point is that the more of these hosting organizations there are, the more difficult it will be for cities to enforce any ordinances that putatively apply to such operations.**

There is another fundamental conclusion to be drawn from our analysis. Given the sometimes, almost casual nature of the Airbnb phenomenon, it

is not an easy task for cities to collect the taxes due from Airbnb hosts. **Any tax based upon revenues or sales will be challenged by problems connected to tracking and identifying both Airbnb hosts and their activities. This dictum applies both to the city’s lodging and occupancy taxes and to the Commonwealth’s sales tax.**

**Identification and collection problems may diminish, however, if it is income rather than sales that becomes subject to taxation.** Airbnb and related hosts may believe they can thumb their noses at cities, but they are less likely to hold that attitude with respect to the federal government’s Internal Revenue Service, which possesses a variety of digitized tools to identify scofflaws and can levy some impressive penalties to inspire cooperation.

**Perish the thought: city income taxes, perhaps piggybacked on the state or federal income taxes, may turn out to be the wave of the future in the gig economy – if cities are serious about collecting taxes due from**

**Airbnb hosts and the multitude of other gig economy entrepreneurs who increasingly are inhabiting the cities' economic environment. We make this observation not because we are advocates of income taxes per se, but rather as dispassionate observers of economic trends. Sales-related taxes may become increasingly difficult to collect.**

## **IS THERE A CONNECTION BETWEEN THE GROWTH OF AIRBNB AND HOTEL BEHAVIOR?**

Costs and prices make a difference, or so at least academic economists tell their students. **While a more rigorous analysis would be required to render a definitive judgment, *prima facie* it appears that the pricing behavior of Virginia hotels is partially responsible for the rapid growth of Airbnb in their respective cities.** Alert consumers look for opportunities to substitute less-expensive goods for those that are more expensive, and rental rooms are no exception. Rising hotel room prices stimulate cost-conscious tourists and business travelers to contemplate alternatives, including Airbnb, which may result in hotels losing market share to competitors such as Airbnb.

**Unless dramatic action is taken by cities, it is safe to say that Airbnb and similar rental contractors are not going to disappear. Nevertheless, traditional hotels in the Commonwealth have three major avenues open to enable them to become more competitive with respect to Airbnb and similar firms. First, they can be more modest in terms of future price increases and perhaps even adjust their current prices by means of special sales or offerings. Second, they can make their properties and offerings more enticing, such that accommodations are more personal, engaging and memorable (qualities many Airbnb customers say attract them to Airbnb accommodations). Third, cities can make their hotels more attractive by addressing issues such as traffic control, parking availability and cost, and perceived safety. If such developments do not occur, then simple, but straightforward economic analysis suggests that Airbnb's growth will continue apace.**

## **Policy Alternatives**

It is not blindingly obvious where the public interest resides in the debates concerning the activities of Airbnb and similar firms in Virginia because there are competing points of view, each supported by some favorable evidence.

A rough definition of the public interest is that it coincides with activities that do the most good for the most people. **If we adopt this view, then it follows that it is not the job of government to protect existing firms and industries from new, more efficient or more attractive competitors that would serve consumers better and do so at lower prices.** If it were, then horse-and-buggy manufacturers and producers of 8-track and cassette tapes still would be dominant because both would have been protected from new competition.

**Enabling citizen consumers to spend their dollars where they wish is a welfare-maximizing stance for government to adopt, provided this consumption does not generate undesirable side effects such as pollution, noise, traffic congestion, crime, unsanitary conditions that impact public health and the like.** As a rule, challenging competing firms to meet "the market test" – that is, offer goods and services at prices and levels of quality that are attractive to consumers and do not generate the side effects just noted – not only is an equitable approach that treats all citizens and firms the same, but also generates the best overall results for the citizenry. "Best overall" here means presenting consumers with a larger selection of goods and services at lower prices.

**An important question relating to Airbnb in Virginia is whether all parties are being treated the same – literally, whether all participants (Airbnb and traditional hotels alike) have had to meet the same market test under the same rules. We believe the answer is no and that some Airbnb hosts have consciously evaded (and been able to avoid) city regulations and taxes.**

**This said, it does not follow that it would be wise for cities to devote substantial resources to ensuring that every Airbnb-type host complies with all of the city's ordinances. Let's use Virginia**

**Beach as an example. Airbnb hosts who rent single or shared single rooms in private homes accounted for a very small percentage of the total number of rooms available in Virginia Beach during 2016 and generated only about one-fifth of that city's potential tax revenues from Airbnb-like activities. Further, these hosts do not often appear to be the sources of behavioral problems (noise, trash, crime, etc.).**

Cities would be wise to devote their scarce enforcement resources to identifying and obtaining compliance from Airbnb hosts offering their entire place for rent. Plainly speaking, this is where the revenue is and evidence suggests that any behavioral problems that Airbnb generates are concentrated among these properties as well. This is not the same as saying that the city should ignore ordinances that apply to the Airbnb small fry. Instead, it is a rational economic calculation that expending resources on such does not make much sense, just as members of the city's police force do not issue citations to every motorist who is traveling 32 MPH in a 30 MPH zone.

**Larger Virginia cities might usefully imitate San Francisco in terms of its relationship with Airbnb.** San Francisco negotiated an agreement with Airbnb that, among other things, uses the Airbnb administrative structure to collect taxes due from Airbnb hosts. If Virginia cities can replicate this, then the revenues they receive from small Airbnb-like hosts plausibly could exceed the costs required to collect them. However, this will not be easily accomplished because it imposes costs on Airbnb and plausibly reduces both its own profits and those of its hosts. Airbnb is unlikely to comply immediately or happily. We recognize this, but note that the somewhat similar circumstances surrounding Amazon eventually have resulted in Amazon collecting and remitting sales taxes to jurisdictions, even where Amazon has no physical presence. We believe the same evolutionary process will occur in markets where firms such as Airbnb operate.

**Finally, to return to a theme developed above, traditional hotel operators would be well advised to re-evaluate their pricing and quality strategies. Airbnb and similar rental hosting firms are not going to go away.** In contrast to Uber, which is losing several billion dollars per year and has yet to demonstrate a viable business model,

Airbnb is a profitable enterprise that already in August 2016 was valued at \$30 billion when it raised \$850 million in a private offering.<sup>10</sup> To place this in perspective, this is about 25 percent higher than the value of the entire Hilton Hotel chain.

**The notion that the meteoric growth of Airbnb and similar hosts can be choked off by punitive law enforcement is naive. Nor would this be a good idea. Airbnb and similar rental hosting firms appear to be meeting the market test, and traditional hotels need to ensure that they do so as well.**

## Implications Of The Gig Economy For Virginia Cities And Counties

It would be shortsighted for anyone to view the Airbnb phenomenon as an isolated development. Instead, Airbnb is one part of a much larger socioeconomic trend that some have chosen to term the "gig economy." In the gig world, employees are not permanent; rather, they are temporary contractors who accomplish a task and then move on to something else (or nothing at all) with another employer, or even the same employer, but for a different, delimited task.

More gig activity has occurred in 2017 than in years previous, and more occupations and tasks are being filled or satisfied by gig workers than ever before. Intuit, the software company that produces products such as Quicken and TurboTax, predicts that 40 percent of all workers will be gig employees by 2020.<sup>11</sup> Graph 15 illustrates the dramatic growth in contract and temporary employees in the U.S. economy.

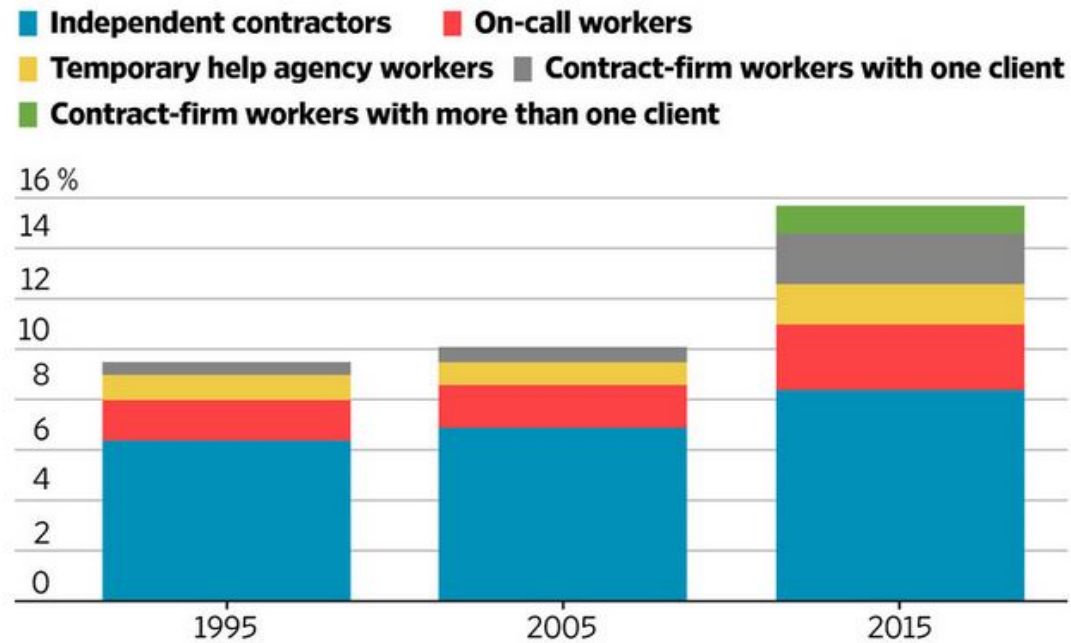
<sup>10</sup> Matt Rosoff, "Airbnb Is Now Worth \$30 Billion," *Business Insider* (Aug. 6, 2016), [www.businessinsider.com](http://www.businessinsider.com).

<sup>11</sup> *Intuit 2020 Report. Ten Trends That Will Shape the Next Decade.* [https://http-download.intuit.com/http-intuit/CMO/intuit/futureofsmallbusiness/intuit\\_2020\\_report.pdf](https://http-download.intuit.com/http-intuit/CMO/intuit/futureofsmallbusiness/intuit_2020_report.pdf).

**GRAPH 15**

**THE INCREASING NUMBER OF PART-TIME AND GIG EMPLOYEES IN THE UNITED STATES**

Estimates suggest a sharp increase in the percentage of the U.S. workforce that isn't employed directly by the company where they work.



Note: A janitor who is employed by a contract firm and cleans five unrelated offices a week is counted as working for more than one client. Data for 1995 and 2005 don't include exact comparisons for that group.

Source: Lawrence Katz (Harvard University) and Alan Krueger (Princeton University)

Source: The Wall Street Journal, 269 (Feb. 3, 2017), A10

These are among the major implications for cities in Virginia:

- **Cities and counties will be dealing with many more workers (including Airbnb hosts) who don't fit traditional categories, are not accustomed to applying for things such as business licenses, may or may not be willing to pay established taxes (or even be aware they exist), can be difficult to track down, and who actually may be located thousands of miles away from them.**
- **Jurisdictions seeking to economize and do the best for their citizen taxpayers likely will choose to hire more temporary workers.** Must they place limits on their employment of contractual workers even if this turns out to cost more money?
- **Jurisdictions must decide what levels of fringe benefits (if any) they will provide contractual employees, particularly when their employment period is lengthy, or when the individual is employed repetitively. I.e., how long or often must someone be employed in order for the city's obligations to such employees change?**
- **Jurisdictions will find that the gig economy workers who actually reside in Virginia (though perhaps only for a period of time) will place larger demands upon their schools and social services, and perhaps on other agencies such as law enforcement and the judicial system. For better or worse, permanence of residence and permanence of employment are significant predictors of positive social behavior.**
- **Schools will find that increasing proportions of their students will come and go because their parents or guardians literally are footloose, or their financial circumstances have changed.**
- **Jurisdictions may conclude that many conventional measures of achievement, such as college degrees, do not fit the gig world as well as certificates and certifications.** Thus, being certified as a project manager, court reporter, EMT, internet network specialist, massage therapist or licensed nurse often is more important than having earned a baccalaureate degree.

- **If we put aside seasonable agricultural work, then the gig economy currently is proportionately overrepresented with Caucasians, many of whom are well educated and even wealthy.** To the extent that the city employs gig economy workers, it may find that these workers are not representative either of Virginia demographics or the population of the Commonwealth. Jurisdictions must be proactive if they wish a different outcome. Further, reputable recent evidence suggests that many Airbnb hosts engage in racial discrimination based upon the names of prospective renters.<sup>12</sup> Virginia should be alert to the possibility that conventional means of enforcing nondiscrimination ordinances in housing and accommodations, as well as policies monitoring its short-term rental market and overall revenue sources, may have been rendered less effective by gig economy developments.



<sup>12</sup> Benjamin Edelman, Michael Luca and Dan Svirsky, "Racial Discrimination in the Sharing Economy: Evidence from a Field Experiment," *American Journal of Applied Economics*, 9 (April 2017), 1-22.