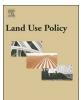


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Short-term rentals in small cities in Oregon: Impacts and regulations

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ABSTRACT

Keywords: Short term rentals Housing supply Housing affordability Rural housing Local regulation Sharing economy Governments across the country struggle to manage the impacts of short-term rentals (STRs), like Airbnbs, and the sharing economy more generally. Existing research is sparse and tends to focus on large cities or metropolitan areas. Focusing on 237 small cities in Oregon, this study relies on descriptive data from Airbnb, AirDNA, Oregon Department of Revenue, and the U.S. Census to examine the prevalence and characteristics of Airbnbs, revenue potential from lodging taxes, and the impact on long-term housing supply. This study also summarizes the findings from a statewide survey of city managers and planners on regulation and perceptions. We find that the prevalence of Airbnbs varies drastically across cities and is highest in tourist areas. Airbnbs are present on over five percent of the housing stock in 16 cities. While hosts generated \$82 million in revenue, only 11 cities and four counties charge lodging taxes. In total, 38% of Airbnbs are whole homes that are rented more than 30 days in a year, signaling potential impacts on long-term rental supply. Finally, while cities perceive Airbnb to be an issue, only 35% of survey respondents are currently regulating Airbnbs. We find that cities need to understand prevalence and characteristics of STRs and respond with appropriate regulatory controls. Airbnbs provides lodging and tourism where hotels have not been available in some cities, but in other cities, Airbnbs place pressure on tight housing markets and draw complaints from residents.

1. Introduction

Short-term rentals (STRs) are often defined as housing units that are rented or leased for less than 30 days, although they are not officially defined by state or federal authorities. Part of the sharing or access economy, STRs are representative of a phenomenon in which people are opting to share goods and services traditionally owned.¹ Access economy activities are often compensated by a monetary exchange, trade, or in-kind offering. For STRs facilitated though internet platforms like Airbnb, Vacation Rental By Owner (VRBOs), or HomeAway rentals, access is granted through a monetary exchange which provides the STR's host with supplementary income. This trend has been understood to offer both benefits and costs to communities across the country.

As the role of STRs differs by community (influenced by the physical, geographic, social, economic, and political state of the jurisdiction), STRs impact communities diversely. While some communities see STRs as an opportunity to reap the benefits of increased tourism, employment opportunities, and economic development—other communities desperately try to reduce or mitigate the onslaught of unintended consequences brought on by STRs. Identified concerns range from the perception that STRs are unsafe or dangerous to the reality that many are operated illegally potentially causing strain on public services. Many local governments are concerned that STRs could reduce the availability or affordability of housing for existing residents, causing displacement, created through the "hotelization" of neighborhoods. While recent academic studies have examined the policy and planning implications of STRs in large cities, there is little work on the impacts of STRs in small cities. (Gurran and Phibbs, 2017; ECONorthwest, 2016; Sheppard and Udell, 2016; Wegmann and Jiao, 2017)

In this study, we address this gap by focusing on small cities in Oregon. We rely on data from Airbnb and AirDNA as a proxy for short-term rental because Airbnb is the most extensive platform and data was readily available. Here, an Airbnb is any listing on the Airbnb website as of February 2017 and includes a range of property types (e.g. house, apartment, villa, tent, bed and breakfast, etc.) across three listing types (entire home, private room, and shared room). Oregon is a state with a fast-growing population and an active tourist economy where 237 of 241 cities are under 100,000 people in size. There are Airbnbs in all of the state's 36 counties and in 75% of the cities in the state. The small cities account for 8,000 Airbnbs, or roughly 44% of the total Airbnbs in

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¹ The practice of renting homes for short-term use is not new (particularly in tourist areas) but Airbnb and other companies have created a platform to make the process easier and more globally accessible in what was predominantly a local industry.

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the state. Airbnbs are most prevalent in areas that attract high rates of tourism. We are interested in the positive and negative impacts of Airbnbs in small cities in Oregon. We are also interested in how small cities are regulating Airbnbs. To understand how small cities are impacted by Airbnbs, we (1) examine the prevalence and characteristics of Airbnbs; (2) examine the revenue potential for Airbnbs; (3) study the impacts of Airbnbs on the supply of housing; (4) gauge the perceptions of local planners; and (5) describe the current regulations used in small cities in Oregon. Our data sources include descriptive data from AirDNA and Airbnb, Transient Lodging Tax (TLT) data from the Oregon Department of Revenue, American Community Survey data, and a survey administered to city staff in Oregon that gauged perceptions and gathered data about the regulatory structure for STRs. While we focus on small cities in Oregon, our findings are relevant to other small cities across the United States and internationally.

This paper proceeds as follows. We begin with a discussion of previous studies on short-term rentals and potential benefits and impacts to the community. Then we describe our research questions and methodology. Next, we describe the prevalence of Airbnbs, potential for tax revenue, potential impacts on housing availability, and perceptions and regulations of STRs. Finally, we offer recommendations to small cities for regulating STRs.

2. Impacts and benefits of short-term rentals

While short-term rentals operated through online platforms like Airbnb are a relatively recent phenomenon, scholars have begun to study the economic and social impacts of short-term rentals. Some researchers have also studied and discussed potential policy frameworks to better manage these rentals.

2.1. Short-term rental's impact

STRs can impact communities both positively and negatively. STRs impact on housing, local economies and how STRs represent the sharing economy are the most commonly cited issues.

2.1.1. Impact on housing

A scan of applicable literature shows the impact of STRs on housing. In describing the negative externalities of Airbnb, Edelman and Geradin (2016) hypothesize that Airbnb may remove housing inventory from long-term markets, which can exacerbate the shortage of rental housing or increase rents further. Most reports comment on the fact that there are very clear limitations in the availability of data to fully understand the impact STRs have on housing markets or housing stock (ECONorthwest, 2016; Rees Consulting, Inc., 2016). While speculation and inherent assumptions about housing supply and costs are widespread, academics and practitioners are eager to learn about the true effects. Because there is no standard or agreed upon definition for STRs, the ability to draw clear conclusions on causality across space becomes especially difficult (ECONorthwest, 2016).

A study that analyzed the impact of HomeAway rentals in Seattle found that (1) STRs did not have a significant impact on home values, (2) properties were not on the STR market for a long period of time during a year, and (3) STRs were located in traditionally higher income areas (ECONorthwest, 2016). A study of STRs in New York City and New Orleans found STRs were associated with increased property values (Sheppard and Udell, 2016 and Kindel et al., 2016). This suggests that STRs' impact on housing will differ between geographic regions and local economy types. Other research suggests that STRs also have the potential to help "preserve property values by providing income to homeowners that can be used to offset mortgage and maintenance costs – in other words, by allowing owners to share the burdens of ownership" (Jefferson-Jones, 2015).

Some reports looked at the impact STRs had on specific housing types. A white paper looking at four small cities in Colorado

(populations under 7000) found that STRs did lead to the reduction of homes and bedrooms previously used by employees, increasing the demand for workforce housing and reducing its supply (Rees Consulting, Inc., 2016).

Wegmann and Jiao (2017) study what types of neighborhoods have the most Airbnbs by using a webscraping methodology to examine five large cities: Austin, Boston, Chicago, San Francisco, and Washington, DC. Across cities, the research suggests that Airbnbs are concentrated in neighborhoods with a higher share of non-family households and a lower share of individual automobile work commute share. While the authors explored the characteristics of neighborhoods and concentration of Airbnbs, the research did not consider housing tenure within the neighborhood. It was beyond the scope of the research to examine how Airbnbs impact the supply of rental housing. (Wegmann and Jiao, 2017)

2.1.2. Impact on local economy

Proponents of STRs argue that they have positive economic impacts. The literature shows STRs can potentially impact local government revenue, increase tourism-related activity, provide income to hosts, and may disrupt the traditional lodging industry.

Short-term rentals have the potential to positively affect municipalities through increased tax revenues. A report assessing the impact of STRs in San Diego, Los Angeles, Monterey County, Santa Barbara, and St. Joseph (Michigan) found that taxing the STR industry generates substantial revenue for the municipality and supports job growth (TXP, Inc., 2014a, b; TXP, Inc., 2015).

A primary reason that property owners operate STRs is the income operators' can earn. However, operator revenue from STRs varies widely. In a 2016 study of HomeAway rentals in Seattle, ECONorthwest found that STRs did not generate sufficient income for owners to justify shifting from the long-term rental market or ownership market for economic reasons alone —potentially unveiling other value-drivers for operating STRs beside purely economic gains (ECONorthwest, 2016). The study found that social and sustainability benefits may also motivate property owners to continue operating these rentals. Operator effort and motivation also makes a difference; an assessment of Airbnb hosts found that the annual expected profit is approximately \$20,000, but "hands-off Airbnb hosts can expect occupancy rates (and revenue) at least 15% lower" than more involved hosts (Wallace, 2016).

Literature attests that "with proper regulation and enforcement, citizens and communities can benefit from the increased tourism" that short-term rentals bring (Binzer, 2017). Despite localized economic benefits, the STR industry can disrupt formal industries in the accommodation sector by attracting visitors away from conventional lodging and accommodation companies (Guttentag, 2013; Fang et al., 2016). This disruption becomes exacerbated in that many STRs marketed through web-based platforms are often illegal (e.g. being operated without a license/permit, without paying proper taxes/fees, in violation of zoning ordinances, or without having proper inspections). This gives traditional, regulated lodging businesses an economic disadvantage (Guttentag, 2013). Continued studies evaluating occupancy rates, revenues per available room, rates of use and rental price, predicted nonlodging spending from short-term renters, and estimates on potential revenue earnings for municipalities will assist in the development of knowledge in this area.

2.1.3. Short-term rentals and the sharing economy

STRs often operate by property owners leasing their unused space to tourists and visitors, prospective or existing residents in search of long term homes, or businesspeople on extended stays. The ways in which STRs represent the sharing economy is still open to interpretation. The growth of STRs offered through web-based platforms indicates that there is at least additional capacity in existing housing stock and that property owners are willing to share their excess space in exchange for monetary compensation (Ellen, 2015). Outside of this observation, there is a range of perspectives about whether home sharing, through web-based

platforms, negatively or positively influences the sharing economy.

In theoretical debates, policy makers have considered adapting the Airbnb home-sharing model to house lower income individuals as a new form of housing assistance (Ellen, 2015). The idea that people are interested in providing access to their space to strangers, suggests that sharing economy activities might be operated in capacities other than short-term rentals, providing different social and economic benefits therein (Martin, 2016). STR hosts can also reap economic benefits by participating in the sharing economy, reinforcing their desire to participate in that economy. Specifically, hosts can distribute their assets to supplement their income which has the added benefit of materializing the collaborative use of resources (Daunoriene et al., 2015). Social impacts are realized from public relations perspectives in which, the incremental shift towards home-sharing "has engendered visions of renewed forms of collective urban life" involving sustainability, symbolic interaction, and communication that empowers trust (Gregory and Halff, 2017).

Other perspectives describe how STRs and home-sharing through web-based platforms may bring detrimental impacts on the sharing economy, or at least diminish its reputation. For instance, intermediary businesses that "provide the infrastructure necessary to sustain the sharing community" (Gregory and Halff, 2017) often enable, or intensify, the evasion of local laws and regulations (Interian, 2016). These businesses can also displace companies that are regulated, and often do not hold themselves accountable to the negative externalities their business models can create (Interian, 2016). Home sharing platforms are evolving more quickly than cities and researchers can keep up. New companies are quickly finding ways to use home sharing as a means to generate profit innovatively. For example, a service known as Loftium provides prospective homeowners with the down payment they need to become homeowners with the requirement that the homeowner would rent their unused space on Airbnb and provide Loftium a cut of profits (Bernard, 2017). Changing perceptions of home sharing can be understood to come with endless possibilities if permitted to evolve in line with innovative ideas.

2.2. Policy framework considerations

Integrating STRs into the formal accommodations sector through regulations and enforcement has been cited as an important next step to correct some of the negative impacts of STRs (Guttentag, 2013). However, policy makers continue to grapple with the rationales, processes, and practices of how to best regulate STRs. During the economic recession, some raised questions about whether it is beneficial to regulate the STR market at all—in the chance it inhibits homeowners from making ends meet on their mortgages or housing payments (Gottlieb, 2013). In general, however, the literature seems to agree that STRs should be regulated in some fashion, the extent to which is unclear and controversial (Gottlieb, 2013; Goodman, 2016, and Hood River County Community Development, 2016).

2.2.1. Policy approaches

There appears to be no single best way to regulate the STR market that fits the needs of all communities across space. One report suggested a three-part solution:

- 1 Launch a standard of safety and accountability (strengthening nuisance laws, ensuring hosts have appropriate insurance, etc.);
- 2 Move past a yes or no debate on short-term rentals (consider the nuances of individual communities and tailor regulations to those nuances); and
- 3 Enforce what is on the ground and online (to cut down on opportunities to evade laws) (Goodman, 2016).

Another report articulated these alternatives: develop public nuisance abatement ordinances, ban short-term rentals outright, enact time restrictions (i.e. allowing short-term rentals for a period of 30 days or less), or enact performance-based standards (Gottlieb, 2013). The American Planning Association (APA) suggests that jurisdictions require licenses, fees and taxes, and insurance. APA also suggests consistency with land use controls and to determine whether inspections are necessary (Sullivan, 2017).

In a guidebook on the equitable regulation of short-term rentals, suggestions to proper management include clear definitions, active record keeping, protections for housing (supply and affordability), protections for guests, procedures for oversight, protections for neighborhood preservation, and imposition of taxes (Sustainable Economies Law Center, 2016).

Others argue that STRs, as part of the sharing economy, need special or "innovative" regulatory treatments "precisely because the business model is so new" (Katz, 2015). Gurran and Phibbs (2017) provide some recommendations to planners to examine and monitor the impacts of STRs on the availability and cost of long term permanent rentals stating that "ongoing research and analysis to fully understand implications for local neighborhoods and housing markets" is integral. Wegmann and Jiao (2017) outline four guiding principles for regulating urban vacation rentals, (1) emphasizing the need for better data, (2) considering concentration limits, (3) suggesting meaningful enforcement mechanisms, and (4) distinguishing types of short-term rentals to treat commercial operators differently than "mom-and-pop" operators.

2.2.2. Transient lodging tax

Transient lodging taxes (TLT) are a local option tax levied on lodging facilities (hotels, motels, bed and breakfasts, etc.). While all jurisdictions do not levy a tax of this kind, "taxing tourism is an appealing option for governments facing budgetary constraints and pressures to decrease reliance on a variety of taxes" (Gooroochurn and Sinclair, 2005). For instance, taxes levied to hotels offset burden onto tourists, which is especially advantageous in areas with "superior or unique natural resources" as to "capture the 'rent' of these resources through taxation" (Oakland and Testa, 1996).

TLTs, and other tourism taxes, are considered efficient relative to taxing other sectors (Gooroochurn and Sinclair, 2005). TLTs are useful in curbing negative impacts of certain businesses and in improving fairness by recovering service costs from those who benefit from those services (Oakland and Testa, 1996). In Oregon, House Bill 2267 passed in 2003 established a state lodging tax. The revenues generated by the tax fund Oregon Tourism Commission programs. The tax applies to transient lodging providers and transient lodging intermediaries. STRs are specifically called out as transient lodging under the regulations. The state rate is 1.8% as of 2016; local governments can adopt additional lodging tax; the revenues become available for the local governments. Under current regulatory structures, some jurisdictions require that TLTs are collected from STRs while others have not assessed TLTs on STRs.

2.3. Summary

Limited data exist on the impact that short-term rentals have on governments and local economies, hosts and residents, accommodation sector businesses, and the sharing economy. The literature suggests positive and negative impacts will vary across space and time (particularly in regard to housing supply and affordability). Additionally, STRs have and will likely continue to disrupt traditional lodging options but likely will not replace these businesses altogether. Mixed perceptions about how home sharing will affect the sharing economy at large has created a dichotomy around the topic (expected to remain until more research can occur). In short, while there has been some research of large cities in the US and internationally (ECONorthwest, 2016; Gurran and Phibbs, 2017; Wegmann and Jiao, 2017), no research exists on smaller cities. STRs may be of even greater concern to smaller communities which may be more dependent on TLTs, lack staff capacity to address the negative impacts, and have a smaller amount and share of long-term rental housing available. This research seeks to fill that gap

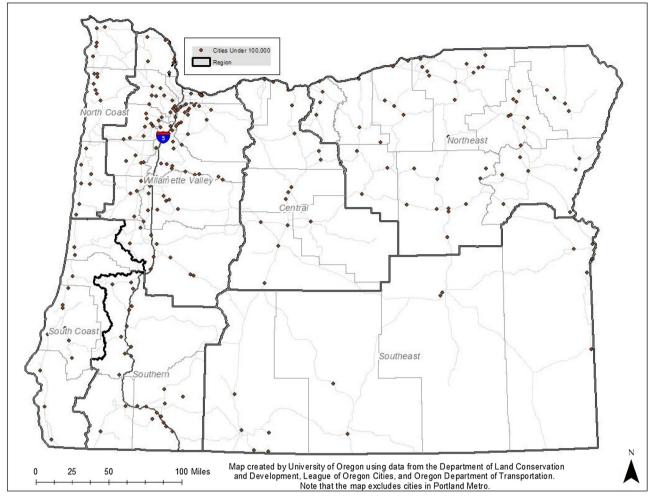


Fig. 1. Location of Cities Under 100,000 in Population and Regions. Source: University of Oregon Community Service Center, 2017.

by examining the prevalence and impacts on small cities and understand the current regulatory framework for STRs in small cities.

3. Research questions and methodology

The scope of this study was confined to smaller cities in Oregon, a state that has only four cities with over 100,000 people – Portland, Eugene, Salem, and Gresham. For the purpose of this study, we define small cities as cities under 100,000 in population. Because smaller cities are typical in Oregon, we chose to study their unique perspectives and approaches to policy.

To examine how STRs impact small cities, we pursued five primary research questions. Our research questions and the data and methods to address each research question follows:

- 1) What is the prevalence of short-term rentals in small cities? What are the characteristics of these rentals?
 - Method: Descriptive Analysis
 - Data source: AirDNA, Airbnb
- 2) What is the revenue potential for short-term rentals in small cities?Method: Descriptive Analysis
 - Data source: Oregon Department of Revenue; AirDNA; Airbnb
- 3) To what extent do short-term rentals constrain the supply of housing in small cities?
 - Method: Descriptive Analysis
 - Data source: American Community Survey; AirDNA, Airbnb
- 4) What are planners' perceptions of short-term rentals in small cities?

- Method: Survey Analysis
- Data source: Survey administered to Oregon Planning Directors and City Managers
- 5) What are the current regulations affecting short-term rentals in small cities?
 - Method: Survey Analysis
 - Data source: Survey administered to Oregon Planning Directors and City Managers

To obtain descriptive information to address the first three research questions, we obtained market summary and property performance reports for the state of Oregon from AirDNA – a proprietary web scrubbing service that uses technology to pick up and aggregate Airbnb data and sells access to the data. While Airbnb is not the only STR platform, we only examine Airbnb in this study because we were able to obtain data on Airbnbs from AirDNA and Airbnb. Further, Airbnb is the market leader in the STR industry. We obtained high-level aggregate industry data by city from Airbnb that we used to verify AirDNA data. We gathered data on TLTs from the Oregon Department of Revenue to address our second research question. And we relied on American Community Survey (ACS) data to compare Airbnb data to housing characteristics like unit type and rent to assess how STRs potentially impact housing cost and affordability.

Our fourth and fifth research questions rely on data from a survey of planners and city managers examining perspectives on STRs in smaller cities in Oregon (with populations less than 100,000, thereby excluding responses from Portland, Eugene, Salem, and Gresham). Respondents

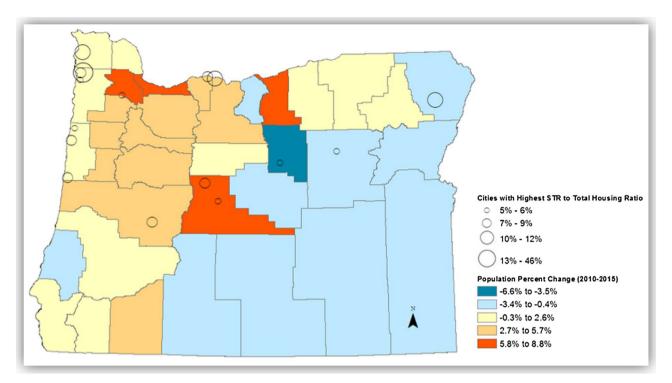


Fig. 2. Cities with Highest Share of STR (of Housing Units) v. Population Change by County between 2001–2015. Source: AirDNA Property Data, Retrieved 2017. United States Census, American Community Survey, Population Data, 2011-2015. (Excludes Portland, Eugene, Salem, and Gresham).

were recruited by email using the League of Oregon Cities email list of planning directors and city managers. Respondents were initially contacted in March of 2017 and sent two follow-up emails between March and April of 2017. Researchers developed and disseminated a survey to gauge views of STRs in cities of different sizes and regions. The survey focused on how city staff perceive STRs and how cities are currently regulating STRs. Of the 237 cities in the state of Oregon under 100,000 in size, we received a survey response rate of 39% (92 accepted responses). We eliminated multiple responses for a single city (keeping only the first response) and removed responses where the participant represented more than one city in their responses. Fig. 1 shows a map of cities under 100,000 and the regions used in this analysis. The survey instrument is attached in Appendix A.

Ultimately, the researchers sought to answer: what are the impacts and benefits of STRs in small and rural cities? Are jurisdictions in Oregon regulating STR in such a way as to reap their benefits and mitigate impacts? As existing studies tend to skew toward analyzing STRs' impact on large cities and metropolitan areas, the aim was to provide vital and timely information for smaller cities. While examining our research questions, we find that STRs offer innovative solutions to several problems that persist in rural and small cities.

4. Findings of impact and perceptions in Oregon

In this section, we describe the prevalence and characteristics of STRs in small cities and then look at the revenue potential of STRs. Following is information on how STRs impact the supply of housing. We conclude by offering information related to perceptions and regulations.

4.1. Prevalence and characteristics of STRs

To understand how STRs impact small cities, we examine the prevalence of Airbnbs in cities and examine characteristics including: the share of housing units in a city with STRs; the regional distribution of STRs; the neighborhood characteristics of Census tracts with STRs; the

Region	First Quintile	Second Quintile	Third Quintile	Fourth Quintile	Fifth Quintile
Central Oregon	0%	19%	65%	15%	0%
North Coast Oregon	0%	14%	75%	11%	0%
Northeast Oregon	0%	6%	90%	4%	0%
Portland Mero	1%	16%	45%	36%	2%
South Coast Oregon	0%	14%	80%	6%	0%
Southeast Oregon	0%	8%	77%	15%	0%
Southern Oregon	0%	14%	67%	18%	0%
Willamette Valley	1%	21%	51%	27%	0%
Total	0%	17%	65%	18%	0%

Fig. 3. Distribution of Airbnb Properties in Census Tracts by Income Quintile. Source: AirDNA Property Data, Retrieved 2017. ACS 2011–2015, Median Income by Census Tract and Income Quintile by County. (Excludes Portland, Eugene, Salem, and Gresham).

type of STRs (entire home; private room in home, or shared room); the property type of STRs; and average revenues generated.

Cites with less than 100,000 people (from this point further: cities) encompass approximately 8,000 Airbnb STRs; roughly 44% of total Airbnbs in Oregon. Airbnbs are located within every county and in 75% of all cities. The prevalence of Airbnbs is computed by dividing the total number of Airbnbs (including shared rooms, shared homes and whole homes) by the total units in housing stock. This measure shows the percentage of housing units with an Airbnb.

In Oregon, Airbnbs are most prevalent in areas that attract high rates of tourism. The North Coast and Central Oregon are the most prominent regions for STRs. In Central Oregon, Airbnbs account for approximately 4% of the region's total housing stock. In the North Coast, Airbnbs account for 5% of the region's total housing stock. For cities in the remaining six regions, Airbnbs account for approximately 1% of the total housing stock.

In 16 of the 237 cities under 100,000 in population in Oregon, more than 5% of the housing stock has an Airbnb on the property, indicating that short-term rentals are not widespread in most jurisdictions (see Fig. 2). We note that not all STRs are equivalent to one dwelling unit,

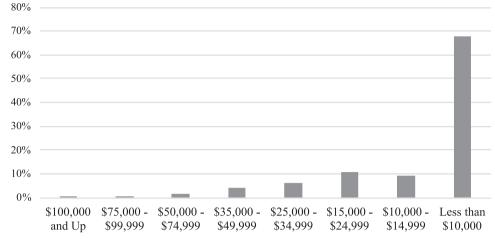


Fig. 4. Percent of Airbnbs by Annual Revenue Earned.

Source: AirDNA, Property Data, Retrieved 2017. (Excludes Portland, Eugene, Salem, and Gresham). Note: Due to rounding, percentages do not add up to 100%; n = 8132.

for instance, some STRs are private rooms in homes and some are sections of land (advertised for tent camping) on properties with excess acreage. Nevertheless, for these 16 jurisdictions (Bend, Depoe Bay, Gaston, Hood River, Joseph, Lincoln City, Long Creek, Manzanita, Mitchell, Mosier, Nehalem, Rockaway Beach, Seaside, Sisters, Westfir, and Yachats), the ratio of Airbnbs to housing units could suggest a potential housing supply constraint, as we discuss further below.

Fig. 2 shows that the cities with the highest share of Airbnbs are not necessarily located in the fastest growing areas of the state. While Central Oregon (Bend and Redmond) have both a high share of Airbnbs and high population, many other Airbnbs are located in stagnant or declining counties. This signals that concentrations of STRs can occur amid various demographic context of rising, stagnant, and declining populations.

The researchers were also interested in where STRs were located relative to household income. Fig. 3 shows that most Airbnbs are found in middle income neighborhoods. In this figure, we classified the location of census tract the Airbnb is in by the county income quantiles to examine the distribution of Airbnbs by income group. Across all regions, Airbnbs are rarely found in the lowest income neighborhoods or the highest income neighborhoods. Approximately two-thirds of Airbnbs are found in the middle income neighborhoods.

Approximately 4,400 hosts operate an Airbnb in small Oregon cities. Most Airbnb hosts (78%) operate a single STR and most hosts (70%) list their unit as their entire home (as opposed to just a shared or private room). This data reveals that it is most likely that these hosts operate a STR out of their primary dwelling unit. However, 970 hosts (or 22%), operate more than one STR.

Hosts that rent out a private/shared room (approximately 30%) appear to be interested in making supplementary income solely off some of their extra space. This is an important distinction about the use of short-term rentals. As of 2015, the average household size for all housing units was approximately 2.5 people while almost 60% of housing units had 3 or more bedrooms.² Accordingly, many short-term rental operators are capitalizing on the efficient use of space.

Most STRs are traditional property types—approximately 60% of all listed properties are houses and another 13% are apartments. Other common STR property types also remain more traditional including: condominiums (5%), bed and breakfasts (4%), cabins (3%), and townhouses (2%). While 6% was identified as "other," additional less common STR property types were also identified. Campers/RVs,

guesthouses, villas, bungalows, and lofts each represented 1%, respectively (totaling 5%). Boutique hotels, tents, chalets, yurt, tipis, timeshare, hostels, castles, boats, dorms, nature lodges, treehouses, trains, huts, islands, and lighthouse each represented less than half a percentage point, respectively (totaling 7%).

4.2. Revenue potential

Fig. 4 shows that 68% of Airbnbs generate less than \$10,000 per year and 32% of Airbnbs are generating more than \$10,000 per year. Further, 32% of all Airbnbs are generating less than \$600 per year.

Nine of the 15 cities with the highest grossing revenue as well as the highest revenue per property are located in the North Coast region (see Fig. 5).

While Airbnb has gained popularity for putting money in hosts' pockets, the potential for cities to generate fiscal revenue is also meaningful. However, many cities are not taking advantage of this opportunity. Only 20% of surveyed cities impose a transient lodging tax (TLT) on STRs and survey responses range from 1.8% (the City of Sisters) to 10.4% (the City of Bend). Region by region, it is most common for cities in the North Coast (67%), South Coast (44%), and Central Oregon (43%) to collect this tax. This is likely due to the higher prevalence of STRs in these areas, which create greater potential for revenue generation. Accordingly, while any community with STRs would generate added revenue by levying a TLT, areas with a high capacity for tourism stand the best chance for reaping TLT benefits. Smaller cities that cannot attract traditional lodging types (hotels, motels) to their cities may also find new opportunities to generate revenue through STRs and attract tourism.

The state of Oregon imposes a 1.8% TLT on STRs. With STR hosts generating an estimated annual revenue of \$82 million, the State should be collecting approximately \$1.5 million annually (see Fig. 6). Approximately 67% of U.S. states including the District of Columbia levy one or more state taxes on Airbnbs. The state level rates range from 1.8% to 14.5% and average about 8%.³ Oregon is on the low end of the spectrum of states imposing TLTs on STRs.

4.3. Influencing the supply of housing

This section considers how short-term rentals may impact the

² United States Census. American Community Survey, 2011-2015, Selected Housing Characteristics for Oregon (DP04).

³ Airbnb. In what areas is occupancy tax collection and remittance by Airbnb available? Retrieved May 5, 2017. https://www.airbnb.com/help/article/653/ in-what-areas-is-occupancy-tax-collection-and-remittance-by-airbnb-available.

Cities	Region	Annual Revenue	Annual Revenue per Property (Max)	Annual Revenue per Property (Mean)	Annual Revenue per Property (Std Dev)
Bend	Central Oregon	\$32,207,439	\$157,773	\$14,801	\$18,642
Seaside	North Coast	\$7,198,080	\$198,425	\$16,285	\$27,235
Lincoln City	North Coast	\$4,145,729	\$117,250	\$12,265	\$14,601
Cannon Beach	North Coast	\$2,876,320	\$203,617	\$35,077	\$39,131
Hood River	Central Oregon	\$2,426,970	\$81,215	\$7,537	\$10,428
Ashland	Southern Oregon	\$2,160,243	\$59,876	\$8,309	\$10,923
Rockaway Beach	North Coast	\$1,688,036	\$98,481	\$15,925	\$16,170
Depoe Bay	North Coast	\$1,650,062	\$59,288	\$13,866	\$16,207
Beaverton	Portland Metro	\$1,620,761	\$64,717	\$4,739	\$7,833
Manzanita	North Coast	\$1,368,957	\$90,051	\$16,105	\$16,773
Newport	North Coast	\$1,322,513	\$63,141	\$9,380	\$11,142
Redmond	Central Oregon	\$1,036,179	\$42,518	\$6,642	\$8,796
Tillamook	North Coast	\$1,014,970	\$69,780	\$11,941	\$13,862
Yachats	North Coast	\$1,000,579	\$62,675	\$14,714	\$11,232
Joseph	Northeast Oregon	\$996,192	\$64,846	\$17,176	\$13,523

Fig. 5. Annual Revenue Generated for Highest Revenue Grossing Cities.

Source: AirDNA Property Data, 2017. (Excludes Portland, Eugene, Salem, and Gresham).

Regions	Average Daily Rate per Property	Total Annual Bookings	Revenue (Annual)	State Levy (1.8%) Annual Earnings
Central Oregon	\$209	\$46,391	\$37,539,776	\$675,716
0	4		. , , ,	
North Coast	\$206	\$38,927	\$24,875,499	\$447,759
Willamette Valley	\$97	\$14,026	\$5,315,475	\$95,679
Portland Metro	\$72	\$11,172	\$4,937,697	\$88,879
Southern Oregon	\$98	\$13,209	\$4,886,800	\$87,962
South Coast	\$132	\$5,710	\$2,335,541	\$42,040
Northeast Oregon	\$129	\$3,307	\$1,738,663	\$31,296
Southeast Oregon	\$125	\$2,977	\$1,143,628	\$20,585
Total	\$134 (average)	\$135,719	\$82,773,079	\$1,489,916

Fig. 6. Estimated Annual Revenue Earned by Airbnb Hosts and Associated State Tax Revenue.

Source: Airbnb property level data provided by AirDNA, retrieved 2017. (Excludes Portland, Eugene, Salem, and Gresham).

availability of housing. To examine the potential impacts on supply we study how many days STRs are rented in a year, the type of unit they are (whole home versus private/shared room), the share of housing units with a STR that are an entire home and rented for more than 30 days, and how revenue generated from STRs compares to average rents. Following Edelman and Geradin (2016), we compare the revenue generated from Airbnb rentals to revenue generated from long-term tenants.

Most STRs are listed as an entire home (69%) and 37% are reserved for more than 30 days in a calendar year (see Figs. 7 and 8). It is less likely that these STRs, rented as the entire home and reserved more than 30 days, are on the market as long-term rental housing and it is more likely that these STRs are operated by homeowners with more than one home. Also, it is more likely that STRs, rented out as the entire home and reserved in excess of 91 days, only serve as STRs and are operated more like a commercial hotel than as an opportunity for home sharing.

Interestingly, in regions with higher populations, like the Portland Metro and Willamette Valley, STRs are operated as private rooms slightly more often than as entire homes. This provides some indication of the types of spaces that are available and the ways in which hosts are using STRs.

Cities with more than 5% of the housing stock in STRs may experience impacts on housing supply.⁴ Housing supply is possibly compromised in very few cities (defined by total STRs making up 5% or

Region	Entire Home	Private Room	Shared Room	Total
Central Oregon	78%	21%	1%	2,905
North Coast Oregon	86%	13%	1%	1,720
Northeast Oregon	64%	34%	1%	233
Portland Metro	41%	56%	3%	1,052
South Coast Oregon	75%	25%	0%	309
Southeast Oregon	79%	20%	1%	170
Southern Oregon	57%	41%	1%	769
Willamette Valley	49%	50%	1%	974
Total	69%	30%	1%	8,132

Fig. 7. Airbnbs by Listing Type and Region.

Source: AirDNA, Airbnb property level data, Retrieved 2017. (Excludes Portland, Eugene, Salem, and Gresham).

more of total housing stock). Further, when looking at STRs rented as the entire home to total housing stock, we find an even smaller share. Using this formula for addressing local housing supply constraints at a regional level, the North Coast and Central Oregon are again most severely constrained with STRs at approximately 2% of the regions' total housing units. We note that it is difficult to tell whether STRs were rented as vacation rentals before the Airbnb technology platform existed, or whether they are long-term rentals that have been converted to Airbnbs. The number of vacant seasonal units grew by 28% between 2005–2009 and 2012–2016 (Fig. 9). In most regions, the share of units that are classified as vacant or seasonal was less than 5% from 2005 to 2009 (with the exception of Central Oregon and North Coastal Oregon. But, vacant units as seasonal, recreation or occasional occupancy as a percentage of total units grew in all regions. From data available from American Community Survey, we cannot tell whether this growth is

⁴ We use the threshold of 5% because most regions showed seasonal vacancy rates as a share of total housing of less than 5% before Airbnb was launched in 2008 (see Fig. 9).

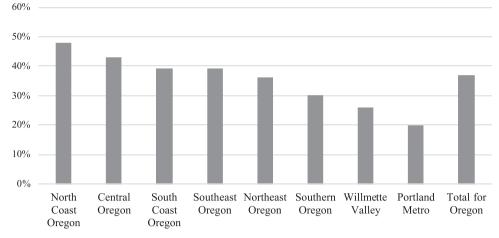


Fig. 8. Percent of Airbnbs by Listed as Entire Home and Rented for 30 Days or More per Year. Source: AirDNA, Airbnb property level data, Retrieved 2017. (Excludes Portland, Eugene, Salem, and Gresham).

		All Vacant Seasonal Units			Share of Vacant Seasonal Units as % of Total Housing Stock			
Region	# Units (2005-2009)	# Units (2012-2016)	% Change in # of Units (2005-2009 to 2012-2016)	Share of Units (2005-2009)	Share of Units (2012-2016)	Difference in Share (2005-2009 to 2012-2016)		
Central Oregon	11,798	15,631	32%	7%	9%	2%		
North Coastal Oregon	17,247	19,402	12%	25%	27%	2%		
Northeast Oregon	3,285	4,113	25%	5%	6%	1%		
Portland Metro	5,582	7,844	41%	1%	1%	0%		
South Coastal Oregon	1,620	2,469	52%	4%	6%	2%		
Southeast Oregon	2,097	2,921	39%	5%	6%	2%		
Southern Oregon	2,049	2,761	35%	2%	2%	0%		
Willamette Valley	4,062	5,949	46%	1%	1%	0%		
Total	47,740	61,090	28%	3%	4%	1%		

Fig. 9. Change of Vacant Units for Seasonal, Recreational, or Occasional Use by Region.

Source: American Community Survey, Vacancy, 2005-2009 and 2012-2016 by county (aggregated to region).

attributed to Airbnb or other factors. But the increase in the share of total units that are seasonal suggests that long-term rental supply is becoming more constrained while population in these regions grow.

We analyzed whether revenue generated from STRs (operated as an entire house or whole unit) exceeds rents of long-term rentals or mortgage costs, focusing on the 10 cities for which Airbnbs are most prevalent in the state. Fig. 10 shows property owners in seven of the 10 cities (Bend, Depoe Bay, Joseph, Lincoln City, Manzanita, Rockaway Beach, and Seaside) can generate more annual revenue from STRs than they can from standard long-term rental units. Therefore, in these cities, there may be motive for property owners to operate STRs rather than renting properties as long-term rentals. It is important to note that the average unit with an STR may differ from the average rental or mortgaged unit in terms of quality and location.

4.4. Perceptions of short term rentals

The survey of city managers and planners asked about perceptions of STRs held by residents, local elected officials, and businesses. Among other things, we asked respondents to discuss the benefits and costs of STRs in their cities. In this section, we summarize perceptions of STRs by survey respondents.

In general, survey respondents indicated that while residents shared mixed perceptions about STRs, local elected officials and businesses within the accommodation sector viewed STRs as less problematic. Respondents who indicated that STRs may be more problematic in their own community (compared to other Oregon cities or comparable cities

_	Ai	rbnb	AC	S
	Average	Average	Average	Average
Cities in Oregon	Annual	Annual	Annualized	Annualized
	Revenue	Revenue (Max)	Rent	Mortgage
Ashland	\$10,185	\$59,876	\$12,456	\$20,208
Bend	\$17,184	\$157,773	\$12,972	\$18,648
Depoe Bay	\$14,357	\$59,288	\$12,264	\$18,636
Hood River	\$9,572	\$81,215	\$13,488	\$20,016
Joseph	\$18,206	\$64,836	\$7,980	\$14,232
Lincoln City	\$12,494	\$117,250	\$10,080	\$18,804
Manzanita	\$17,208	\$90,051	\$10,548	\$24,432
Rockaway Beach	\$16,704	\$98,481	\$8,316	\$14,556
Seaside	\$17,886	\$198,425	\$10,704	\$19,356
Sisters	\$11,335	\$48,000	\$12,312	\$19,068
Average	\$15,707	\$198,425	\$11,112	\$18,796

Fig. 10. Indication of Competition between Short-Term Rentals (whole unit) and Long-Term Housing.

Source: AirDNA, Property Data for whole unit rentals, Retrieved 2017. U.S. Census, American Community Survey, 2010 and 2015.

across the U.S.) tended to agree or strongly agree that STRs impacted the availability of affordable and workforce housing (78% of respondents), long-term rental housing (78% of respondents), and owneroccupied housing (56% of respondents).

Cities in regions with the highest prevalence of STRs do not necessarily believe they have too many STRs. Only 14% of respondents from Central Oregon believed they had too many STRs and no jurisdiction from the North Coast believed this. In the South Coast however, 13% of the cities surveyed believed they had too many STRs.

Respondents indicated that the benefits of STRs include: providing economic development benefits, encouraging tourism spending in new areas, generating increased tax revenue to areas with few traditional lodging types, filling a market gap, and ensuring better maintenance of homes. STRs provide benefits including their ability to provide TLT revenue, to support tourism activities, and to support cities that rely on tourism. For instance, they serve a market need by providing additional lodging options (especially for cities without any traditional accommodation types) and thus, STRs bring in tourists that might not have otherwise visited. Furthermore, they provide income and employment opportunities, allowing homeowners to get extra use out of their properties (thereby making homes more affordable).

Survey respondents indicated that STRs economically weaken cities by impacting resources such as the availability of housing (especially affordable and rental housing) and police and city staff time who deal with complaints from neighbors and business owners. Over half of survey respondents indicated that residents have raised nuisance issues within the last five years. Some of these cited nuisance complaints include: parking concerns (78%), noise concerns (67%), garbage and outdoor clutter concerns (56%), and high occupancy levels (48%). Furthermore, respondents indicated concern over the possibility that hosts could be individuals or companies from out of the state that take their revenue with them. Finally, respondents indicated that STRs tend to be operated seasonally, leading to a fluctuation in the economic impacts.

4.5. Addressing short-term rentals

The survey asked whether cities were currently regulating STRs or considering regulation in the next five years. Thirty-five percent of cities responded that they already have an adopted legal framework to manage STRs. These cities' primary motivations for addressing STRs were to mitigate potential impacts before STRs became a burden, to safeguard becoming overrun by STRs, and to reap benefits of increased TLT revenue. Cities that have yet to address STRs but plan to develop regulations in the next five years indicated the desire to formalize the activity and rules associated with it (legitimize existing situations, develop clear and objective standards, and promote fairness).

Sixty-five percent of surveyed cities have yet to address STRs (or commonly, transient rentals or vacation rentals) through regulation. Of the 35% that have adopted a policy, only 20% impose a TLT (with a mean tax of 7.5%) and only 18% impose fees for a STR license or permit (with a mean fee of \$735). See Fig. 11.

Responding cities commonly regulate STRs by relying on concentration caps/limits or occupancy requirements. Restricting STRs to certain zones, adopting guest behavior standards, or making properties subject to review and inspection (making determinations on case-bycase basis) have also been put into place to mitigate nuisance and promote health, safety, and wellbeing.

We asked respondents about whether their current regulations were effective at reaping benefits of STRs while mitigating negative impacts of STRs. Most respondents (60%) find their regulations for STRs, or lack

Frequency	Fee Rate	Tax
Mean	\$735	7.5%
Median	\$550	8.0%
Standard Deviation	\$739	2.4%
Range	\$2,200	8.6%
Min	\$50	1.8%
Max	\$250	10.4%

Fig. 11. Frequency for Fee and Tax Rates.

Source: Responding to Short-Term Rentals in Oregon Survey, y-Q20 and y-Q21, 2017.

thereof, to be neither effective nor ineffective in managing the economic benefits or negative impacts of short-term rentals. Approximately 21% found their regulations, or lack thereof, to be very or somewhat effective and 18% found them very or somewhat ineffective. It is notable that 76% of those that found their policies/lack of policies to be neither effective or ineffective did not actually have any regulatory framework (see Fig. 12). This can be explained in that many smaller cities in Oregon still do not have many STRs (if any) and thus, do not have many of the same concerns as other cities (e.g. around nuisance issues or housing supply concerns). Noting that STRs are uncharted territory for many cities, it may take time to adopt the appropriate regulatory framework that works best for each community.

In considering how cities are enforcing STRs, ordinances were most commonly enforced by issuance of administrative citations (62%) and fines (58%). In addition, many respondents commented that enforcement was a challenge.

5. Discussion

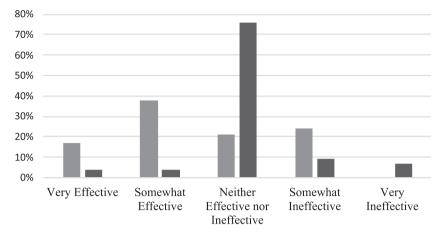
As jurisdictions begin to assess the impacts of STRs and understand how different community members perceive STRs, more consider the adoption of policy. Integrating STRs into the formal sector through regulations and enforcement has been cited as an important, often crucial next step.

Using best practices as a guide and planning director/city manager testimony as support, we find that the development of STR policies is useful while extensiveness lies in the hands of each community. Literature and survey responses indicate that a centralized, top down approach to defining, taxing, and regulating STRs from the state level may not be appropriate or the most effective approach to managing STRs. The prevalence and impact of STRs varies across cities and regions, where resort communities face more severe issues than others. Further, cities more severely impacted by STRs still may have a more positive perception of STRs than cities less impacted. Accordingly, coupled with the use of real STR data, cities looking for advice on how to best regulate STRs should initiate a community conversation on the topic. Ideally, this would involve informing community members about the impacts STRs are having in the community and greater region while addressing questions about STRs, and the sharing economy more generally. At minimum, all cities (whether unfazed or not impacted by STRs) should understand the extent to which they are willing to influence and be influenced by STRs and the sharing economy.

Once planners gain a foundational understanding of the community's viewpoint, regulation of the industry can commence. If the community is relatively unfazed or indifferent (potentially stemming from a lack of STRs or harsh impact), it is recommended they construct loose and minimal regulations: define them, tax them, and require registration.

The small cities we surveyed face issues with capacity and staffing to address the negative impacts posed by STRs and to enforce regulations. Small communities stand to benefit from tax revenue and economic impacts of tourism. But, small communities may lack the capacity to mitigate the negative impacts of Airbnbs. After this study was completed, the state passed a bill (HB 2064) that mandates that Airbnb collect TLTs for all cities beginning June 1, 2018. This statewide effort will ensure that individual cities do not have to fight individual battles with Airbnb and ensures that local communities will recoup the TLTs from Airbnbs. TLTs could generate revenue to cover the administrative costs of monitoring and enforcing regulations so that small cities can reap the benefits of STRs while minimizing the negative impacts.

Cities wishing to adopt stronger controls to mitigate certain impacts, may adopt restrictive zoning measures that limit the total number of STRs there are in certain areas, or in the community as a whole. Measures that allow STRs to be a resident's primary dwelling unit may diminish "hotelization" in cities or across an entire region. Capping the total amount of STRs allowed in a particular neighborhood may have a



■ Has Ordinance (n=24) ■ No Ordinance (n=54)

Fig. 12. Perceived Effectiveness of City Efforts to Manage Short-Term Rentals, by Ordinance or Lack of Ordinance. Note: 65% of responding cities (n=54) have not adopted an ordinance related to STRs. Source: Responding to Short-Term Rentals in Oregon Survey, Q25, 2017.

similar effect. Along these lines, some cities have opted to develop a buffer distance between STRs (i.e., one STR may not be within 250 ft. of another). Implementing a clause that revokes a STR permit for properties that receive more than five nuisance complaints in a calendar year can also mitigate similar concerns. Levying a higher TLT may make visitors less inclined to using the service in a particular community.

6. Conclusions

This study examined how STRs are affecting small cities in Oregon. This growing phenomenon has been studied in large cities and metropolitan areas, but the impacts on small cities have not been examined. STRs may be of even greater concern to smaller communities which may be more dependent on TLTs, lack staff capacity, and have a smaller amount and share of long-term rental housing compared to larger cities. Airbnbs are pervasive: all 36 counties and 75% of the 237 cities with populations of under 100,000 have Airbnbs in their cities. Airbnbs constitute over 5% of the housing stock in 16 cities. While hosts generated \$82 million in revenue, only 11 cities and four counties charge TLTs, but the state levies a 1.8% tax on all Airbnbs in the state. By imposing TLTs (as now required by HB 2064), cities can generate revenue needed to regulate the some of the negative impacts of STRs. In total, 38% of rentals are whole homes and rented more than 30 days in a year, signaling potential impacts on long-term rental supply, particularly in a few cities with tourist economies and housing affordability issues. Finally, while cities perceive Airbnb to be an issue, only 35% of survey respondents are currently regulating STRs. The regulations imposed vary drastically, even within smaller cities in the same state. Some regulations included requiring permits, imposing TLTs, and limiting the concentration or location of STRs.

The perceived positive and negative impacts of STRs vary across cities. Some cities indicated that STRs provide great benefits in their ability to provide lodging taxes and support tourism. In some cities, they serve a market need by providing additional lodging options (especially for cities without any traditional accommodation types) and thus, they bring in tourists that might not have otherwise visited. In other cities, planners feel that STRs negatively impact the availability of affordable housing, long-term rental housing, and owner-occupied housing. Further, several planners noted nuisance issues including parking, noise, garbage and clutter, and high occupancy levels. For small cities in Oregon, it's clear that STRs have both positive and negative impacts. But cities struggle to effectively regulate STRs – only 35% of cities are regulating STRs and many of the regulating cities (45%) find their regulations are not effective at addressing the issue.

For the 65% of cities that are not regulating, 92% of the cities reported that their approach is not effective at addressing the issue. Further, respondents noted that enforcement is a challenge. This is particularly problematic for these smaller cities that lack resources and administrative capacity.

As cities consider regulations, they must consider how to mitigate the negative externalities (protect neighborhoods, preserve needed housing, and maintain affordable rents), all the while using STRs as a solution to some of the challenges local governments face today. We find that the answer lies in the crafting of effective and equitable STR policies.

Potential policy responses are vast. Despite which regulatory framework is implemented, it is important to start with fairness and flexibility in mind. Revisiting existing regulations is important to ensure equitability and to ensure the community is not squandering benefits that STRs and the sharing economy provide. A necessary step for any community is the development of performance metrics to evaluate how their policy strategy works. Evaluation of policies on an ongoing basis should be expected in any scenario of regulation. At minimum, this will offer cities the opportunity to compile much needed data and hard evidence on STRs, which is of critical importance today. At best, this will allow cities to improve their management techniques and/or better respond to community questions regarding the balance between property rights and the right to decent, affordable housing.

As Airbnb and similar platforms continue to grow and shape our built environments and perceptions of housing equity, having a handle on this activity is parallel to having a handle on the impact technology has on our future. Cities should employ purposeful regulations that allow innovative activities to solve problems. Respecting the sharing economy, while paying attention to its influence and adapting appropriately, is key.

Declaration of interest

None.

Acknowledgments

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Appendix A. Survey Instrument

Greetings,

Thank you for participating in the Responding to Short-Term Rentals in Oregon survey! Please note the following:

Short-term rentals can be characterized as housing units rented or leased for less than 30 days; however, they are not defined by state or federal authorities. If you feel like you are not the best person in your community to answer questions about short-term rentals, please forward this survey to the appropriate City staff person.

The purpose of this survey is to better understand existing perceptions of and perspectives on short-term rentals in Oregon. We also want to gauge existing policy frameworks. Completing this survey should take you approximately 15–20 min. There are 32 questions. By continuing you consent to this survey.

First, we would like to understand how residents in your community generally perceive short-term rentals.

Q1: In the last five years, have residents raised the issue of short-term rentals?
O Yes
O No
0
O I Don't Know
Q2: What issues have they raised? (check all that apply)
Parking Concerns
Excessive Traffic
Noise Concerns
High Occupancy Levels
Garbage or Outdoor Clutter Concerns
Other:
Q3: How have residents raised the issue of short-term rentals? (check all that apply)
They have come to city council or commission meetings.
They have called in to make verbal testimony or sent in written testimony.
They have written nuisance complaints.
They have provided written statement (not nuisance).
They have raised the issue to city staff.
\frown
They have raised the issue to the police.
Other:

We would also like to understand YOUR perspective on short-term rentals and YOUR understanding of how various actors generally perceive short-term rentals in your community.

Q4: From your perspective, in what ways, if any, do short-term rentals provide economic benefit to your community? [open-ended]

Q5: From your perspective, in what ways, if any, do short-term rentals **economically impact (or weaken)** your community? [open-ended] Q7: From your perspective, please indicate your level of agreement or disagreement with the following statements.

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	I Don't Know
Our residents perceive short- term rentals to be a problem.	0	0	0	0	0	\bigcirc
Our local elected officials perceive short- term rentals to be a problem.	0	0	0	0	0	0
Businesses within the accommodation sector perceive short-term rentals to be a problem.	0	0	0	0	0	0
Our issues with short-term rentals are more challenging than other Oregon communities.	0	0	0	0	0	0
Our issues with short-term rentals are more challenging than other comparable communities across the United States.	0	0	0	0	0	0

Q8: From your perspective, please indicate your level of agreement or disagreement with the following statements.

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	I Don't Know
Our community has too many short-term rentals.	0	0	0	0	0	0
Our community has a shortage of hotel, motel, and bed and breakfast-type accommodations.	0	0	0	0	0	0
Our community has a shortage of hotel, motel, and bed and breakfast-type accommodations sometimes (during certain seasons or events, etc.).	0	0	0	0	0	0

Q9: From your perspective, please indicate your level of agreement or disagreement with the following statements.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	I Don't Know
In our community, short-term rentals fill a gap in the market.	0	0	0	0	0	0
In our community, short-term rentals increase tourism.	0	0	0	0	0	0
In our community, short-term rentals create nuisances.	0	0	0	0	0	0
In our community, short-term rentals evade policies and regulations.	0	0	0	0	0	0
In our community, short-term rentals impact the availability of long-term rental housing .	0	0	0	0	0	0
In our community, short-term rentals impact the availability	0	0	0	0	0	0
of owner- occupied housing.						
In our community, short-term rentals impact the availability of affordable and workforce housing .	0	0	0	0	0	0

We would also like to ask you some questions about policy and regulations. Q10: Does your community incentivize short-term rentals?

○ Yes	
○ No	

O I Don't Know

	incentivize short-term rentals? [open-ended]
	community's land use ordinances are to short-term rentals.
	Very permissive. Short-term rentals are allowed in all residentially-zoned areas
0	Somewhat permissive. Short-term rentals are allowed in some residentially-zoned areas.
0	Not permissive. Short-term rentals are banned outright in all residentially-zoned areas.
0	Other:
Q13: Does your community have an adopt	ed, legal framework (e.g. ordinance, set of rules, procedural steps) for regulating short-term rentals?
	\bigcirc Yes
Q16: If possible, please provide a web-link Q17: Briefly, why did your community ch Q18: Does your community's policy disting	policy for regulating short-term rentals? (enter year or date) [open-ended] to your policy's location. [open-ended] pose the particular policy or policies it did to regulate short-term rentals? [open-ended] guish between different types of short-term rentals? (e.g. short-term rentals in apartments vs. single- single room vs. the whole home; short-term rentals that are within primary dwellings vs. secondary
	○ Yes
	○ I Don't Know
	erm rental operators to get a license or permit? If yes, how much do they cost?
C	Yes:
C	No
obligation (e.g. transient room tax) on short-t	rm rental operators to pay an occupancy tax of 1.8%. Does your community place a city-specific tax erm rental operators? If yes, please describe what that obligation is. Yes:
Q21: What enforcement strategies does yo	ur City use for short-term rentals? (check all that apply)
	lone
	ssuance of administrative citation
	ïne
	Court Mandate
	Dther(s):

If no to Q13:

Q14: Has your community ever considered adopting a legal framework (e.g. ordinance, set of rules, procedural steps) to regulate short-term rentals?

(Yes	in the	nast	(hut	decided	against	pursuing	
1	\sim	105,	III UIC	pasi	ιυuι	ueciaea	agamsi	pursuing	1

• Yes, currently (but not yet adopted)

O No

🔿 I Don't Know

Q15: What policy options have you considered? (check all that apply)

Application and collection of an occupancy or trade tax

Annual registration

Permit requirement

Business license requirement

Time period restriction

Guest limit restriction

Banning in some residential zones

Banning in all residential zones

Adherence to dispersion requirements

____Adherence to quite hours

Requirement to notify neighbors

Operated by principle owner only

Permitted in owner-occupied buildings only

Requirement of liability insurance

Requirement of signed declaration that unit is up to code

Other:

Q16: What are the reason(s) your community chose/chooses not to regulate short-term rentals? [open-ended]

Q17: How does your community unofficially define short-term rentals? [open-ended

Q18: From your perspective, what is preventing your community from adopting a policy framework for short-term rentals? (If nothing, write N/A) [open-ended]

Q19: From your perspective, what is encouraging your community to adopt a policy framework for short-term rentals? (If nothing, write N/A) [open-ended]

Q20 (N) Q20: From your perspective, do you perceive your community has a need to develop policies regulating short-term rentals?

\bigcirc	Yes

 \bigcirc No

O I Don't Know

Q21: Does your community expect to develop or adopt short-term rental policies in the next five years?

O Yes
○ No
🔿 I Don't Know

Q22: What is your community's motivation for potentially developing or adopting policies in the next five years? [open-ended] Q23: If residents and elected officials do not bring the conversation about short-term rentals up, would your community still consider putting policies in place to address them?

0	Yes
0	No
0	I Don't Know

Q24: What resources or tools, if any, would be helpful for starting or completing the process of developing policies for short-term rentals? [open-ended]

Q25: Do you think your community's policies for short-term rentals, or lack thereof, have been effective or ineffective in managing the economic benefits or negative impacts of short-term rentals?

	U Very effective	
	O Somewhat effective	
	O Neither effective nor ineffective	
	O Somewhat ineffective	
	O Very ineffective	
Q26: Is there anything else you would like to comment on about the topic of short-term rentals? [open-ended] Before you go, we would like to know a little bit about you . Q27: What city do you work for? Q28: What is your role at the City?		
	○ City Manager	
	O Planning Director	
	O Staff Planner	
	City Administrator, Recorder, or Clerk	
	O Other:	

Q29: If you would like to receive a copy of the final report, enter your email address below (this will be kept anonymous).

Q30: Has your community gathered any information on short-term rentals (generally or specific to your community)?

O Yes

O No

Q31: What kind of information have you gathered? [open-ended]

Q32: Are you willing to be interviewed or contacted if we have a question about any of the responses you have provided? If so, please enter an email address below.

References

- Bernard, T.S., 2017. A down payment with a catch: you must be an airbnb host. The New York Times, Mortgages. Retrieved December 6, 2017 from. https://www.nytimes. com/2017/09/18/your-money/mortgages/loftium-airbnb-down-payment.html. Binzer, U., 2017. What to do about airbnb. Planning 83 (2), 44.
- Daunoriene, A., Draksaite, A., Snieska, V., Valodkiene, G., 2015. Evaluating sustainability of sharing economy business models. 20th International Scientific Conference Economics and Management Procedia – Social and Behavioral Sciences Vol. 213, 836–841.
- ECONorthwest, 2016. Housing Affordability Impacts of Homeaway in Seattle. July. ECONorthwest., Seattle, WA.
- Edelman, B.G., Geradin, D., 2016. Efficiencies and regulatory shortcuts: how should we regulate companies like Airbnb and Uber? Stanf. Technol. Law Rev. 19 (2), 293–328.

Ellen, I.G., 2015. Housing low-income households: lessons from the sharing economy? Hous. Policy Debate 25 (4), 783–784.

- Fang, B., Ye, Q., Law, R., 2016. Effect of sharing economy on tourism industry employment. Ann. Tour. Res. 57, 264–267.
- Goodman, J., 2016. Could you BnB my neighbor? A planner's take on the sharing economy. February. Planning 29–33.
- Gooroochurn, N., Sinclair, M.T., 2005. Economics of tourism taxation: evidence from Mauritius. Ann. Tour. Res. 32 (2), 478–498.
- Gottlieb, C., 2013. Residential short-term rentals: should local governments regulate the' industry'? Plan. Environ. Law 2, 4–9.
- Gregory, A., Halff, G., 2017. Understanding public relations in the 'sharing economy. Public Relat. Rev. 43, 4–13.
- Gurran, N., Phibbs, P., 2017. When tourists move in: how should urban planners respond to Airbnb? J. Am. Plan. Assoc. 83 (1), 80–92. https://doi.org/10.1080/01933464. 2016.1249011.
- Guttentag, D., 2013. Airbnb: disruptive innovation and the rise of an informal tourism accommodation sector. Curr. Issues Tour. 18 (12), 1192–1217. https://doi.org/10. 1080/13683500.2013.827159.
- Hood River County Community Development. (2016, April 13). Short Term Rental ("STR") Background Information. Retrieved October 15, 2016, from http://hrccd.co. hood-river.or.us/images/uploads/documents/+_Staff_Memo_Issues_Exhibits_4.13. 16.pdf.
- Interian, J., 2016. Up in the air: harmonizing the sharing economy through AirBnB regulations. Boston College Int. Comp. Law Rev. 39 (1), 129–161.

- Jefferson-Jones, J., 2015. Can short term rental arrangements increase home values? A case for Airbnb and other home sharing arrangements. Cornell Real Estate Review 13 (5), 12–19.
- Katz, V., 2015. Regulating the sharing economy. Berkeley Technol. Law J. 30 (4), 1067–1126.
- Kindel, N., Butler, K., Cramer, P., Descrocher, B., Massey Jr., L., Young, M., Zucker, D., 2016. Short Term Rental Study, City of New Orleans. Retrieved December 6, 2017 from:. City of New Orleans, New Orleans, LA. https://www.nola.gov/city-planning/ major-studies-and-projects/short-term-rental-study/final-short-term-rental-study/.
- Martin, C.J., 2016. The sharing economy: a pathway to sustainability or a nightmarish form of neoliberal capitalism? Ecol. Econ. 121, 149–159.
- Oakland, W.H., Testa, W.A., 1996. State-local business taxation and the benefits principle. Econ. Perspect. 20, 2–19.
- Rees Consulting, Inc, 2016. Short-Term Vacation Home Rentals Impacts on Workforce Housing in Breckenridge. June. Rees Consulting, Inc., N. Montrose, CO.
- Sheppard, S., Udell, A., 2016. Do Airbnb Properties Affect House Prices? Retrieved December 6, 2017 from:. Williams College Department of Economics, Williamstown, MA. https://econpapers.repec.org/paper/wilwileco/2016-03.htm.
- Sullivan, E., 2017. Regulating Short-Term Rentals, Legal Lessons. American Planning Association, Chicago, IL.
- Sustainable Economies Law Center, 2016. Regulating Short-Term Rentals: A Guidebook for Equitable Policy. Sustainable Economies Law Center, Oakland, CA.
- TXP, Inc, 2014a. The Local Economic Impact of Participating Short Term Rentals in Los Angeles. Retrieved December 6, 2017 from: TXP, Inc., Austin, TX. http:// stradvocacy.org/wp-content/uploads/2016/01/LosAngeles-STR-Report-Final-v2-100214.pdf.
- TXP, Inc, 2014b. The Local Economic Impact of Participating Short Term Rentals in Monterey County. Retrieved December 6, 2017 from:. http://stradvocacy.org/wpcontent/uploads/2016/01/Monterey-STR-Report-Final-103114.pdf.
- TXP, Inc, 2015. The Local Economic Impact of Participating Short Term Rentals in Santa Barbara, CA. Retrieved December 6, 2017 from: http://www.strsantabarbara.org/ wordpress/wp-content/uploads/2016/02/STR_EIR_021716.pdf.
- Wallace, N., 2016. Where Do Airbnb Hosts Make the Most Money? SmartAsset. Retrieved December 2, 2017 from:. https://smartasset.com/mortgage/where-do-airbnb-hostsmake-the-most-money.
- Wegmann, J., Jiao, J., 2017. Taming Airbnb: toward guiding principles for local regulation of urban vacation rentals based on empirical results from five US cities. Land Use Policy 69, 494–501.