

**Where Home Meets Hotel:
Regulating tourist accommodations in the age of
Airbnb**

**by
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Abstract

Short-term rentals are not new, but companies like Airbnb, VRBO and HomeAway have facilitated their proliferation at unprecedented levels. For Vancouver, this has meant a yearly doubling in listings between 2013 and 2015. While rapid, this growth has been largely illegal and unregulated, raising concerns over short-term rentals' effect on long-term rental supply and neighbours' quality of life. This study explores both the impact of short-term rentals in Vancouver and provides an analysis of policy options for regulating the short-term rental industry. In doing so, a case study analysis of regulations in Austin, Portland, Denver and San Francisco is used to identify best practices and regulatory concerns. Ultimately a primary residence requirement, combined with special attention to implementation strategies that will increase compliance, is recommended.

Keywords: Short-term rentals; Airbnb; Policy analysis; Vancouver; Denver; Portland; Austin; San Francisco

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Executive Summary

Policy Problem

The internet has revolutionized the way we do business by reducing transaction costs and allowing commercial activity between previously unconnected groups. Sharing economy sites, which capitalize on these lowered barriers to facilitate transactions between otherwise unconnected individuals, have grown both in reputation and in size. For the tourism industry, this type of peer-to-peer transaction has come in the form of short-term rental platforms. These companies, the most well-known of which is Airbnb, sell themselves as a way for people to generate supplemental income by renting out a little extra space, while decreasing costs to tourists and providing them with a more ‘authentic’ travel experience. Short-term rentals (STRs) are not a new phenomenon, and scholars are quick to point out that the model underpins traditional BnBs. What is new is the availability and frequency of short-term rentals in urban spaces. In Vancouver, the number of Airbnb listings alone has doubled yearly between 2013 and 2016.

This sudden increase in the number of tourists occupying traditionally residential spaces has raised concern over the impact of short-term rentals on neighbours’ quality of life, as well as long-term rental availability and prices. These concerns are founded in the idea that short-term rentals, while competing for demand with the hotel industry, share their supply with the long-term rental market. For Vancouver, with a vacancy rate of 0.7%, the rise of STRs has prompted debate over how best to control and regulate their growth. This Capstone provides an overview of STRs’ impact in the city of Vancouver, as well as a policy analysis of regulatory options.

Methodology

My research was motivated by two primary questions: 1) How and to what extent are short-term rentals impacting the City of Vancouver; and 2) How can we best regulate short-term rentals in Vancouver, in order to maximize positive returns to and reduce negative impacts on local communities. A mixed-methodology approach was used to answer these questions, which combined the analysis of web scraped short-term rental data and interviews with key stakeholders. In analyzing policy options, my research was directed through a case study approach, which examined STR trends following

regulation in Austin, San Francisco, Denver and Portland. Interviews with local, Vancouver-based organizations and government officials were further used to build an understanding of case study applicability to Vancouver's regulatory context.

Research Findings

Assessment of Airbnb trends in Vancouver corroborated existing evidence of rapid STR growth and a high degree of overlap between STR dense and rental dense neighbourhoods. This high degree of commercialization was also reflected in all case study jurisdictions, where no municipality had significantly reduced the level of commercialisation or listing growth in their city following regulation. With compliance rates between 22-33%, interviewees places strong emphasis on making any future policies enforceable. It was expressed that enforceability is tied to assuming low platform cooperation, as well as the implementation of both 'carrot' and 'stick' approaches to compliance generation.

Policy Options and Recommendation

Based on case study research four approaches to STR regulation were compared: 1) a continued ban on STRs; 2) permanent residence requirements; 3) density caps; and 4) night caps. Throughout local interviews and analysis of STR impacts, it became clear that priorities for Vancouver residents rested in balancing the protection of long-term housing stock and allowing short-term rentals to drive tourism growth. This, combined with overarching policy goals aimed at curbing the commercialization of housing in the city, led to the recommendation of permanent residence requirement as the appropriate policy for the City of Vancouver. Additionally, I recommend extreme attention to compliance generation through the implementation process. A strong fine structure, effective and early enforcement and an online registration process are recommended to help Vancouver generate adequate buy-in for their regulatory program.

Chapter 1. Introduction

1.1. Policy problem

Airbnb and VRBO are among the most well-known examples of a recent phenomenon in the tourism industry: peer-to-peer websites that allow individuals to rent-out a room or home to travelers on a short-term basis. Frequently characterized as flagship examples of the 'sharing economy', these short-term rental sites promise to help people earn supplemental income from otherwise under-utilized assets. For proponents of the industry the argument in favour of short-term rentals (STRs) is clear: they generate positive impacts on tourism and the economy, by decreasing costs to travellers and bringing tourism dollars outside of traditional tourist centres. This excitement around the potential benefits of STR platforms, however, has been matched by concerns about the negative externalities they may generate.

In practice, critics point out, Airbnb and its counterparts have seen an increasing number of listings that operate outside their advertised model of the casual host looking to make a few extra bucks a month. Open-source data, based on web scrapes of Airbnb listings, indicate that the number of full suite rentals (where the owner is not present during the guest's stay) now makes up over 60% of all rentals in the US (Shatford, 2016). In Vancouver, this number is close to 70% (Inside Airbnb, 2015). Available data further indicates that the number of multi-listings hosts (where a single host lists multiple properties) is substantial. In Vancouver one-third of listings are of this variety, with the number increasing to 43% in the downtown core (Inside Airbnb, 2015).

In tight rental markets like Vancouver, where the vacancy rate was last reported at 0.7% (CMHC, 2016), this commercialization has driven concern that apartments and houses that would otherwise be dedicated to long-term rentals are now being diverted to the short-term rental market. The use of residential housing for hotel like purposes frequently runs counter to the intention of city zoning, by allowing residential properties to service the needs of visitors rather than permanent residents. Where rental supply is limited, short-term rentals that remove rental properties from the long-term rental market have the potential to impact rental availability and prices. Termed the 'hotelization' or 'conversion' of long-term rentals by Lee (2016), these concerns coincide with additional

complaints over quality of life impacts brought by the increased presence of transient communities in residential neighbourhoods. Likewise, the traditional hotel industry has pushed back against the proliferation of STRs, claiming that without proper oversight and taxation they are being given an unfair advantage in appealing to tourists. This confluence of concerns has motivated the City of Vancouver, along with municipalities across North America, to begin development of new regulations for the STR industry (Krishna, 2016). Ultimately, this capstone seeks address the fact that, in an unregulated environment, peer-to-peer short-term rental platforms place pressure on rental markets through the conversion of residential housing stock, thus decreasing the availability of long-term rentals and contributing to an unaffordable housing market.

1.2. Motivation

A growing body of research has examined the impact of peer-to-peer rentals on the housing market and a few, localized reviews have been conducted of individual municipalities' successes and failures. However, few comparative studies of current policies have been completed, none-of-which examine the issue from a uniquely British Columbian perspective. The goal of this capstone is to help fill this gap by examining the efficacy of policies currently implemented in tight rental markets in North America at preventing the hotelization of residential housing stock, while acknowledging the trade-offs between increased economic activity and the negative externalities this development can bring. The end goal of this research is to apply the lessons from comparable case studies to Vancouver's context, with the intention of informing policy development in the region.

Chapter 2. Background: Understanding STRs

In this chapter I define the concepts of short-term and long-term rentals, and outline the recent and rapid growth of the STR market. First, I establish what STRs are and how they are, and are not, different from traditional tourist accommodations. Next I examine the expansion of Airbnb as illustrative of the short-term rental phenomenon and outline the focus of current regulatory debates. Finally, I situate this debate in Vancouver's regulatory context.

2.1. Defining terms

2.1.1. Short-term rentals

The term 'short-term rentals' refers to rentals of 30 days or less (Eskandari-Qajar & Orsi, 2016; Cooper, et al., 2015). In the modern context, short-term rentals are further associated with websites that facilitate rental transactions between STR operators and prospective customers. In the context of peer-to-peer STR websites, and for the purposes of this paper, short-term rentals are differentiated from hotels in that they are not purpose built as tourist accommodations but instead operate out of traditionally residential properties. As with long-term housing, the available units range from spare rooms to full apartments and houses. The guests using this type of accommodation differ from permanent residents, in that they would occupy a hotel or similar service if they were not staying in an STR (Eskandari-Qajar & Orsi, 2016).

2.1.2. Long-term rentals

Similarly, STRs should be differentiated from long-term rentals, which are rented as living spaces for more than 30 days and whose primary function is to provide accommodation for permanent residents. Unlike the divide between STRs and hotels, where they serve the same function but differ in form, short-term and long-term rentals overlap in competition for the same source of supply but not the same source of demand.

2.1.3. STR platforms

STR websites, also called STR platforms, refer to the businesses that host short-term rental listings online. Unlike hotels and traditional vacation rental businesses, these sites do not own the assets they advertise. Instead, STR platforms allow individuals to list their own properties, taking a portion of each booking's revenue.

Airbnb is perhaps the most well-known example of an STR platform. On it, STR operations — called 'hosts' on the website — register with Airbnb and are then able to list properties as either a 'shared room', 'private room' or 'entire apartment/house'. Airbnb helps its hosts develop their postings by providing an estimated value-range for the property and offering an easy to fill-in template for citing relevant rental information, such as number of beds and amenities. Both prospective guests and STR operators create profiles, which display their names and photographs and are encouraged to rate each other following the guest's stay. These services facilitate the peer-to-peer STR model by 1) reducing the transaction costs associated with running a STR business through the readymade listing process and the built-in audience Airbnb provides, and 2) minimizing the perceived risks associated with sharing assets with strangers through the rating system (Guttentag 2013; Kantz, 2015).

2.2. STRs are not new

It is necessary to mention that STRs are not, in and of themselves, a new phenomenon. Scholars point out that the peer-to-peer nature of short-term rentals is the underpinning of the traditional BnB model (Guttentag, 2013). What is new is the availability and frequency of STRs in urban spaces. Whereas it has been traditionally difficult for operators to advertise to potential guests and build the necessary trust to feel secure in renting out a private residence to strangers, the rise of the internet has facilitated the growth of the STR market (Guttentag, 2013).

Situated within the larger phenomenon of the sharing economy, these businesses prize themselves on allowing individuals to repurpose underutilized assets through web-facilitated transactions (Slee, 2016). As Sinclair (2016) points out, sharing economy sites have not changed the assets we share, but rather changed the way we

share them. By reducing the scale of viable transactions, sites like Airbnb have enabled peer-to-peer exchanges to flourish.

2.3. The growth of the industry

Airbnb is not the only or even the first web-based STR platform, but it has certainly had a disproportionate role in driving the growth of the short-term rental market. First launched in 2007, the platform has developed from a simple site advertising three air mattresses in the founders' living room, to a profitable business boasting 17 million guest stays worldwide in the summer of 2015 (Slee, 2016; Airbnb, 2015). By Airbnb's (2015a) calculations, summer travel on the website grew 353 times over a five-year period alone. Today Airbnb has over 2 million listings in 191 countries (Airbnb, n.d. a). Competitors like HomeAway and Flipkey have also witnessed rapid growth, boasting 1.2 million and 300,000 listings respectively.

Airbnb, in particular, has seen a proliferation of listings in urban spaces. In New York, the company experienced a more than tenfold increase in listings between 2010 and 2014 (Schniederma, 2014). This trend has been similar in Canada — a market that Airbnb entered in 2009. Between 2014-2016 Airbnb reported that Canadian listings increased from 19,000 to 50,000, with most of the growth concentrated in large urban centres (Wright, 2016). For many cities, this has meant that tourists have been integrated into residential neighbourhoods at a scale that has not previously been experienced. The implications of this growth differ in intensity and focus depending on the municipality in question but tend to share a few overarching themes: experiences of quality of life disturbances by neighbours of STR operators, worry over the potential for STRs to impact the availability of long-term rental stock and the possibility of generating increased, and more dispersed, tourism growth.

2.4. The regulatory debate

For many the fundamental debate over the regulation of STRs stems not only from varied perceptions of their impacts but also from differing understandings of the 'uniqueness' of short-term rental platforms (Kantz, 2015). Beneficiaries of this form of

transaction frequently identify short-term rentals as a new form of ‘collaborative consumption’, making the point that peer-to-peer transactions encourage new economic activity and reduce the space between individuals. This image, however, is muddied by the sharing economy’s tendency to blur the line between high-volume and casual commercial activity (Kantz, 2015). This differentiation not only exists between the individual providers and the parent company, but also exists between different classes of STR operators. For instance, a condo that is rented out for a couple of weeks a year may be viewed as a casual commercial endeavor, while the same condo, owned and operated as short-term rental on a near continuous basis, likely would not. From a regulatory perspective, casual commercial activity is sometimes treated with laxer regulation, but the wide reach of short-term rental platforms has opponents pointing to Airbnb’s total valuation of \$25.5 billion dollars, which is higher than some of its largest hotel competitors (Interian, 2016). Those who call for stronger regulation frequently identify this commercialisation as the underlying source of concern and the driver behind the negative externalities that STRs may bring.

2.5. Situating the debate in Vancouver

In June 2016, there were 5,353 unique listings for short-term rental properties on Airbnb alone, double the amount one year before (Host Compliance, 2016). For Vancouver, this rise of short-term rentals has been situated within the context of a constrained rental market and what has been characterised as an ongoing housing crisis. Per the annual Demographia International Housing Affordability Survey (2016), Vancouver currently ranks as the third most unaffordable city in the world. As of October 2016, the Canadian Mortgage and Housing Corporation (CMHC) placed Vancouver’s rental market as precariously tight, with a vacancy rate of 0.7%, down from 0.8% the year before. This pressure seems to be particularly apparent in terms of affordability, with 46% of renters spending more than 30% of their monthly income on housing (CRHI, 2016).

Vancouver’s Mayor, Gregor Robertson, has characterised the situation as a housing crisis (Vancouver Mayor’s Office, 2016), which has driven a series of regulatory responses and forms the political context for policy developments on the STR file. In particular, the Province of British Columbia implemented a foreign buyers tax on properties purchased in the Metro Vancouver region in mid-2016 and the City followed

suit with a vacancy tax aimed at “under-utilized housing” (Vancouver Mayor’s Office, 2016; Ministry of Finance, 2016). This general push to reduce the commodification of housing in Vancouver has formed the backdrop for discussions on the impacts of short-term rental activity.

It should be noted that Vancouver’s rental market is not easy to quantify, primarily because the majority of rentals in the city exist as secondary rental units. These units refer to non-purpose built rentals, such as basement suites and laneway houses, and are thought to make up around 60% of Vancouver’s long-term rental supply (City of Vancouver, 2009). These types of rentals are generally considered more precarious than purpose-built rentals, which are afforded a degree of protection from being taken off the long-term rental market through City policy, a fact that is particularly important when considering the claim that STRs may remove units from long-term housing stock (Sawatzky, 2016).

Chapter 3. Literature Review: Existing research on the impact of STRs

For many municipalities, the debate over short-term rentals has become polarizing and more dependent on rhetoric than fact. In approaching STRs in Vancouver, it is thus important to examine the existing research into the extent of STR commercialization and the impacts STRs may bring. While the topics of discussion are widespread, this chapter addresses the literature by beginning with evidence on the extent of high-volume commercial activity in the STR market and its impact on the long-term housing market. A discussion of additional impacts follows, with the existing research divided into two broad categories: (1) the economic impacts of STR growth; and (2) the community impacts. Due to the relatively recent arrival of the peer-to-peer STR phenomenon, few academic studies have been published that substantiate or disprove the claims for or against short-term rentals. Thus, grey literature reports have been included to supplement existing academic research.

3.1. Commercialization and impacts on long-term housing

Perhaps one of the fiercest debates over short-term rentals has focused on their impact on long-term housing supply. Lee (2016) identifies two primary, interconnected mechanisms through which short-term rentals can impact long-term housing. The first is “conversion”, whereby a housing unit becomes consistently listed on an STR platform, moving it out of the rental market and into the city’s supply of hotel rooms. The second is “hotelization”, which Lee identifies as the process of entire multi-unit buildings being converted into hotel-like purposes once short-term rental operations become more profitable than long-term rentals. Taking these mechanism into account several measures have developed as standard proxies for detecting the level of commercialisation of STRs. These are 1) the frequency with which short-term rental are rented, 2) the number of multi-unit hosts (i.e. hosts that list more than one property), and 3) the percentage of entire unit listings.

San Francisco, the birthplace of Airbnb, was one of the first cities to seriously investigate the commercialization of short-term rentals and their impact on the city’s long-term rental market. In a report released by the Budget and Legislative Analyst’s

Office (BLAO) in 2015, San Francisco identified between 5,000 and 6,000 Airbnb listings, all of which were illegal at the time. To assess the impact of Airbnb of these listings, the City of San Francisco analyzed web scraped Airbnb data and divided listings into casual and commercial use based on estimated nights booked. By their calculations between 925-1,960 units were being used as commercial short-term rentals and thus unavailable for use as long-term rental properties. While small when compared to the total number of rental units in San Francisco, the report highlighted that, due to the city's persistent low vacancy rate, short-term rentals may be removing between 11-23% of all possible long-term rental properties from the available rental stock.

The City of New York in their own report (Schneiderman, 2014), found that 4,600 units were booked for more than three months a year and 2,000 were booked for half a year or more. These figures, which were calculated based on subpoenaed data from Airbnb, further indicate that commercial users, while representing a minority of hosts, dominate the short-term rental market in terms of units, reservations and revenue. Analysis of Airbnb in Los Angeles found similar trends with estimated reductions in housing stock ranging from 3% in L.A. at large, to 12.5% in neighbourhoods with the highest concentration of Airbnb listings (Lee, 2016).

Only one statistical analysis was identified examining the impact of short-term rentals on long-term rental prices. This study, conducted by Schäfer and Braun (2016), divided Berlin's neighbourhoods into those experiencing high, medium and low levels of 'misused' STRs. These 'misused' rentals — defined as those operating contrary to Berlin's regulations — were found to be correlated to a statistically significant degree with higher rental prices and lower vacancy rates. Schäfer and Braun (2016) do caution that this correlation may be driven by the overall popularity of high concentration neighbourhoods with both renters and tourists. However, they also emphasize that in neighbourhoods where STRs represent a significant portion of the rental stock it is likely that they are exerting pressure on the long-term rental market.

Some concern has also been raised over the potential for STRs to impact the housing market more broadly, by increasing the resale value of condominiums and houses. In the same way that secondary suites may increase the resale value of detached homes, it is speculated that a profitable short-term rental business may make properties more attractive to future buyers, pushing up the costs and contributing to the

commercialisation of housing stock. No research was found focusing specifically on this question, however some anecdotal evidence does exist that short-term rentals can impact prices for homeowners as well as renters. In 2016, for instance, a condo in Victoria sold at 60% above asking price, with the premium being attributed to its marketability as a profitable Airbnb (Kozakowski, 2016).

3.2. Additional impacts

3.2.1. Economic impact

Tourism industry

Apart from allowing would-be hotel guests to find more affordable lodgings, Airbnb claims that the short-term rental industry produces economic growth for the cities in which it operates. According to Airbnb, the availability of STRs encourages people to venture into areas not typically frequented by tourists, bringing their money to previously untouched parts of the city (Interian, 2016). Likewise, proponents of STRs claim that they encourage longer trips and people to travel more. According to Airbnb's own survey of San Francisco users, they state that Airbnb guests stay on average two days longer and spend approximately \$200 more than those staying in hotels (Airbnb, n.d. b)

Despite the frequency with which these claims are made by Airbnb, only one peer-reviewed article was found analyzing their validity. Tussyadiah and Pessonon (2015) conducted a survey of American and Finnish residents to gauge the impact of STR platforms on travel behaviour. Survey respondents indicated that the availability of STRs did increase their selection of destination countries, increased their length of stay and increased the number and type of activities they engaged in during their trip. These findings are consistent with trends reported by the OECD (2016) which indicated a net expansion in the tourism industry following the introduction of sharing economy platforms.

Income for hosts

A report commissioned by Airbnb (Sperling, 2015), further contends that revenue generated by Airbnb hosts can act as a means of offsetting the stagnation of middle class wages. Looking at typical earnings of STR operators, Sperling (2015) argues that

for the median US household this revenue generation would amount to a 14% raise and could act as a cushion in times of economic transition.

Third-party analysis published by the Canadian Centre for Policy Alternatives challenges with these claims, however, and indicates that 13% of hosts in Toronto account of 46% of Airbnb revenues (Jamasi & Hennessey, 2016). The New York State's Attorney General's Office came to similar conclusion, finding that 36% of revenues were generated by only 6% of hosts (Schneiderman, 2014). Both reports emphasized the concentration of earnings in the hands of a few highly-commercialized operators, questioning the validity of Airbnb's claims that STRs lead to more equitable wealth generation.

3.2.2. Community impacts

Traditionally, tourists stay in properties (hotels and bed and breakfasts) that are purposefully developed in commercially zoned neighbourhoods (Lee, 2016). As Lee (2016) outlines in his analysis of the Los Angeles housing market, short-term rental sites have disrupted this arrangement by merging residential and tourist markets on an unprecedented scale. This arrangement has introduced transient communities into residential spaces, bringing the potential for negative externalities, including concerns over safety and other quality of life complaints. A recent study of Airbnb growth in New South Wales found, for instance, that submissions to a formal Parliamentary Inquiry on short-term rentals frequently cited concerns over traffic congestion, parking problems, and unease over a growing presence of strangers in residential neighbourhoods (Gurran & Phibbs, 2017).

3.3. Summary

To date few extensive analyses on the impact of short-term rentals have been conducted. Existing studies indicate some support for both the narrative of STRs as generators of economic growth and STRs as sources of strain for existing residential communities. Understanding how these concerns apply to the City of Vancouver and which regulatory tools may be best suited for dealing them, forms the remainder of this report. Chapter 4 begins this process by outlining the current regulatory framework for STRs in Vancouver.

Chapter 4. Vancouver's regulatory context

Despite the rapid growth of Vancouver's STR market, nearly all short-term rentals in the city are illegal. Regulation of short-term rentals in British Columbia is divided between the provincial and municipal governments. Municipal regulations are responsible for issuing and determining the necessity of business licenses for short-term rentals, as well as designating the areas in which STRs can operate through city zoning by-laws. Provincial sales tax (PST) and municipal and regional district tax (MRDT), which are currently applied to other forms of the tourist accommodation sector, are determined and collected by the Province.

4.1. Vancouver by-laws

Rentals are regulated by the *Zoning and Development By-law*, which stipulates that rentals less than 30 days are prohibited unless operating as licensed hotels or bed and breakfasts in an approved Hotel and Bed and Breakfast Zone. Online STR listings most closely reflect the bed and breakfast category, where operators are licensed to rent a portion of their residence as tourist accommodations. Theoretically listings on sites such as Airbnb could be legal if they had obtained and complied with the specifications surrounding bed and breakfast license. However, as of June 2016, there were only 55 bed and breakfast business licenses in the City of Vancouver (Krishna, 2016). Based on the number of short-term rentals currently available for rent on peer-to-peer sites, the City estimates that at most 3% of these online STR listings are operating above board (Krishna, 2016).

4.2. Taxation of STRs

Tourist accommodations are currently charged 8% provincial sales tax (PST). Municipalities can also opt-in, by request, to have the Province apply a maximum 3% municipal and regional district tax (MRDT) on their behalf. In the City of Vancouver both 8% PST and 3% MRDT are applicable (British Columbia, 2016). Unless registered as bed and breakfasts, it is unlikely that short-term rentals listed on STR platforms are paying these taxes, leading to claims of unfair play by the traditional tourist accommodation sector.

However, even if short-term rental were properly registered with the City it is unclear how many would be required to pay PST and MRDT, as tourist rentals are currently exempt from taxes on the condition that they meet at least one of the following specifications:

- The person(s) renting the unit offer less than four units of short-term accommodation in BC; or
- The charge for a unit of accommodation is \$30 or less per day, or \$210 or less per week.

While multi-unit hosts are a growing proportion of Vancouver's STR market, an analysis of recent Airbnb listings indicates that the majority (67%) continue to rent a single unit, making them exempt from under the current taxation provisions.

4.2.1. Proposed changes to city by-laws

Given the growing number of illegal listings in the city and growing concern over their negative impacts, the City of Vancouver proposed a series of reforms to Vancouver's current short-term rental by-laws. The proposed regulations seek to legalize certain types of STRs by allowing short-term rentals to operate in Vancouver, even without the owner present, so long as the property can be identified as the operator's primary residence. Assuming short-term rental trends continue as previously discussed, the City of Vancouver estimates that these changes would legalize most private-room listings and approximately half of all entire unit listings.

4.3. Summary

The City of Vancouver, as with many municipalities worldwide, faces the challenge of reigning in a burgeoning and currently illegal industry. The following chapters seek to establish the efficacy of the current, as well the proposed, municipal regulations at achieving this goal in comparison to other policy alternatives. Chapter 5 outlines the methodology for approaching these questions, which includes 1) understanding more fully the trade-offs STRs present for Vancouver and 2) the success of various policy alternatives based on the experience of other municipalities.

Chapter 5. Methodology

5.1. Research questions and methodology

Considering the potential impacts of short-term rentals on urban development and their rapid growth in Vancouver, this study was motivated by the following question: How can we best regulate short-term rentals in Vancouver in order to maximize positive returns to, and reduce negative impacts on, local communities? This line of inquiry leads to a second series of questions, which can be summarized as follows: 1) what options currently exist for regulating short-term rentals; 2) how successful have they been at mitigating the negative externalities that short-term rentals may bring; and 3) how applicable are these policy options to Vancouver's regulatory context? Thus, my analysis was directed through two distinct but complementary focuses: understanding the successes and failures of existing regulatory structures and understanding their applicability to Vancouver.

5.2. Exploration of existing regulatory structures

In addressing the first line of inquiry, a multiple-case study approach was taken. These cases focused on the experiences of select North American municipalities that were early adopters of STR regulations. As this study aims to understand how and why certain regulatory structures have succeeded or failed, utilizing a case study approach provided a unique opportunity to gain an in-depth understanding of policy options (Yin, 2014). Furthermore, the emergent nature of the STR phenomenon and the limited number of jurisdictions that have taken a regulatory stance, provide a strong argument for focusing on the lessons of a select few municipalities, as a wider range of data does not currently exist.

In choosing case study jurisdictions, an attempt was made to focus on cities of a similar size and regulatory context to Vancouver. In particular, jurisdictions that were early adopters of STR regulations and that were also grappling with STRs' impact on the long-term rental market were prioritized. Additional consideration was given to the types of regulations employed in the jurisdictions in question, so that a cross-section of different regulatory approaches was represented. The case study jurisdictions of Austin,

San Francisco, and Portland were thus chosen for their similarities to Vancouver in terms in geographic and cultural makeup, experiences with constrained rental markets, and varying degrees of permissiveness in their regulations. While relatively late to the regulatory game, Denver was also included in this case study analysis due to its unique implementation approach that was not represented in other case study jurisdictions.

In assessing case studies, a triangulation of data (Yin, 2009) was used, relying on a mixed-methodology approach that combined the analysis of publicly available short-term rental trend data, interviews with key stakeholders, and the review of policy documents, reports and news articles from the case study jurisdictions.

5.2.1. Data analysis

Short-term rental data was used to identify the relative efficacy of regulatory approaches, by assessing listing trend and the commercialisation of short-term rental markets in the years following the implementation of STR regulations. Equations for estimating rental activity were based on San Francisco's model (BLAO, 2015) and can be found in Appendix A. A full list of estimates of commercial use can be found in Appendix B.

Data analysis was conducted using web scraped data made available by Murray Cox at Insideairbnb.com, Tom Slee at tomslee.net and from AirDNA. The data represents a shot-in-time amalgamation of Airbnb listings for a given city at the time the web scrape was performed. While imprecise, the absence of direct data from Airbnb makes estimates based on public facing data from their website necessary. A discussion of web scrape limitations and considerations is outlined in Appendix C. Airbnb rental data was used as illustrative of the effects of different regulatory approaches on the STR market more generally, as it remains the largest and most widely used platform in North America.

5.2.2. Interviews

Interviews were also conducted to gain a greater understanding of regulatory approaches. In total seven interviews were conducted with government officials from case study jurisdictions, with interview participants per jurisdictions broken down as

follows: Austin (2), Portland (2), San Francisco (1), Denver (2). Additional written comment was obtained from a third respondent in Austin, bringing the number of participants to eight.

A semi-structured interview format was used to allow for flexibility in the interview process and to encourage dialogue with the participants. Interviews provided contextual information, as well as facts on levels of compliance, resource commitment and other program considerations. A thematic analysis was secondarily conducted to identify recurring themes and establish commonality within the data (Braun & Clarke, 2006). Following the method of thematic analysis laid out by Guest, MacQueen, and Namey's (2012), the analysis moved beyond simple counting of words and phrases and focused on describing both implicit and explicit ideas expressed within the data.

5.3. Vancouver context

While case studies can provide deep understanding of the processes by which policies succeed or fail, they face drawbacks in their ability to extrapolate to wider policy contexts. It is for this reason that focus was also given to understanding the applicability of case study research to Vancouver's context. This was done through interviews with organizations representing various impacted sectors in Vancouver. Additional analysis of web scraped data and secondary research was incorporated to create as fulsome a view of Vancouver's regulatory context as possible.

5.3.1. Interviews

Interviews were conducted with representatives from the City of Vancouver, Landlord BC, Tourism Vancouver and Airbnb to establish the major considerations regarding STR growth in city. Additional invites were extended to local housing and tenants associations, but none could provide comment prior to the completion of this report. To account for these gaps a discussion of publicly available consultation data from the City of Vancouver is included in my research findings. As with case study interviews, a semi-structured format combined with thematic analysis was used to identify key regulatory considerations.

Chapter 6. Results: STR impact and policy priorities in Vancouver

The following chapter seeks to outline the range of impacts STRs pose for the Vancouver, as well as establish local policy priorities. As established in Chapter 5, interviews were the first step in establishing these implications and were conducted with representatives from City of Vancouver, Landlord BC, Tourism Vancouver and Airbnb. Gaining insights from multiple sectors proved useful for understanding the trade-offs associated with short-term rental regulations. Drawing on recurring phrases and ideas, two primary, competing concerns emerged: tourism generation and housing protection. The following section outlines these debates and provides a synopsis of the findings.

6.1. Housing

6.1.1. Long-term rental market

The most consistent theme across interviews was the desire to mitigate short-term rental impacts on the long-term rental market. All interviewees made reference to Vancouver's ongoing housing shortage, with Landlord BC and the City of Vancouver raising particular concern over the potential for STRs to remove long-term rentals from the housing stock. In documentation provided to me by Airbnb, the company also acknowledge that tight rental markets may require special considerations when it comes to policy implementation and state a willingness to work with municipalities to help ensure listings on their site are not unduly impacting the long-term rental market (Airbnb, 2016) However, while all interviewees expressed concern over STRs' potential impacts, not all agreed on what exactly this impact may look like. To shed light on this uncertainty, data analysis from web scrapes is provided below.

The literature identified several trends that are associated with the commercialisation of short-term rentals. These include: 1) the number of entire unit rentals present among STR listings, 2) the frequency with which STRs are rented and 3) and the number of multi-unit operators. Looking at web scraped Airbnb data retrieved from tomslee.net, my findings indicate continued growth in Vancouver's STR market and significant signs of commercialisation.

As of September 2016, there were over 5,900 STR listings on Airbnb alone. To give a sense of scale, Tourism Vancouver places the number of hotel rooms for all of Metro Vancouver at 24,000, making STR platforms a significant contributor to the number of tourist accommodations in the city. As shown in Figure 1, STR growth in Vancouver has been rapid. This trend was also reflected in a recent report commissioned by the City of Vancouver that estimated that the number of short-term rentals in the city has doubled yearly between 2013-2016 (Host Compliance, 2016). This expansion has been primarily driven by an increase in entire unit rentals, which accounted for 70% of all STRs on Airbnb (Figure 1). While not synonymous with commercial use, entire unit listings are expected to represent the largest concern in terms of the conversion of long-term rental stock, as the nature of private and shared room rentals suggest that someone is currently occupying the unit long-term while no such assumption can be made of entire unit rentals (Krishna, 2016).

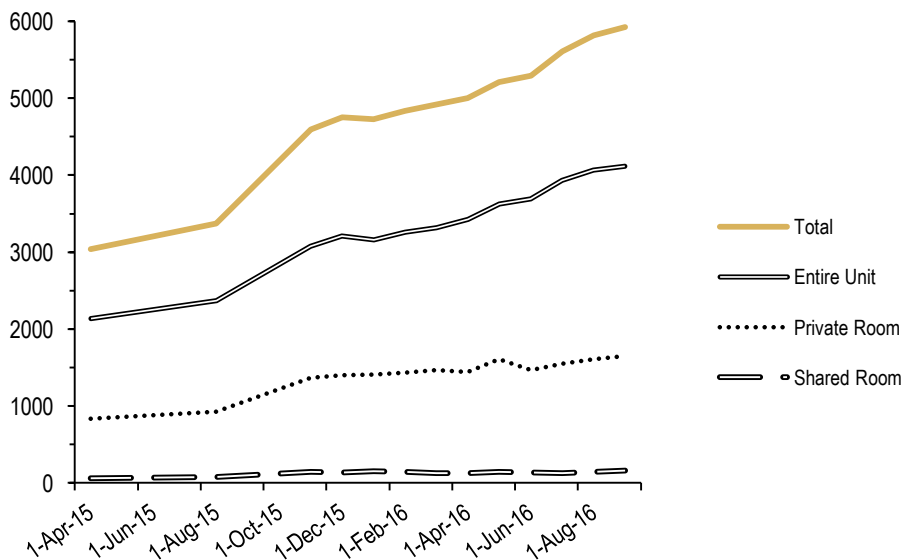


Figure 1 Airbnb listing growth in Vancouver, 2015-2016
Adapted from data obtained from tomslee.net

Perhaps more concerning is the significant presence of high-volume STR activity on Airbnb. As outlined by Lee (2016), conversion is most likely to occur where earnings from STRs can compete with or outstrip LTR income. Based on average long-term rental and short-term rental rates, the City estimates that a one-bedroom apartment would only need to be rented as a short-term rental between nine and eleven days a month in order to compete with the revenue generated from renting the space on a long-term basis. In

monthly terms this ‘break even’ point means that an apartment rented as an STR for three or four months a year would be able to outperform earnings from a year-long lease (Krishna, 2016). Based on Airbnb’s own reports, 26% of Vancouver rentals met this three-month threshold as of July 2016 (Krishna, 2016). Assuming this ratio holds true over time, approximately 1,500 units are estimated to be earning income comparable to or greater than a long-term rental as of September 2016. While small in comparison to the total number of rental units in the city, a 0.7% vacancy rate means that, if all 1,500 rentals are being removed from the LTR market, STRs may be creating a 15% decrease in available rentals (CMHC, 2016; Metro Vancouver, 2016). Similarly, while most hosts operate a single short-term rental, 36% are multi-unit hosts, indicating a substantial degree of commercialization in Vancouver.

Table 1 Overlap between LTR and STR concentration

Neighbourhoods with highest % listings	% Airbnb listing	% Airbnb visits	% renting households
Downtown	21	27	54
West End	12	12	79
Kitsilano	12	9	57
Mount Pleasant	9	8	65
Vancouver	100	100	51

Rental data is from the Canadian Rental Housing Index which is based on 2011 census data

Sawatsky (2016), in a recent attempt to assess the impact of STRs on Vancouver’s long-term rental market, also found that the concentration of short-term rentals overlaps significantly with the neighbourhoods boasting the largest numbers of long-term rental units, a fact which may be putting renters and tourists in increasing competition for accommodations. My analysis corroborates this overlap, with the most popular STR destinations having among the highest percentage of renting households. As Table 1 illustrates, this is true of the number of listings as well as number of visits. This trend, of course, does not provide conclusive evidence that STRs and LTRs are being driven into competition with each other. Theoretically, renters could be more likely than homeowners to operate STRs and thus driving the overlap. However, given that most lease agreements explicitly ban unauthorised sublets and considering the precariously tight rental market, there is reason to doubt that this is a primary driver (Sawatsky, 2016). When asked about tenants operating STRs, David Hutniak of

Landlord BC stated that it has been an emerging issue for their organization but that he felt was largely under control.

Supplementing this data are findings from Vancouver's survey on short-term rentals (Krishna, 2016). Of STR operators who answered, 17% stated that their unit would be used as a long-term rental if it was not an STR. Self-selection bias and known negative connotations with removing LTR stock may have influenced respondents' answers, but even at 17% this would translate into a 10% reduction in available long-term rental units. Of course, it is also important to highlight that these numbers suggest that most STR operators are not impacting the availability of long-term rentals.

Despite the remaining uncertainty around STR growth, interviewees consistently identified the possibility of a negative impacts as too great a risk in the face ongoing market constraints. As the representative from Landlord BC stated:

It's just not a risk we wish to assume... I mean I guess if we had a 5, 6, 7% vacancy rate we might be less concerned and less involved in this debate, but we're gonna have a low, low vacancy rate for some period of time.

There was also a recognition that limiting short-term rentals would not fix the housing crisis on its own, but that the situation in Vancouver required all possible avenues to be explored. As one interviewee put it:

We know there's no silver bullet to any of this [the housing crisis], but...any little thing counts...when we have [a low] vacancy rate every unit counts.

6.1.2. Quality of life

Concerns over quality of life impacts were also raised but were considered by most to be secondary to housing market impacts. In speaking with a City of Vancouver representative they acknowledge that few direct quality of life complaints have been made to the City regarding short-term rentals. Where challenges were raised, it was primarily regarding multi-unit buildings. The representative from Landlord BC stated that the presence of STRs in multi-unit housing can create a situation where strangers are given access to an otherwise secure building creating safety and liability concerns.

6.2. Economic impacts

6.2.1. Tourism growth

A competing narrative that grew out of the interviews was a desire to leverage short-term rentals as a vehicle for tourism growth. Tourism Vancouver highlighted that Vancouver is in a period of rapid tourism expansion, with the city reaching its 2018 targets for number of visitors in 2016. Both the City of Vancouver and Tourism Vancouver, however, identified limited hotel space, particularly in the summer, as constraining this growth. High hotel prices, trouble attracting conventions, and general appeal as a tourist destination were listed as problems that short-term rentals could help address. Particularly, the ability to generate new tourist accommodations without the creation of major infrastructure development (i.e., building hotels) was seen as a positive attribute of STRs. Likewise, the ability to encourage visitors to stay outside of the downtown core and move into other neighbourhoods was thought to be benefit. Data from September 2016, does substantiate these claim, showing that Airbnb does provide a greater dispersion of tourist accommodations throughout the city than do hotels. As with hotels, the largest concentration is downtown, however, almost 80% are spread throughout the rest of the city. Likewise, nearly 70% of visits took place outside of the downtown core.

Even playing field

In discussion of the tourism industry an additional recurring theme was the need to level the playing field between short-term rentals and the existing tourist accommodation sector. Tourism Vancouver was clear that short-term rentals should contribute to the local taxes in the same way that hotels are expected to. Rough, back-of-the-envelope calculations based on number of visits, average listing price, a stated average stay of 4.5 days (Airbnb, 2015b), indicate that \$4.1 million in PST could have been remitted to the Province last year if all current Airbnb listings were being taxed. Likewise, \$1.5 million could have been remitted to the City of Vancouver in MRDT.

6.2.2. Operator income

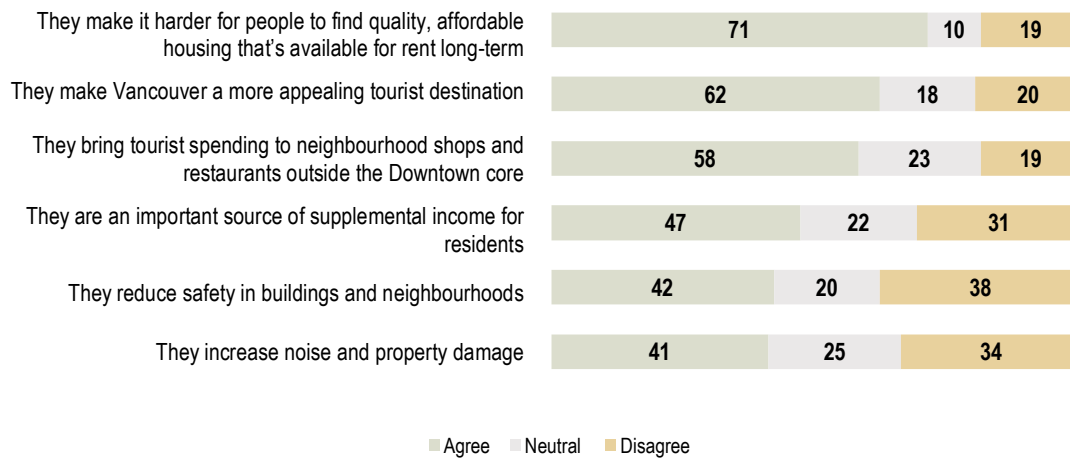
While operating income only arose incidentally in interviews, it is worth noting STRs do generate economic benefit to those who operate them. According to

Vancouver’s survey on short-term rentals, a plurality of operators (43%) made under \$5000 per year, however 81% said they used this income to pay for their own housing costs (Krishna, 2016).

6.3. Summary of findings

Findings from my interviews are consistent with the City of Vancouver’s consultations conducted in 2016 with members of the public and organizations on the impacts of the short-term rental market. Figure 2 outlines local perspectives on short-term rental impacts. The top two answers highlight the findings of my own research, which emphasize the tension between the ongoing housing shortage and the desire for STRs to act as a driver of tourism growth. Striking a balance between these competing forces should thus be considered a driving factor for any short-term rental regulation.

Figure 2 Perception of short-term rentals



Adapted from a City of Vancouver report (Krishna, 2016)

Chapter 7. Results: Case study findings

In their report on STR regulations, the Sustainable Economies Law Centre (Eskandari-Qajar & Orsi, 2016) identified a spectrum of regulatory approaches. At the most rigorous are cities like New York that actively ban large swaths of short-term rental activity, while the most lenient allow STRs to operate as an assumed privilege, as in San Jose. The following chapter examines four case study jurisdictions (Austin, Portland, San Francisco and Denver) that fall at various points along this spectrum. Together they provide an overview of the three main regulatory approaches that typify short-term rental regulations: primary residence requirements, density caps and night caps. This chapter begins with an outline of case study regulations, followed by an overview of regulatory outcomes and finishing with a synthesis of themes from across jurisdictions.

7.1. Regulations

7.1.1. Austin

In September 2013, Austin became one of the first municipalities in North America to approve short-term rental regulations aimed specifically at the peer-to-peer, online industry. The regulations, which came into effect in February 2014 (Table 2), were initially on the less restrictive end of the scale. While the registration process has been characterised by some as cumbersome due to the need to deliver documents in-person and potentially submit to an inspection, this framing arose because the regulations provided a legal avenue for truly commercial STRs (i.e., operation of secondary homes or investment properties as short-term rentals on a continuous basis). The thought was that density caps, which were applied to these Type II (commercial) rentals, would adequately limit their concentration in the city by allowing no more than 3% of homes in a census tract be registered as Type II STRs (see Table 2). However, ongoing complaints and citizen concern led to the removal of this license type in late 2016. Existing Type II permits will be phased out by 2022.

Table 2 Austin STR regulations summary

Type	Type of dwelling	Density Cap	Night Cap	Permanent Residence	Registration Fees
Type I	Detached	No	No	Yes	
Type II	Detached	3% census track cap	No	No	USD 443
Type III	Multi-family	3% building cap	No	No	

7.1.2. Portland

In August 2014, Portland became the first city deemed a “sharing city” by Airbnb. As part of this working relationship, Airbnb collects tax on behalf of Portland for listings operating on their platform. Since this initial agreement was put in place, Portland has arranged six additional revenue sharing agreements with various short-term rental sites. This has meant that even STRs that fail to register with the city continue to contribute to Portland’s revenue.

Table 3 outlines Portland’s regulatory structure, which in many ways reflects the approach that Austin is moving towards. The regulations use a primary residence requirement as the determining factor of operator eligibility. As such, residents of Portland are permitted to rent their primary residence provided they register with the City as an STR operator. Registration requires proof of residency be provided in-person to City staff, as well as a safety inspection of the property. STRs operating 3-5 bedrooms (Type B), must further apply for a Land Use Conditional Review, which takes several weeks to months to complete.

Table 3 Portland STR regulations summary

Type	Bedroom Limit	Density Cap	Night Cap	Permanent Residence	Registration Fees	Additional Requirements
Type A	2-bedrooms	No	No	Yes		N/A
Type B	3 – 5 bedrooms	No	No	Yes	USD 178	Land Use Conditional Review

7.1.3. San Francisco

San Francisco regulations (Table 4), which came into effect in February 2015, reflect those of Portland, in that all eligible STRs must be conducted in the operator's primary residence. However, in addition to the primary residence requirement, San Francisco differentiates between operators who are present during their guests stay and those who are not. Registered STRs may operate with the host present for an unlimited number of nights per year. However, STRs may be rented without their owner present for a maximum of 90 nights annually. This night cap approach has since been adopted in many other jurisdictions. As with Portland and Austin, San Francisco requires that registration be done in person, at which time an interview is conducted.

Table 4 San Francisco STR regulations summary

Type	Density Cap	Night Cap	Permanent Residence	Registration Fees
Owner present	No	Unlimited	Yes	USD 250
Owner not present	No	90 nights	Yes	

7.1.4. Denver

Denver's current approach was adopted in summer 2016 and came into full force January 2017. Of the jurisdictions examined, Denver has the most streamlined registration process with only one permit type that depends exclusively on permanent residence status (Table 5). While this permanent residence requirement is not unique to the case study jurisdiction, Denver's regulations are worth exploring for their unconventional implementation approach, which relies on an online registration program and low registration fees. Where other cities' licensing schemes have focused on stringent control of the STR market, Denver's approach has been focused on making STR licenses as easy as possible to get. Denver presents an alternative approach to generating compliance that relies on reducing barriers to registration rather than increasing the cost of non-compliance.

Table 5 Denver STR regulations summary

Type	Density Cap	Night Cap	Permanent Residence	Registration Fees
STR	No	No	Yes	USD 25

7.2. Outcomes

7.2.1. Austin

Discussion with Austin representatives indicated that the original regulatory approach was developed out of a desire to support local arts and tourism growth in a way that would preserve freedom of choice but also limit the quantity of STRs in operation. This initially open attitude to STRs, combined with a growing tourism industry, saw a huge expansion in Airbnb listings between 2014 and 2017, with major peaks occurring in the lead up to festival seasons (Figure 3). This spiked growth is characterised by the presence of numerous ‘zombie’ listing, which are typically created in anticipation of high demand periods and then sit unused. That said, the number of commercial listings in Austin has increased steadily by medium estimates to 24% in January 2017 (Appendix C).

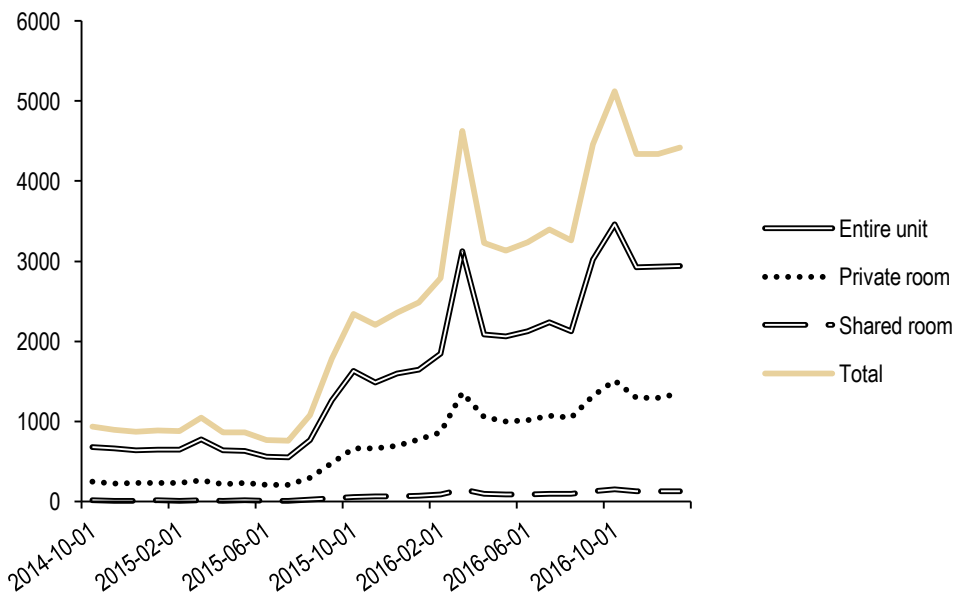


Figure 3 Austin Airbnb listings, 2014-2017

Adapted from data provided by AirDNA

Despite this upwards trend, registration with the city has not been nearly as steep. While there are upwards of 4,423 listings on Airbnb as of January 2017, only 1,397 STRs are registered with the city. This would suggest 31.5% compliance rate. But determining the compliance rate for Austin is not as straight forward as dividing

registered STRs by STR listings. This is because illegality in the city is predicated on STR activity not advertisement. As such, based on monthly activity, Austin may have experienced a compliance rate as high as 56% in January 2017, assuming all registered hosts were listed and active on Airbnb during that month. This is likely a gross exaggeration of actual compliance, however, and the exact rate is impossible to determine without verification of all active listings' registration status.

Hidden in this data is another ongoing issue for Austin, focused on quality of life disruptions. Interviewees from Austin consistently stated that, as Austin has grown as a tourism destination, a proliferation of STRs outside of the downtown core has generated increasing complaints from residents, and is a phenomenon that has begun to secondarily impact long-term housing supply. As expressed by MPT Tovo:

There's party houses... that really have an impact on neighbours ... and we were starting to see situations ... where one house was transformed into a commercial short-term rental and then people didn't want to live next door to one, they would put their house up for sale and it too would become a short-term rental, so you were getting instances of neighbourhoods that were no longer residences.

In 2016 alone 2,300 complaints were received, with the nature of complaints being primarily around illegal STR activity and quality of life disruptions.

Table 6 Austin policy outcomes summary

Complaints	Enforcement	Compliance	Revenue	Tourism
2,300 complaints	609 enforcement actions, varying from notice of violation or legal proceedings	1,397 licenses issued	N/A	High uptake during large events, connected to festival growth

7.2.2. Portland

In discussions with government officials from the City of Portland, protection of long-term housing and the possibility of revenue generation were listed as the key driving forces behind their regulatory approach. As one respondent expressed, “[we were] trying to figure out if we could craft regulations so that we didn't just have general lawlessness out there and we could mitigate the impacts with, you know, revenue

sharing.” These anticipated negative impacts were primarily around the commercialization of residential properties.

Despite these efforts, the number of short-term rentals has grown dramatically since the regulations were adopted. While not experiencing the same degree of quality of life impacts identified in Austin, Figure 4 shows the rapid STR growth experienced in Portland between October 2014 and October 2016, with the total number of listings more than doubling over two years. At the same time, the number of units registered with the City has not kept pace. According to a Monitoring Report from September 2016, the City currently has 656 registered STRs, with staff estimating a compliance rate of 22%.

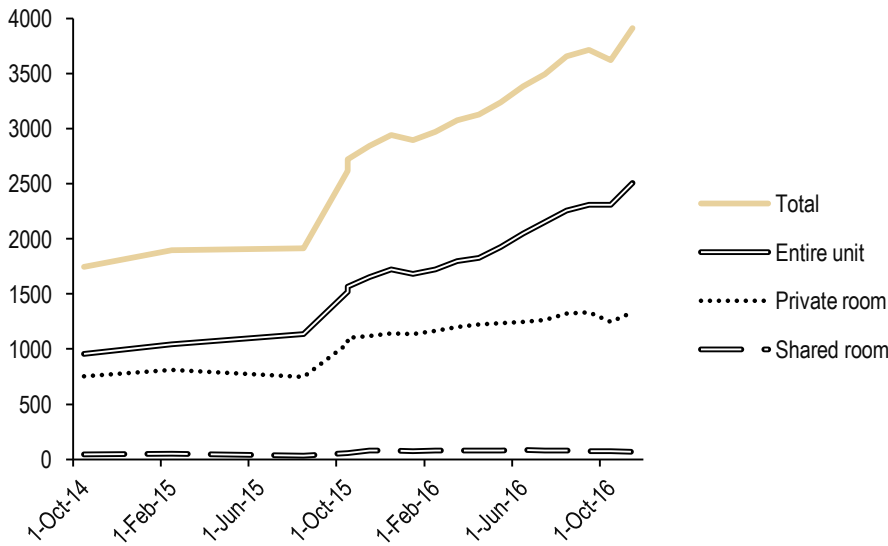


Figure 4 Portland Airbnb listings, 2014-2016
Adapted from data provided by tomslee.net

Importantly, from the point of view of housing stock protection, the percentage of commercial operators has also not decreased over this time period. At medium estimates, 45% of users fall into the casual use category while 41% are commercial operators (the remainder being inactive). This represents essentially little change from 2015 when the breakdown was 48% and 36% respectively, with movement, where it has been occurring, leaning towards greater commercialisation. The number of operators running multiple STRs (in direct violation of Portland’s primary residence requirements) has also held constant, ranging from 16-18% over the 2014-2016 timeframe.

Table 7 Portland policy outcomes summary

Complaints	Enforcement	Compliance	Revenue	Tourism
324 in two-year period	850 enforcement letters sent	656 registered 22% compliance rate	Approx. USD 2M annually	Unclear impact, but STRs make up approx. 5-8% of accommodation market

7.2.3. San Francisco

Perhaps unsurprisingly, San Francisco’s experience with short-term rental regulations reflects that of the previous two cities. Despite strong effort to restrain the STR market, rapid growth has occurred since implementation (Figure 5). As stated by Kevin Guy of San Francisco’s Office of Short-term Rentals in regard to their regulatory outcomes, “the overall listing count for Airbnb has slowed, certainly, but [regulations] did not have the impact of really chipping away at the broader population of people who are just kind of hiding in the data noise.” Trends shown in Figure 5 reflect this statement.

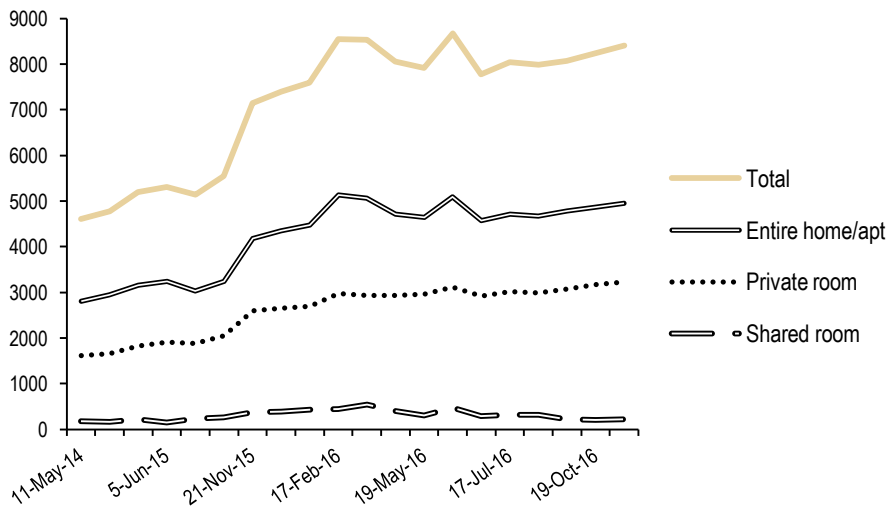


Figure 5 San Francisco Airbnb listing, 2014-2016
Adapted from data provided by tomslee.net

Like Portland, implementation of San Francisco’s policy was driven primarily by concerns over the housing market. As identified in the literature review (Chapter 4), San Francisco conducted an early analysis of the potential impact of STRs on housing availability, and estimated that STRs could be removing between 11-23% of San Francisco’s available rental stock (BLAO, 2015). The numbers pulled from Inside Airbnb

support San Francisco’s findings. Between 2015 and 2016, the number of commercial operators fluctuated between 24-29% under the medium estimate scenario. However, Guy identified San Francisco’s compliance rate as successful when compared to other North American jurisdictions.

Table 8 San Francisco policy outcomes summary

Complaints	Enforcement	Compliance	Revenue	Tourism
Increasing, exact number unavailable	USD 1.1 million in fines assessed to date Up to 30 -50 violation notices per month	2200-2300 applications 1800 licenses issued 25-33% compliance rate	Approx. USD 20 million per year	Impact unclear

7.2.4. Denver

Due to the recent nature of Denver’s regulation, web scrapes were not available prior to 2015, making longer-term trends in their STR market hard to identify. Nevertheless, data in Figure 6 indicates somewhat slowed STR listings growth in the period since Denver’s regulations were adopted. In terms of commercialization, 37% percent of hosts were commercial operators at the start of hard enforcement in January 2017. Likewise, the number of multi-unit hosts sat at 20%.

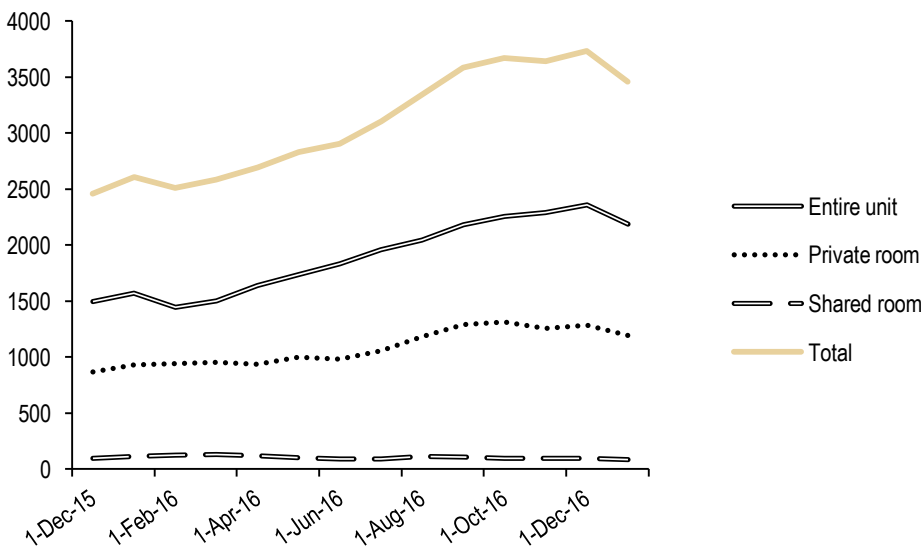


Figure 6 Airbnb listings Denver, 2015-2016
Adapted from data provided by AirDNA

While it is too early to draw conclusion about the impact of Denver’s regulations on reducing this commercialisation, it is worth noting that, based on compliance rates from December 2017, Denver was approaching San Francisco’s levels of compliance prior to starting hard enforcement (Table 9).

Table 9 Denver policy outcomes summary

Complaints	Enforcement	Compliance	Revenue	Tourism
Leading up to legislation 200 complaints in 6 months but 60-70% a few recurring complainants	Pre-2017: 300 contacted (10 violations sent) Post-2017: identified 1000 non-compliant, will start issuing violations	862 licenses issued 27% compliance rate	N/A	Impact unclear

7.3. Discussion of outcomes

Despite different regulatory approaches, a quick glance at the numbers shows only nominal differences in outcomes across case studies. Some variation does exist; Austin, for instance, has experienced the greatest difficulty with quality of life concerns, while San Francisco has been perhaps the most successful at generating slowed listing growth and demonstrated relative success in generating compliance. Yet across the board, compliance rates have remained around 30% and any change in listing and commercial use patterns has been small. As a result, interview findings were used to better understand these outcomes, with the goal of developing guidelines for future regulatory development. Through a thematic analysis, several recurring themes were identified and are presented in the section that follows.

7.3.1. The problem with compliance

When asked about difficulties in implementing their regulations, the two most common responses by interviewees were low voluntary compliance and inadequate tools for enforcing regulations. When asked to elaborate on what contributed to low compliance rates, two broad lines of advice emerged: those focused on the policy instrument of choice and those focused on enforcement.

Choose a policy that is enforceable

In discussing policy instruments, the need to establish regulatory regimes that are enforceable was among the most common recommendation. While municipal regulations usually rely on the assumption of high voluntary compliance, it was felt that such assumptions cannot be made in the case of STRs. As a representative from Portland stated,

We adopt laws and sometimes those laws are aspirational at best and they're meant to signal and provide a culture ... and I think that [for STRs] is a misstep.

Regulations that provide the greatest degree of enforceability were generally thought to be those that do not require data from platforms. This seemed to be of particular issue for night caps. As stated by Guy from San Francisco, determining when someone has crossed the 90-night rental limit is nearly impossible due to lack of concrete data on rental activity. While one interviewee from Portland thought night caps would theoretically be easier to prove than a permanent residence requirement, they admitted that a lack of transparency from platforms may impede this in practice. When asked about the potential for voluntary cooperation from Airbnb, one interviewee stated that:

I think you have to be realistic about how cooperative platforms want to be...you know we're coming from different angles, they want to protect their hosts and we want to know who they [the hosts] are because we want to bring them into compliance and so we are going to have some tension going on there.

Similarly, representatives from Austin emphasized that the fact that their regulations established illegality at the point of an STR being rented rather than at the point of it being advertised limited enforcement staff and increased the resource requirement to determine non-compliance, making it easier for STRs to hide in the data.

Establishing appropriate enforcement

However, even where enforcement actions have been taken, interviewees identified enforcement processes as a sticking point. In particular, inappropriate fine structures and recurring grace periods were felt to be driving non-compliance in both Austin and Portland. As stated in an interview with Liefeld of Portland:

If someone is successfully pulling in \$5000 a month, a \$700 monthly fine is not going to be a disincentive.

In addressing these concerns, the City of Portland moved to reform their fine structure in late 2016. These changes would move them more in line with municipalities like San Francisco, where \$1 million in fines have been assessed to date. This degree of enforcement combined with a high degree of media publicity was attributed to San Francisco's relative success in slowing listing growth. In summarizing the need for appropriate fine structures and levels of enforcement up front, a respondent from Portland stated that:

I think we perhaps underestimated the importance of this issue...we didn't signal strongly enough that we expect everyone to comply with this law...I think we potentially made the situation a little bit worse because we enabled people to try new operations because the mentality was, well, the City's not going to do anything about it... why wouldn't I try to maximize my investment right now.

As an additional step, Guy from San Francisco expressed a belief that STR platforms need to be held liable for illegal activity on their sites. While all other cities in this analysis hold STR operators exclusively responsible, in 2016 San Francisco adopted regulations that hold platforms financially liable for any illegal activity from which they profit. When asked why they decided to move in this direction, Guy responded that:

Expecting something like we established initially to work on its own is going to either take a lot patience or a lot of resources ... so you know you're left with trying to get platforms engaged to some degree in not necessarily implementing regulations but making sure their hosts are following the local law.

In theory, this provides an opportunity to leverage platforms' internal resources to monitor and reduce illegal activity. However, the regulations have yet to be put into force due to legal challenge by STR platforms. While U.S. District Court Judge James Donato has conditionally stated that San Francisco is within their purview to impose such regulations, he has placed a suspension on their implementation due to a lack of "functional verification system" through which platforms can verify the legitimacy of STR activity (Steinmetz, 2016). The City and companies are currently in mediation to resolve the issue, but it is unclear when, or if, the regulations will move forward and if they do what the administrative cost of the verification system will be.

Reducing barriers to compliance

While most jurisdictions focused on enforcement as a means increasing compliance, Denver also pointed to the need to reduce barriers to voluntary compliance. In discussing Denver's approach, one interviewee put it as follows:

Our hypothesis was that [other cities'] compliance rates were a little bit lower because of more onerous regulation and registration requirements ...we feel that having more people...just simply licensed is going to allow us to better manage and control the behaviour of our licensees in general.

Denver thus opted for an online registration process that relies on audits rather than deep vetting of each application to insure licensees are compliant with local regulations. While other jurisdictions expressed skepticism of the benefits of such an approach, Denver has early signs of success. Based on compliance rates from December 2017, the city was approaching San Francisco's levels of compliance prior to starting hard enforcement. Furthermore, City representatives noted that this approach has generated a good working relationship with Airbnb. The company, which has called for similar systems to be implemented elsewhere, has been proactive in promoting the registration system to its hosts and has taken an active role in marketing the regulatory system. While continued analysis will be necessary to see the true impacts of Denver's regulations, these signs are promising and highlight an alternative approach for cities interested in regulating STR activity.

7.3.2. No "one size fits all" policy

A final theme that emerged from the interviews was the need to understand the local policy focus. The appropriate policy option, it was reiterated, depends on the local policy problem and not all cities are alike. As an interviewee from Denver stated:

I would cherry pick which tool works for you ... this is one particular industry that there's not one blanket regulation or ordinance that works for every single city.

As a representative from San Francisco phrased it, for most cities the dial shifts between concern over housing availability and the need to control quality of life impacts. Other respondents emphasized that the relative degree of tourism and urgency of the policy problem should be weighed when considering how strongly to infringe on the

ability of residents to generate income and increase economic activity. This lesson is important to keep in mind when approaching the application of short-term rental regulations to Vancouver, where a balance between economic benefits and housing protection has been emphasized.

Chapter 8. Policy Options

The following chapter outlines policy options for addressing short-term rentals in Vancouver. The options, derived from case study research and the literature review, are not all mutually exclusive but represent different means of achieving the same goal: limiting the negative externalities associated with short-term rentals.

8.1. Ban on STRs

Banning short-term rentals in Vancouver would represent a continuation of current municipal policy under which STRs, as they function through peer-to-peer websites, are effectively illegally. Rather than attempt to differentiate between problematic and non-problematic use of STRs, a ban establishes the risk posed by short-term rentals as too high to justify the allowance of any STR activity. Such a policy approach may incorporate the use of an ordinance that lays out an explicit STR ban, as has been done in municipalities such as Santa Monica, CA and was recently stated as the preferred policy direction by Richmond, BC (Branson-Potts, 2016; Chen, 2017). Taking an effective stand on banning short-term rentals would require active enforcement on the part of the municipality, a component that has already begun to take effect in the City of Vancouver (Merali, 2016).

8.2. Primary residence requirement

A primary residence requirement refers to policies that limit short-term rentals to the operator's home. These policies by default restrict operators to one short-term rental and may or may not require operators to be present during the guest's stay. Such policy options speak to the messaging around the 'home sharing' economy. As Mayor Pro Tem (MPT) Tovo, City of Austin, stated during our interview, there is an idea that "[primary residence requirements] keep short-term rentals true to the initial concept home sharing." While such a requirement does not eliminate the possibility of high-volume commercial activity, it attempts to reduce its likelihood. In doing so its objective is to disincentivize the commercialisation of housing stock, by requiring the primary use of residential units be long-term housing.

8.3. Density caps

Density caps refer to policy approaches that allow for the existence of STRs while limiting the number of short-term rental licenses that may be issued in a single geographic area. Putting hard limits on the number of licensed STRs is intended to reduce quality of life issues by controlling the concentration of transient populations, while also putting a hard limit on the amount of housing stock that may be converted to short-term rental use. This policy has been tested in Austin under their Type II license strategy, where non-owner occupied licenses are limited to 3% of houses in a census tract. As defined in this analysis, density caps refer to any policy that limits short-term rental licenses based on geographic designation.

8.4. Night caps

An alternate approach, taken by cities such as San Francisco, has been to target commercial activity by limiting the number of nights per year a single rental unit can be put on the STR market. Cities frequently set these caps at a level that reduces the economic return of converting a long-term rental into an STR. For instance, San Francisco's night cap reflects a desire to ensure that the average yearly income from short-term rentals does not outstrip the average yearly income of a long-term lease (BLAO, 2015). Such policies allow a degree of precision in their application and put a direct focus on commercial activity.

Chapter 9. Criteria for Assessment

The following section outlines the criteria that will guide the assessment of policy options. Criteria were developed based on case-study research, as well as from research into Vancouver’s policy context. As guided by interview findings, the following criteria were derived from the broader societal objectives that STR policies seek to achieve, which are here defined as: community development, protection and security, efficiency and freedom. Additional consideration pertaining to government operations are also outlined below. The following section provides an overview of how each objective is assessed and provides context for their inclusion in the analysis.

Table 10 Evaluatory criteria

Objective	Criteria	Measure
<i>Societal Objectives</i>		
Community Development	Protection of LTR	Degree to which the policy establishes long-term housing as the primary use of any STR
Protection & Security	Quality of life	Degree to which the policy decreases the likelihood of neighbourhood disruption
Efficiency	Tourism growth	Degree to which the policy allows for increased tourist accommodations
<i>Government Objectives</i>		
Administrative Ease	Ease of enforcement	Resource requirement to enforce against STRs
	Administrative simplicity	Simplicity of program
Budget	Cost recovery	Ability to recoup costs of program
Legal Risk	Risk of legal challenge	Whether court cases have been taken against similar programs elsewhere

9.1. Protection of LTR

The importance of long-term rental protection was emphasized consistently through interviews with Vancouver-based participants and highlighted in the consultations conducted by the City of Vancouver. Given persistently low vacancy rates and the City of Vancouver’s strategic goal to decrease the commercialisation of local housing stock, the policy objective of community development is framed in terms of the

retention of long-term rental housing. Options that score well on this criterion will directly establish long-term housing as the primary use of any STR.

9.2. Quality of life

In 2016, the City of Vancouver reported 55 nuisance complaints regarding short-term rentals, up from just two in 2013 (Krishna, 2016). Portland, after their legalization and regulation of short-term rentals, saw their complaints climb by 50% (Guy, K., Interview, 2016-11-16). Common problems include late night noise, damage to common property, and disruption of parking (Krishna, 2016). Furthermore, discussion with interviewees identified the presence of transient occupants in residential neighbourhoods as a perceived threat to resident safety. As commercial activity enters residential neighbourhoods, maintaining the quality of life of long-term residents should be prioritized. This criterion measures quality of life in terms of safeguards against undue nuisance to residents, where policy options that score well will limit the frequency with which residents are exposed to disturbances (e.g., noise and property damage).

9.3. Tourism growth

Short-term rentals certainly bring economic gain for their operators, but greater economic impacts are also anticipated for the community at large. As short-term rental sites claim, the availability of STRs is expected to increase tourism and bring tourist activity outside of the downtown core, generating spillover effects for less urban neighbourhoods (Airbnb, n.d. b; Tourism Vancouver, Interview, 2017-02-01). In summer months, when Vancouver's hotel supply is near full capacity, there is reason to think that the availability of short-term rentals could generate increased tourist activity (Krishna, 2016). Regulations that limit short-term rentals either completely or partially must have their benefits weighed against this potential economic loss. As such, policies that perform poorly on this criterion will be those that most completely limit short-term rental activity.

9.4. Ease of enforcement

Regulations are necessarily ineffective to the degree that they are not enforceable. The ability to ascertain whether individuals are compliant is paramount to

developing a strong and effective regulatory structure, however, many jurisdictions have found this task insurmountable, particularly where data is not readily available to check compliance with the imposed regulations. Policies that score well with this option will be those where compliance can be determined (and enforcement action taken) without cooperation of hosting platforms, whose track record on voluntary data sharing has not been strong. It should be noted that this criterion doubles as a proxy for regulatory cost, as much of resource commitment associated with regulating STRs has been in enforcement.

9.5. Administrative simplicity

Administrative simplicity focuses on the ability of the government to register individuals and communicate their chosen policy to those interested in being licensed. Where rules are difficult to understand, or require extensive research it is expected to have negative impact on the number of individuals who voluntarily comply with regulations. Thus, policies that are most straightforward and require the least amount of technical knowledge will score best on administrative simplicity.

9.6. Cost recovery

While ease of enforcement speaks to the cost of administering policies, budget considerations look to the municipality's ability to recoup costs through taxes and fees.

9.7. Risk of legal challenge

Short-term rental platforms have taken multiple municipalities to court over STR regulations. The risk of legal challenge and its associated cost must thus be taken into consideration. Policies that score well on this criterion will be those that hosting platforms have either explicitly supported or against which no known court case has been launched.

Chapter 10. Evaluation of policy options

In the following chapter I provide an analysis of policy options for regulating STRs, as defined in Chapter 8. These policy options are evaluated based on the standardized criteria developed in Chapter 9. In conducting the analysis, I pull upon my research findings and determine policy options' success on each criterion relative to the success of other options. Qualitative scores of high, medium and low are assigned through this process to illustrate the relative strengths and weaknesses of different policy approaches, with corresponding numerical rankings of 3, 2, 1. Due to the importance of long-term rental protection in the Vancouver, performance on this criterion is given double the weight of outcomes on other criteria. A summary of evaluatory outcomes can be found in Table 11 (p. 47).

10.1. Ban on STRs

A ban on short-term rentals has polarizing, and ultimately uncertain outcomes. A successful ban has obvious implications for the protection of long-term rental stock, as it eliminates the possibility of conversion. In doing so it also removes any quality of life impacts that may accompany the expansion of STRs in urban spaces. However, it also excludes any positive benefits that short-term rentals may bring. These include extra income for those operating STRs, possible expansion of the tourism industry and movement of tourists outside of the downtown core. By taking a 'sledgehammer' approach to the problem of short-term rentals, it does not differentiate between individuals who are truly sharing their homes to supplement their income and those who are operating commercial endeavours.

Of equal or greater importance, however, is the fact that the quality of these claims depends on the success of the ban. To date no city that relies on a ban has been successful in eliminating or reducing their presence. This is true in Vancouver, where STRs are currently illegal, but is also true in cities that have taken an active stance on STR illegality. Santa Monica, for instance, has seen growth in the number of entire unit STRs, even while actively enforcing a ban against them. This lack of success highlights one of the main challenges to emerge when trying to eliminate STRs: the resource requirement needed for effective enforcement. While a ban does make it moderately

easier to identify an illegal listing, in that all listings are illegal, resources must still be put towards determining the address and operator of the STR and taking enforcement action against them. Likewise, by not providing avenues to legal operation there is no chance of reducing the pool of non-compliant operators. At the same time a ban establishes a confrontational relationship with STR platforms and eliminates any chance of regulatory cooperation. Instead, it raises the chance of legal action, as seen in Santa Monica (Penn, 2016).

It is worth noting that this heightened enforcement requirement comes in conjunction with an inability to recuperate enforcement costs through any means other than fines. Taxes could not be collected from STRs and fees for registration would not be put in place under a ban.

10.2. Permanent residence requirement

Unlike a ban, a permanent residence requirement tries to differentiate between short-term rentals that pose negative externalities and those that do not. In many ways, this requirement focuses on allowing the types of short-term rentals that STR platforms actively promote as their image. As MPT Tovo of Austin expressed in our interview, “the most convincing arguments that short-term rental companies put forward for allowing STRs really come from rentals that were also peoples home.” These include the ability to meet with travelers, to make use of unused space and to generate additional income to support the cost of housing. While a permanent residence requirement does not guarantee that high volume commercial activity will not take place, it attempts to limit its likelihood by requiring STRs to operate out of individuals’ homes. Likewise, the fact that the property is also a home is expected to decrease the extent to which operators will tolerate disruptive, loud or troublesome guests. As stated by an interviewee from the City of Austin when asked why they found permanent residents resulted in better of quality of life outcomes:

There was also a thought that, if I'm [running an STR] for a week while I'm gone over spring break I have to come back and live in my house and be a neighbour to the people around me, so I'm going to be more responsible about how I list that short-term rental, I'm going to be accountable to the kind of guests I have in my house

At the same time a permanent residence requirement does not eliminate the possibility of tourism growth, allowing for cost recuperation through taxation and a fee registration structure. Permanent residence requirements also score high on simplicity in that a permanent residence is already a concept with which the public is familiar, and likewise, is a designation for which the City of Vancouver already has a definition. In administering the program the City would be able to rely on pre-existing protocols for determining eligibility, which dovetail closely with those required for the newly introduced vacancy tax.

Perhaps most importantly, however, ease of enforcement was considered by most interview respondents to be relatively straight forward for this regulatory approach, as determination is based on pre-existing information such as driver's licenses and billing address. Where some contention to this claim was raised was in Portland, where one interviewee pointed out that it is possible for individuals to change their documentation to indicate a place of residence that does not reflect their true living situation. In such a circumstance, determining the validity of their claims may be difficult. Finally, permanent residence requirements, when not paired with additional policy approaches, have not faced legal challenge by short-term rental platforms. Airbnb recently acknowledged that such provisions may, in fact, be necessary where tight rental markets are a concern (2016).

10.3. Density caps

Like a permanent residence requirement, density caps try to balance the benefits of STR operation and the negative externalities that they may impose. However, instead of limiting the type of STRs that can operate, they do this by limiting their absolute quantity. Reliance on this quantity over quality approach was identified in case study interviews as having multiple negative consequences. This included impacts on long-term housing supply, in that density caps do not guarantee the preservation of STRs as primarily long-term residences.

Likewise, Austin has found that the reliance on density caps, as opposed to targeting true vacation rentals, raises serious quality of life considerations. The image of the absentee operator who runs party houses was frequently mentioned in interviews and is reflected in the staggering 2,300 complaints received by the City regarding STR

operations. It should also be noted that quality of life issues are said to have gotten worse, not better, with the introduction of density cap restrictions, possibly because they legitimized commercial STRs. Asheville, a city with similar regulations, has also experienced similar difficulties. Like Austin, Asheville is reversing its use of density caps and moving towards a permanent residence requirement instead (Garrison, 2017).

The upside to density caps is that they have not face legal challenge and are relatively easy to enforce. It is clear when a density cap has been reached and therefore no new licences should be issued, as all necessary information to determine compliance is available to municipal staff through the registration process. Likewise, opportunities for tourism growth and budgetary cost recoupment remain high in this option. Where density caps pose administrative difficulty is in the complexity of the regulations and their implication for equity to potential operators. By default, density caps favour incumbents and would likely also favour larger, more commercial operations with the resources and impetuous to be early registrants. Density caps may also create perverse incentives that lead license holders to become long-term and commercial in nature, as once a license has lapsed there is no guarantee of having it re-established. This brings in the element of administrative complexity, where municipalities will be faced with questions of registration priority and grandfathering individuals.

10.4. Night caps

Night caps have similar goals to the last two policy options, but approach the issue from the point of view of frequency of use. While a night cap does not mandate the retention of STRs as long-term residences, it does so indirectly by limiting the profitability of STRs, and thus limiting the incentive to remove long-term housing from the market. Likewise, limiting the number of nights a unit may be rented would likely decrease quality of life impacts. That said, because a night cap does not prevent second homes or investment properties from being used as STRs, some of the issues experienced under a strict density cap may also carry over to a stand-alone night cap.

In theory, this option provides high degree of choice to citizens, in that no differentiation is made based on the type of unit that can be rented or its locations within in the city. Thus, a secondary suite that a family keeps open for kids who are away at college would still be eligible to be rented as an STR despite not qualifying as the

family’s primary residence. Likewise, your neighbour already having registered for an STR permit would not prevent you from doing the same. In permitting this level of activity, night caps are expected to bring the similar cost recovery and tourism generation benefits as the previous two options.

Where night caps come up against the greatest difficulty is in terms of enforcement and administrative ease. Determining nights rented is incredibly difficult without cooperation from platforms. As stated by the representative from San Francisco, “it is nearly impossible to identify when someone has crossed the line between 90 and 91 days.” Doing so means intensive resource commitment on the part of enforcement departments and any attempt to force STR platforms to provide this level of information, or require them to remove listings in violation of these requirements, has been met with opposition and court challenge. Such is the case currently in San Francisco. Furthermore, where data sharing is not an option, such limits frequently require operators to track records and file ongoing reports, making the administrative process more complicated and elevating the cost of compliance.

10.5. Discussion

Table 11 provides an overview of policy performance across criteria and delivers a high-level assessment of the benefits and trade-offs associated with different policy options.

Table 11 Evaluation overview

Criteria	Ban	PR Requirement	Density Cap	Night Cap				
Protection of LTR (x2)	High	6	High	6	Low	2	Medium	4
Quality of life	High	3	Medium	2	Low	1	Medium	2
Tourism growth	Low	1	High	3	High	3	High	3
Ease of enforcement	Low	1	Medium	2	High	3	Low	1
Administrative simplicity	High	3	Medium	2	Low	1	Low	1
Cost recovery	Low	1	High	3	High	3	High	3
Legal Risk	Low	1	High	3	High	3	Medium	2
Total		16		21		15		16

Note: For all criteria, the policies that perform the best are denoted as high and those that perform the worst as low

A few key features emerge from this broad comparison of evaluatory outcomes. First, bans, while theoretically the most equipped to protect LTRs and eliminate quality of life concerns, fail uniquely in their ability to encourage tourism growth and allow for cost recovery. In doing so they fail to create the balance between economic efficiency and housing stock protection that was identified as key by interview respondents in this study and the City of Vancouver's consultation (Krishna, 2016). In this respect, a permanent residence requirement performs the best, by allowing short-term rentals to operate if they maintain long-term housing as their primary use. Importantly, permanent residence requirements present lesser, if not non-existent, issues for enforcement. This is largely due to their reliance on previously established definitions and protocols for ascertaining compliance, as well as the ability to reduce the pool of non-compliant operators. For municipalities like Portland that rely on a permanent residence requirement, it was expressed that compliance issues have primarily stemmed from their implementation strategies.

This has not been the case for night caps and density caps, which not only provide less certainty of LTR protection, but also come with administrative and enforcement complexity. For night caps specifically, the inability to prove when a night cap has been breached makes it an ineffective tool in practice. Similarly, density caps, while easy to enforce, come with perverse incentives for high-volume use and make most sense where true vacation rentals properties are permitted.

Chapter 11. Recommendation and Implementation

Throughout local interviews and analysis of STR impacts, it became clear that the highest priority for Vancouver is the maintenance of its long-term rental stock. This, combined with overarching policy goals aimed at curbing the commercialization of housing in the city, points towards a permanent residence requirement as the appropriate policy. This approach is recommended over a complete ban as its uncertain feasibility, combined with benefits that some short-term rental activity may bring (i.e, tax revenue and tourism growth), are felt to outweigh any additional protection of the long-term rental market that a ban may generate. It is also worth noting that while other cities frequently pair permanent residence requirements with additional restrictions in the form of density caps or night caps, this is not recommended in Vancouver due to the enforcement and administrative concerns they raise.

This should not be interpreted to mean that enforcement would be simple under a permanent residence requirement, only that its complexity relative to other options and the ability to offset these difficulties through cost recovery are highest with the permanent residency requirement. As stated by the City of Vancouver, this approach is expected to legalize around half of all entire unit listings in the city, as well as most private and shared room listings (Krishna, 2016). It is estimated that approximately 1,000-1,500 units would remain illegal and need to be taken down (Krishna, 2016). This reality reinforces what was repeatedly stated through jurisdictional interviews; while the choice of regulatory tool will necessarily impact short-term rental outcomes, no policy option will be successful without deep consideration of how policy implementation will affect compliance. As such the following sections summarize implementation tools identified as necessary for generating high compliance rates.

11.1. Registration & enforcement

In a study of non-compliant behaviour, Li, Zahng and Sarathy (2010) highlight that ineffective and inconsistent enforcement is likely to drive down voluntary compliance rates. My findings suggest that at least two pre-conditions are necessary to meet these standards for STRs: the use of a registration system and an appropriate fine structure.

11.1.1. Require registration

As outlined by the SELC report on Airbnb regulation, registration systems are necessary to determine compliance with permanent residence requirements, and provide cities with additional information on the unit in use, a contact in case of complaints, and a party who can be held liable where infraction occurs (Eskandari-Qajar & Orsi, 2016). Beyond this they also allow governments to make the point of illegality the act of advertisement without a visible registration number, rather than the act of renting short-term. As expressed consistently through case study interviews, this is necessary to reduce the enforcement burden imposed on regulators.

11.1.2. Develop an appropriate fine structure

Additionally, attention should be paid to the fine structure applied to STRs. As specified by Yeung (2004), for fines to act as a deterrent they should set penalties that are at least equal to the net gain offenders achieve from their misconduct. Likewise, there must be confidence that governments will enforce these penalties, otherwise non-compliant actors have minimal reason to change their behaviour.

In talking to case study jurisdictions, it became clear that standard fine structures for most municipal zoning regulations fail to meet these thresholds in two different but interconnected ways. First, where STRs were subject to standard fee schedules, fines were frequently too low to create a financial incentive. Instances in both Portland and Austin were cited where operators were hit with fines that were less than a quarter of their monthly earnings on Airbnb. Additionally, grace periods built into typical fine structures were identified as generating cycles of non-compliance. As stated in an interview with a Portland representative:

Some of those [STRs] that ceased their operations...we're finding that they put the ad right back up after we closed our case... we can't get into this loop of offering compliance period after compliance period when they obviously know about the compliance requirement.

Adapting fine structures to STRs would address these problems and was cited by San Francisco and Denver as a reason for their relative success at generating compliance outcomes. This coincides with existing research on deterrent methods of enforcement, which finds that, at the appropriate levels, targeted action against violators

can decrease their chance of repeat offense (Shimshack, 2007). Likewise, where knowledge of enforcement is widespread, individual enforcement actions can have deterrent effects on the wider population (Carrigan & Harrington, 2015).

While this may necessitate the creation of a dedicated fine structure, an alternative is to work STR registration into an existing but appropriate category of license. This was the case in Denver, where business licenses were used in the registration process rather than the common route of zoning certification, making STRs subject to much more stringent penalties.

11.1.3. Start with strong enforcement

Early and intensive enforcement will also be required up front. To help with this resource commitment, the possibility of working with third-part companies with the technical knowledge to identify non-compliant hosts should be considered. In Denver, a third-party company identified 1000 non-compliant individuals in a month where city staff had only identified 300 in six months.

11.1.4. Online registration

Emphasis should also be placed on making the registration process as simple as possible. This not only reduces administrative resources required of the City but also focuses on generating voluntary compliance by meeting STR operators “where they are” (Batchelder, Interview, 2017-01-31). Online registration schemes have been heavily promoted by STR operators and platforms alike, with Airbnb stating that “making the system simple and easily accessible as an online form is critical to getting people to support and comply [with local rules]” (Airbnb, 2016). As noted by Carrigan & Harrington (2015), getting buy-in to regulatory structures is important for creating a long-term culture of compliance. While representatives from Portland and San Francisco were skeptical of the claim that online registration would increase voluntary compliance, early evidence from Denver suggests this may be the case. Before hard enforcement began in 2017, Denver had already achieved compliance rates similar to what San Francisco had achieved after two years and outstripped Portland in number of registered hosts.

While new to Vancouver and emergent in short-term rental regulations, this form of ‘e-governance’ tool is not without precedence. In a survey of American municipalities, Moon (2002) found that 46 had a form of online business registration system. Such a system also opens the possibility of developing a strong working relationship with STR platforms, which has had additional benefits for local communities in other jurisdictions. San Jose, for instance, has leveraged a good working relationship with Airbnb to help with disaster relief during seasonal flooding.

11.2. Taxation

The City of Vancouver should work with the Province of BC to amend current tourist accommodation regulations in order to extend current taxation provisions to all short-term rental operators. This would involve removing the current tax exemption for operators with less than four units. While salient under a traditional tourist accommodation model, the confluence of high and low commercial activity that STR platforms bring would leave massive amounts of tourist activity in the City of Vancouver untaxed. This speaks to ongoing concerns that short-term rentals are being given an unfair advantage, a point that was raised by Tourism Vancouver as an ongoing concern for the local tourism industry. Furthermore, without amendment, this policy would deeply reduce one of the key benefits of legalizing STRs, which is the potential of revenue generation to offset administrative costs.

Furthermore, these changes would allow the City to leverage revenue sharing agreements with platforms. Such agreements have allowed the cities of Portland and San Francisco to recuperate tax revenue even from non-compliant hosts, as cooperating platforms automatically remit the tax on any activity on their site.

11.3. Future considerations

Moving forward with the regulation of short-term rentals it is recommended that Vancouver engage in active monitoring of STRs in the city and take a proactive approach in adapting regulations to changing circumstance. The emergent nature of the STR industry means that no policy option is tried and true and it is probable that unforeseen consequences will emerge. As new and more fulsome data becomes available on short-term rental operations, it will be necessary to update our

understanding of short-term rentals' impacts, as well as the effectiveness of various policy options.

11.3.1. Platform liability

For instance, the City should monitor the development in platform liability south of the border. Currently, platforms are making considerable profit off illegal activity on their sites. Cities such as San Francisco have firmly stated that placing some of the liability for illegal operations on platforms is necessary to generate high compliance, particularly where a plethora of listings has already amassed. In doing so, San Francisco's goal has been to leverage the data and internal resources that platforms possess in order to remove illegal listings. Theoretically, this could lead to much more effective enforcement. Platforms, for instance, may be motivated to create automatic blocks on the number of permissible nights rented or prevent operators from registering without a valid registration number.

However, San Francisco, and other municipalities that have taken a similar stance, have been taken to court by short-term rental platforms. Ongoing litigation in San Francisco has resulted in a delayed roll-out of the proposed rules. While these developments make platform liability too great a legal risk to garner recommendation at this time, the development of an effective system in San Francisco may open the door to implementation in Vancouver as well.

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Appendix A.

Calculating commercial use

The model developed by San Francisco for estimating commercial use was replicated in this study, and is based on an estimation rental activity which is derived by taking the number of reviews for each listing and extrapolating rental usage based on Airbnb's stated review rate (Figure 7).

$$\text{Rental Activity} = (\text{reviews per listing} / \text{review rate}) * \text{average nights booked}$$

Figure 7 Equation for estimating Airbnb rental activity

Average nights booked was determined based on travel data reported by Airbnb and San Francisco Travel. This led to estimates of 4.6 nights for Vancouver, 3.4 Austin, 3.5 Denver and 5.5 San Francisco (Airbnb, 2015b; 2015c; 2015d; BLAO, 2015). Portland was the only city for which an estimates average nights booked was not publicly available. As such a conservative estimate of 3 nights was used based on Murray Cox's methodology (Cox, n.d.)

Assumptions laid out by the City of San Francisco were then replicated to create high, medium and low estimates of commercial use (BLAO, 2015) and are outlined in Table 12. Review rates for medium and low impact scenarios are based on Airbnb's reported review rate, while the high impact scenario relies on estimates based on subpoenaed data from New York City (BLAO, 2015). Medium range estimates are presented in the case study analysis, but a complete list of results can be found in Appendix C.

Table 12 Assumption for estimating commercial STRs

Assumptions	Low impact Scenario	Medium Impact Scenario	High Impact Scenario
Assumed review rate	72%	72%	30.5%
Threshold for commercial use	Rented for 89 night or more	Rented for 59 nights or more	Rented for 59 nights or more

Casual users were further subdivided based on activity in the past year. Those without a review in the last 12 months were designated as inactive listings. Prior to conducting any calculations, data was cleaned to remove listings with minimum stays of greater than 30 nights, and thus outside the definition of short-term rental.

Appendix B.

Full list of commercial use estimations

Austin: Commercial use for all listings, 2015-2017

Low	Oct 2015		Jan 2016		Jul 2016		Oct 2016		Jan 2017	
Casual	1890	28%	3041	53%	3013	52%	4294	55%	3550	53%
Commercial	520	8%	776	14%	1026	18%	1271	16%	1095	16%
Inactive	4447	65%	1917	33%	1727	30%	2179	28%	2004	30%
Total	6857	100%	5734	100%	5766	100%	7744	100%	6649	100%

Medium

Casual	1634	24%	2664	46%	5159	44%	3809	49%	3060	46%
Commercial	776	11%	1153	20%	1761	26%	1756	23%	1585	24%
Inactive	4447	65%	1917	33%	1727	30%	2179	28%	2004	30%
Total	6857	100%	5734	100%	5766	100%	7744	100%	6649	100%

High

Casual	1162	17%	1855	32%	1702	30%	2639	34%	2112	32%
Commercial	1248	18%	1962	34%	2337	41%	2926	37%	2533	38%
Inactive	4447	65%	1917	33%	1727	30%	2179	28%	2004	30%
Total	6857	100%	5734	100%	5766	100%	7744	100%	6649	100%

Portland: Commercial use for all listings, 2015-2016

Low	Mar 2015		May 2015		Jan 2016	
Casual	1091	56%	1115	54%	1498	53%
Commercial	491	25%	578	28%	901	32%
Inactive	377	19%	379	18%	415	15%
Total	1959	100%	2072	100%	2814	100%

Medium

Casual	877	45%	875	42%	1159	41%
Commercial	705	36%	818	39%	1240	44%
Inactive	377	19%	379	18%	415	15%
Total	1959	100%	2072	100%	2814	100%

High

Casual	528	27%	499	24%	648	23%
Commercial	1054	54%	1194	58%	1751	62%
Inactive	377	19%	379	18%	415	15%
Total	1959	100%	2072	100%	2814	100%

Denver: Commercial use for all listings, 2015-2017

Low	Dec 2015		Apr 2016		Jul 2016		Oct 2016		Jan 2017	
Casual	1296	53%	1520	56%	1791	57%	2082	57%	1887	55%
Commercial	501	20%	641	24%	848	27%	1073	29%	962	28%
Inactive	664	27%	533	20%	463	15%	513	14%	612	17%
Total	2461	100%	2694	100%	3102	100%	3668	100%	3461	100%

Medium

Casual	1114	45%	1287	48%	1483	48%	1725	47%	1570	45%
Commercial	683	28%	874	32%	1156	37%	1430	39%	1279	37%
Inactive	664	27%	533	20%	463	15%	513	14%	612	17%
Total	2461	100%	2694	100%	3102	100%	3668	100%	3461	100%

High

Casual	700	28%	754	28%	856	28%	977	27%	1570	28%
Commercial	1097	45%	1407	52%	1783	57%	2178	59%	1279	54%
Inactive	664	27%	533	20%	463	15%	513	14%	612	17%
Total	2461	100%	2694	100%	3102	100%	3668	100%	3461	100%

San Francisco: Commercial use for all listings, 2015-2016

Low	May 2015		Sep 2015		Nov 2015		Jun 2016		Jul 2016	
Casual	2444	46%	2994	49%	3289	49%	3427	43%	3585	44%
Commercial	1613	31%	1710	28%	1865	28%	1999	25%	2090	25%
Inactive	1223	23%	1398	23%	1530	23%	2547	32%	2472	30%
Total	5280	100%	6102	100%	6648	100%	7973	100%	8147	100%

Medium

Casual	2027	38%	2548	42%	2802	42%	2959	37%	3112	38%
Commercial	2030	38%	2156	35%	2352	35%	2467	31%	2563	32%
Inactive	1223	23%	1398	23%	1530	23%	2547	32%	2472	30%
Total	5280	100%	6102	100%	6684	100%	7973	100%	8147	100%

High

Casual	1161	22%	1562	26%	1698	25%	1857	23%	1903	23%
Commercial	2896	55%	3142	51%	3456	52%	3569	45%	3772	46%
Inactive	1223	23%	1398	23%	1530	23%	2547	32%	2472	30%
Total	5280	100%	6102	100%	6684	100%	7973	100%	8147	100%

Appendix C.

Discussion of web scrape limitations

Web scraping is an automated process of compiling data readily available on the internet. Chad Skelton describes web scrapers as “programs that make your computer mimic a person surfing the web, grabbing data from web pages and putting it in a format you can actually use” (p. 37). Web scrapes utilized in this report are amalgamations of publicly available listing data from Airbnb, with earliest web scrapes occurring in 2014. Due to the variety of cities examined not all web scrapes were retrieved from the same source, nor was the range of dates available consistent across jurisdictions. Data used for Vancouver, San Francisco and Portland were provided by Murray Cox (insideairbnb.com) and Tom Slee (tomslee.net). Data for Austin and Denver were provided by AirDNA. For this reason, trends reported in this report should be regarded primarily as descriptive of individual jurisdictions.

Web scrapes are also fallible to certain limitations, including the possibility of duplicate or inaccurate listings. However, web scrape authors typically run scrapes several times to reduce errors (BLAO, 2015). Based on the BLAO’s (2015) review of the consistency in web scrapes provided by Murray Cox and Tom Slee, it is anticipated that any such redundancies are minimal. Sawatsky (2016), in her research, also found strong consistency between her own web scrapes of Airbnb and those from outside sources. Where dates and jurisdiction overlapped between different web scrape sources my own analysis found great consistency in the number and types of listings provided.

Appendix D.

Interview Schedules

Case Study Interviews

City	Date	Interviewee
Austin	2016-12-27	Government employee
	2017-01-06	Mayor Pro Tem Tovo
	2017-02-09	Code Department (written comment)
Denver	2016-01-31	Nathan Batchelder, Legislative Analyst
	2016-01-31	Whitney Hixton, STR Program Coordinator
Portland	2016-11-18	Mike Liefeld, Enforcement Program Manager
	2016-11-19	Terri Williams, Tax Division Manager
San Francisco	2016-12-29	Kevin Guy, Director

Local (Vancouver-based) Interviews

Date	Interviewee
2016-12-27	Government employee, City of Vancouver
2017-01-06	David Hutniak, Landlord BC
2017-02-09	Lori Janson, Tourism BC
2016-01-31	Company employee, Airbnb

Appendix E.

Case Study Interview Guide

Introduction

Purpose of my research

My research is focused on examining short-term rental regulations currently in place in North American municipalities, with the goal of assessing their successes and limitations and applying those lessons to Vancouver's regulatory context.

Purpose of this interview

The purpose of this interview is to learn about _____ experience with short-term rentals and to understand the challenges and successes the city has experienced in implementing its short-term rental regulations. This interview will cover: the development of _____ short-term rental regulations; the city's current regulations and to what extent they have or have not achieved their goals; and a discussion of regulatory best practices.

Topics of discussion

Policy development

- Can you speak briefly to the development of _____ current regulations. From your perspective, what were the primary objectives or goals that these regulations sought to address?
- Can you speak to _____ decision to use [chosen regulatory approach]? Why was this strategy chosen as opposed to other policy options?
- What was _____ relationship and/or experience with Airbnb or other short-term rental platforms throughout the development of its short-term rental regulations?

Current regulations and experiences

- Implementation
 - From your perspective, what have been the major successes of _____ short-term rental regulations so far? What have been the major difficulties?
 - What has the resource demand been to implement these regulations? In terms of staff dedicated, cost, etc.

- Compliance and enforcement
 - Can you provide any data on the number or percentage of listings that are thought to be non-compliant with the city's regulations?
 - How many enforcement actions have been taken against non-compliant operators?

- Revenue & economic impact
 - One of the major considerations in bringing in legislation for short-term rentals has been taxation of tourism activity. Can you speak to the level of revenue that _____ has generated from short-term rentals to date?
 - Short-term rental platforms frequently claim that short-term rentals improve city tourism. Has _____ been able to determine any impact of short-term rentals on the tourism market?

- Complaints
 - How many complaints or violation reports has the city received?
 - What are the primary nature of complaints that the city has received?
 - How has the number or nature of short-term rental complaints changed or stayed the same since the implementation of short-term rental regulations?

Best practices

- From your experience, what lessons or best practices would you offer cities looking to implement short-term rental regulations?

Appendix F.

Local (Vancouver-based) Interview Guide

Introduction

Purpose of my research

My research is focused on examining short-term rental regulations currently in place in North American municipalities, with the goal of assessing their successes and limitations and applying those lessons to Vancouver's regulatory context.

Purpose of this interview

The purpose of this interview is to learn about [your organization's] experience with short-term rentals and to discuss the proposed policy direction that the City has put forward. I plan to start off by discussing your perspectives of the short-term rental market in Vancouver and then move into a discussion of regulations.

Topics of discussion

- From your perspective, what impacts have short-term rentals had on the City of Vancouver, whether they be positive or negative?
- Can you speak briefly to your organization's current experiences with short-term rentals?
 - Has the topic arisen either with members of the organization or those accessing _____'s services?
 - If so what has the nature of those interactions been?
- In developing a regulatory framework, what considerations do you think should be prioritized in Vancouver's context?
- Many municipalities that have attempted to regulate short-term rentals have had trouble generating compliance with their short-term rental regulations. From _____ perspective, what opportunities or barriers currently exist for generating compliance in Vancouver's context?
- The City of Vancouver has put forward a proposal to legalize short-term rentals in primary residences and require a business license for these short-term rentals to operate. Can you speak to what you perceive as the strengths and weaknesses of this approach?