

***Short-term Consequences: Investigating the
Extent, Nature and Rental Housing Implications
of Airbnb Listings in Vancouver***

by

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Abstract

Airbnb is a private corporation founded in 2008 that earns revenue by facilitating short-term rentals of residential property. Using listing data collected from Airbnb's website with a web-scraping script over a 12-month period and secondary data on the city's rental housing stock and housing policies, this study quantifies the extent and nature of Airbnb listings in the City of Vancouver and analyzes the implications of that information for the city's rental housing policy goals. Among the author's findings are that Airbnb listings grew by 63 percent over the study period, were composed mainly of entire-unit listings and were concentrated in the areas with the most long-term rental housing. The author concludes that the unregulated growth of Airbnb undermines the city's ability to achieve its housing goals. This study will be of interest to policy-makers in cities that, like Vancouver, are both appealing to tourists and facing shortages of affordable housing.

Keywords: Airbnb; tourism; short-term rentals, housing; rental housing; sharing economy

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List of Acronyms

CMA	Census metropolitan area
CMHC	Canada Mortgage and Housing Corporation
NHS	National Household Survey
RTA	Residential Tenancy Act
STR	Short-term rental

Glossary

Airbnb listing	A unit of accommodation offered through Airbnb, whether a shared room, private room or entire, self-contained unit.
Short-term rental	A unit of housing that is rented for a period of fewer than 30 days or less than a month.
Operator	I use the term “operator” instead of “host,” which is Airbnb’s chosen term, to refer to those who post and rent out a listing on Airbnb. This is to avoid the assumptions of familiarity and hospitality that are embedded within the concept of “host.”

Chapter 1. Introduction

Vancouver, British Columbia, is a city where the real estate market has been described as a “world class freak show,” “surreal,” and a problem for the rest of Canada.¹ This is because the costs to purchase housing, especially single family homes, is wildly out of scale with local incomes and has been for some time. According to Jock Finlayson of the Business Council of BC, “This disequilibrium between median household income and the cost of living, particularly the cost of [housing], is the single biggest problem we have in this region.”² Much public and media attention, as well as considerable scholarly research, has been devoted to discussing the possible causes, solutions and future consequences of this situation – a set of debates that is outside my scope, but nevertheless sets the broad context for this research project, as does the city’s increasing number of homeless people.³ Based on my own experience as a renter, it is stressful to live in a place where home ownership is so unattainable, because it removes the option of ever leaving the rental market and its attendant sense of

¹ Ian Young in Nancy Macdonald, “Ian Young on Why Vancouver’s Housing Market Is a ‘Freak Show,’” *Macleans*, May 10, 2016, <http://www.macleans.ca/economy/economicanalysis/ian-young-on-vancouvers-freak-show-housing-market/>. Also, Kevin Carmichael, “How Vancouver’s Runaway Real Estate Became a National Problem,” *Canadian Business*, May 17, 2016, <http://www.canadianbusiness.com/economy/how-vancouvers-runaway-real-estate-became-a-national-problem/>. And Kerry Gold, “The Highest Bidder,” *The Walrus*, March 30, 2016, <https://thewalrus.ca/the-highest-bidder/>. Throughout this document, when I refer to “Vancouver” I mean the City of Vancouver, unless otherwise specified. The city is located within the Metro Vancouver region. For a map of civic boundaries, see Chapter 4.

² Jock Finlayson, vice-president of the Business Council of BC in Jen St. Denis, “Report on Vancouver’s Economy Highlights Threat of Residential Real Estate Disconnect,” *Business In Vancouver*, May 18, 2016, <http://biv.com/article/2016/5/report-vancouvers-economy-highlights-threat-reside/>.

³ The number of homeless people grew from 1,576 in 2008 to 1,847. City of Vancouver, “Affordable Housing - Presentation to the UBCM,” September 22, 2015, <http://www.ubcm.ca/assets/Convention/2015/Presentations/Tuesday~Sept~22/Mauboules-Large%20Urban%20Communities%20Forum.pdf>. Also, City of Vancouver, “City Releases 2016 Homeless Count Results and Updates on Low-Income Housing,” (May 31, 2016), <http://vancouver.ca/news-calendar/city-releases-2016-homeless-count-results-updates-low-income-housing.aspx>.

precariousness. Also, as housing costs spiral, homeowners and landlords are subject to constant affordability pressures and temptations to maximize their returns, either by seeking higher rents or by selling – both of which could reduce the availability and affordability of existing rental housing. As a renter, this set of circumstances has made me acutely conscious of the use of the housing that is available to renters, especially when the city’s apartment vacancy rate has been hovering at an unhealthy one percent for about 30 years.⁴

This research project was triggered by questions I had about the current use and future of rental housing in Vancouver, in turn sparked by a series of observations that included what seemed like an increasing number of Craigslist ads offering furnished short-term rentals, anecdotes from friends who had used Airbnb - which acts as a broker of short-term rental accommodation - while travelling, and newspaper reports on how property owners were using Airbnb and similar online services to convert their secondary suites or investment condos to tourist accommodation.⁵ One remark in particular sparked my interest in pursuing answers to the questions it implied. Commenting on Airbnb’s Vancouver presence in late 2013, a city councillor remarked, “Owners who are making the decision to switch to Airbnb are doing it for completely understandable reasons of their own, but they could be reducing the rental stock in the long term. It’s just impossible to know how big an issue it is.”⁶ This made me wonder if it was, in fact, possible to understand how big of an issue Airbnb was for Vancouver’s rental housing supply, how I might go about quantifying Airbnb listings, and what the city could do if

⁴ City of Vancouver, “Increased Protection for Renters - Tenant Relocation and Protection Policy and Associated Guidelines,” December 3, 2015, <http://council.vancouver.ca/20151210/documents/ptec4.pdf>. 3.

⁵ The first such article that I recall reading was Frances Bula, “Rental Revolution,” *The Globe and Mail*, July 28, 2012. A5.

⁶ Geoff Meggs quoted in Kerry Gold, “In High-Cost Vancouver, the Trick Is Getting Strangers to Pay the Mortgage,” *The Globe and Mail*, November 29, 2013, <http://www.theglobeandmail.com/life/home-and-garden/real-estate/in-high-cost-vancouver-the-trick-is-getting-strangers-to-pay-the-rent/article15676047/>. I subsequently interviewed councillor Meggs for a story I wrote about Airbnb for *The Tyee* and since 2013 he has regularly voiced concern about the impact of Airbnb on the city’s supply of rental housing. See Karen Sawatzky, “Are Online Vacation Renters Displacing Vancouverites?,” *The Tyee*, June 27, 2014, <http://thetyee.ca/News/2014/06/27/Airbnb-Displacing-Vancouverites/>.

such an analysis showed Airbnb was decreasing the supply of rental housing for residents. Out of those questions, I settled on the following one to guide my research.

1.1. Research Question

What are the extent and nature of Airbnb listings in the City of Vancouver and what are the implications of that information for the city's rental housing policy goals?

I chose this question because I thought it was important to gather some empirical data about the number, type and location of Airbnb listings (units of accommodation) in Vancouver, both in order to determine whether a policy response was merited and because my initial attempts to answer the quantitative part of the question convinced me that doing so required some focused effort. Before addressing my questions directly, I will provide some background about Vancouver's economy and recent tourism trends, in order to contextualize Airbnb and the challenges cities face in regulating the proliferation of short-term rentals.

1.2. About Vancouver

As home to slightly more than 600,000 people in 2011, Vancouver is the largest city in the province of British Columbia and its economic and cultural centre.⁷ Both the province and the city initially had a resource-based economy, driven by forestry, fishing, and mining. However, Vancouver also played an important role as the province's administrative and service centre.⁸ Urban planner Andy Yan has pointed out that even in Vancouver's earliest days as a city, it was well-served, perhaps over-served, by real

⁷ Statistics Canada, "2011 Census Profile: City of Vancouver," *Statistics Canada*, February 8, 2012, <http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=5915022&Geo2=CD&Code2=5915&Data=Count&SearchText=Vancouver&SearchType=Begins&SearchPR=01&B1=All&Custom=&TABID=1>.

⁸ Kris Olds, "Liquid Assets: Producing the Pacific Rim Consumptionscape in Vancouver, Canada," in *Globalization and Urban Change: Capital, Culture, and Pacific Rim Mega-Projects* (Oxford: Oxford University Press, 2002), 57–140, <https://global.oup.com/academic/product/globalization-and-urban-change-9780199256969>. 71.

estate agents, with 16 for a population of only 1,000.⁹ Vancouver also had a strong hospitality sector from the beginning, with 19 saloons and 10 hotels.¹⁰ But as with other post-industrial cities (and perhaps even more so, according to some researchers), the service, administrative and information sectors of Vancouver's economy have grown rapidly in the past several decades, while the city's direct dependence on resources and manufacturing has decreased.¹¹ The city's manufacturing labour force reached its peak in 1981, according to urban geographer Thomas Hutton and in the next five years, its "managerial and administrative occupational group expanded faster than any other Canadian city."¹² The de-industrialization of the wider Vancouver region continues today, with the net loss 352 hectares of industrial land between 2010 and 2015.¹³ Vancouver's FIRE (finance, insurance, real estate) sector grew enormously – by 300 percent – from the 1960s to the 1990s and that sector now contributes 24 percent of the province's overall GDP.¹⁴ The number of workers employed in the region's accommodation and food services increased by four times from the 1960s to the 1990s, reflecting "Vancouver's development as a regional and international tourism and destination centre."¹⁵ These workers made up eight percent of total Metro Vancouver employment in 2006 compared to only six percent in Montreal and Toronto.¹⁶ Tourism is an important economic driver for the province too, but Metro Vancouver's contributions are significant within that whole; it was the main destination of 28 percent of all non-resident overnight

⁹ According to the city directory, there were only five lawyers and three tailors at the time, which was just after its 1886 incorporation. Andy Yan, "Vancouver in the 21st Century" (Vancouver, September 24, 2014), <http://www.sfu.ca/video-library/video/1069/view.html>.

¹⁰ Ibid.

¹¹ Thomas A. Hutton, "Vancouver," *Cities* 11, no. 4 (1994): 219–39. 219.

¹² Ibid., 223-25.

¹³ Metro Vancouver, "Metro Vancouver 2015 Industrial Lands Inventory Summary Report" (Metro Vancouver, April 2015), <http://www.metrovancouver.org/services/regional-planning/PlanningPublications/PPEIndustrialLandsInventorySummaryReport.pdf>.

¹⁴ Thomas A. Hutton, "Vancouver: City Profile," *Cities* 11, no. 4 (August 1994): 219–39, doi:10.1016/0264-2751(94)90027-2. 223-25. Also, Ministry of Finance, Government of British Columbia, "2014 British Columbia Financial and Economic Review, 74th Edition April 2013 – March 2014," July 2014, <http://www.fin.gov.bc.ca/tbs/F&Ereview14.pdf>.

¹⁵ Thomas A. Hutton. "Vancouver," *Cities* 11, 4 (1994) 223-24.

¹⁶ Elliot Siemiatycki, "Consumption City : Precarious Labour and Capital in Vancouver, British Columbia" (PhD, University of British Columbia, 2013), <https://open.library.ubc.ca/cIRcle/collections/ubctheses/24/items/1.0073892>. 269.

visitors and 51 percent of all non-resident visitors stayed overnight.¹⁷ Estimates of the number of tourism jobs in the province range from 130,000 to 270,000 (6.5 to 12 percent of total jobs), with the latter representing a higher percentage of tourism jobs than in any other Canadian province.¹⁸ It is due to the economic importance of real estate and tourism (as well as education and retail) in Vancouver that some have referred to it as a “consumptionscape” or “consumption city.”¹⁹ Siemiatycki defines a consumption city as one where

the nature of the urban economy is disproportionately shaped by ‘inward’ investment into non-basic activities such as tourism, retail consumption, real estate, gambling, health services or education. The consumption-oriented city sells itself rather than exporting goods or services to be consumed elsewhere.²⁰

This description of a consumption city certainly seems to fit Vancouver and how it is marketed to both tourists and potential homebuyers as an outdoor playground where one can ski, sail and golf in the same day.²¹ The Yaletown neighbourhood (adjacent to False Creek and the former Expo lands) and Gastown (adjacent to the Downtown Eastside) could be considered emblematic of Vancouver’s consumptive turn. Once areas where canneries, sawmills and warehouses clustered, these neighbourhoods are

¹⁷ The source of this statistic is a 1998 government report, so the percentages may be different now. See PricewaterhouseCoopers, “Opportunity BC 2020: The Tourism Sector” (BC Business Council, 2009), http://www.bcbc.com/content/558/2020_200910_Mansfield_Tourism.pdf. 13.

¹⁸ The two different estimates use different methodologies and come from BC Stats and Statistics Canada. See Business Council of BC, “BC’s Tourism Industry: Positioned for Growth,” Policy Perspectives, July 2014, <http://www.bcbc.com/content/1312/PPv21n3.pdf>. 5 and BC Stats, “Tourism Indicators 2012,” January 2014, <http://www.bcstats.gov.bc.ca/Publications/AnalyticalReports.aspx>.

¹⁹ Vancouver is framed this way in Olds, “Liquid Assets: Producing the Pacific Rim Consumptionscape in Vancouver, Canada” and in Siemiatycki, “Consumption City: Precarious Labour and Capital in Vancouver, British Columbia.”

²⁰ Siemiatycki, “Consumption City: Precarious Labour and Capital in Vancouver, British Columbia.” 83.

²¹ For examples of this marketing claim see Jackson Gutzwiller, “Vancouver, BC Boasts Top Golf Courses in North America,” *Canada Golf: The Official Golf Portal of Canada*, February 15, 2011, <http://www.canadagolf.com/destinations/vancouver-bc-boasts-top-golf-courses-in-north-america-2/>.

now hubs for video-gaming, digital media and other high-tech businesses, as well as where some of the city's highest nightly rates for Airbnb units are found.²²

While in recent years Vancouver has repeatedly been named one of the world's "most livable" cities – in part due to the transformation of neighbourhoods such as Yaletown in line with the "Vancouverism" concept, but also thanks to underlying factors such as its temperate climate and overall stability, it has at the same time consistently had the least affordable housing in the country and scored near the top of global rankings of housing unaffordability.²³

Also undermining livability for some is the fact that between 1970 and 2006, Vancouver experienced increasing income inequality and polarization, with wealthier areas expanding during this era and poorer residents and recent immigrants being displaced from the central city.²⁴ The trend towards increasing income inequality and polarization has continued since then and was discussed in a 2016 update on the city's "Healthiest City" strategy. That report noted that income inequality is more pronounced

²² See the section on average nightly rates in my findings chapter. Also David Ley and Nicholas Lynch, "Divisions and Disparities in Lotus-Land: Socio-Spatial Income Polarization in Greater Vancouver, 1970-2005," Research (Toronto: Cities Centre, University of Toronto, August 2012), <http://neighbourhoodchange.ca/wp-content/uploads/2012/08/d5c3c1b62f243959bac02c874c633852.pdf>. 9. And Siemiatycki, "Consumption City : Precarious Labour and Capital in Vancouver, British Columbia." 199. Also, in a 2016 report, city staff noted that Vancouver has the "the largest visual effects industry cluster on the planet." City of Vancouver, "Vancouver Economic Commission Update," Staff report, (June 17, 2016), <http://council.vancouver.ca/20160628/documents/rr1d.pdf>. 10.

²³ Reuters, "Vancouver Is the World's Most Livable City for a Fifth Straight Year: Survey," *National Post*, February 22, 2011, <http://news.nationalpost.com/news/canada/vancouver-is-the-worlds-most-livable-city-for-a-fifth-straight-year-survey>. Also, Gary Marr, "Vancouver Ranks Third Most Unaffordable Housing Market in Study, Worse than New York and London," *Financial Post*, January 25, 2016, <http://business.financialpost.com/personal-finance/mortgages-real-estate/vancouver-ranked-third-most-unaffordable-housing-market-in-world-worse-than-new-york-and-london>. The city's definition of "Vancouverism" includes, among other things, "tall slim towers for density, widely separated by low-rise buildings, for light, air, and views." City of Vancouver, "Urban Planning, Sustainable Zoning, and Development," December 6, 2013, <http://vancouver.ca/home-property-development/planning-zoning-development.aspx>.

²⁴ Ley and Lynch, "Divisions and Disparities in Lotus-Land: Socio-Spatial Income Polarization in Greater Vancouver, 1970-2005." 34-35.

in Vancouver than in Canada as a whole and that the city has lower incomes and higher levels of consumer debt than its Canadian counterparts.²⁵

1.3. Recent tourism trends

Globally, tourism is on a growth spurt. Over the past four years, the annual growth rate for the sector has been an average of 3.4 percent, while the global economy grew by only 2.3 percent annually.²⁶ Industry experts attribute this trend to various factors, including the expansion of middle classes in China and emerging economies, as well as travel becoming more affordable as a result of lower fuel prices.²⁷ The growth builds on an already substantial base. The World Travel and Tourism Council (WTTC) estimates travel and tourism's total contribution to the global economy at \$7.6 trillion (USD) in 2014, representing 10 percent of GDP and 227 million jobs.²⁸ U.S. hotels are benefitting from global tourism expansion, despite the competition from Airbnb and other online vacation rental platforms. Occupancy rates were at 66 percent in 2015, considerably higher than they were in 2005 (63 percent) and in 2009, the year after Airbnb launched (54 percent).²⁹ "The impact of Airbnb so far is just around the edges of the lodging sector, and we don't expect it to be more than that," according to Jon Bortz,

²⁵ Mary Claire Zak, "A Healthy City for All: Innovation Fund Recommendations (Presentation to Council)" (Vancouver, June 15, 2016), <http://council.vancouver.ca/20160615/documents/cfsc1b-StaffPresentation.pdf>.

²⁶ Conference Board of Canada, "The Global Tourism Industry : Growing through Shocks," (Webinar, April 27, 2016), <http://www.conferenceboard.ca/e-library/abstract.aspx?did=7833>. Also, World Travel and Tourism Council, "Travel and Tourism Economic Impact 2015, World" (World Travel and Tourism Council), accessed May 17, 2016, <https://www.wttc.org/-/media/files/reports/economic%20impact%20research/regional%202015/world2015.pdf>. Foreword.

²⁷ Ibid.

²⁸ World Travel and Tourism Council, "Travel and Tourism Economic Impact 2015, World." Foreword.

²⁹ These occupancy rates are actually at 30-year highs based on comments in this news release. The increased ability of hoteliers to fill rooms at off-peak times using "online distribution channels" is named as one contributing factor. PricewaterhouseCoopers, "Hotel Occupancy Continues to Surprise in 2015 According to PwC US," PwC, May 20, 2015, <http://www.pwc.com/us/en/press-releases/2015/hotel-occupancy-continues-to-surprise-in-2015.html>.

CEO of the publicly traded Pebblebrook Hotels.³⁰ Annual occupancy rates are at similar levels in B.C., at 66 percent in 2015, and even higher for downtown Vancouver and Greater Vancouver: 77 and 76 percent respectively for the year.³¹ These rates were higher than in 2014 in all cases, as were average daily room rates.³²

Certain sub-trends within tourism have been favourable to Vancouver and to Airbnb, which has a more urban focus than HomeAway, its main competitor in the vacation rental market.³³ City tourism, defined by the United Nations World Tourism Organization as “trips taken by travellers to cities or places of high population density,” is nothing new, but its popularity in relation to other types of tourism has grown in recent years.”³⁴ As of 2015, “city trips” had grown by 72 percent in the last five years, compared to “sun and beach holidays,” which had only grown by 31 percent.³⁵ Also in Vancouver’s (and Canada’s) tourism industry’s favour is the trend toward more dispersal in destinations. According to the UN, tourism to the five most-visited countries represented 71 percent of market share in 1950, compared to only 31 percent in 2011.³⁶ Recent sales of vacation homes have grown too, at least in the U.S. The National Association of Realtors reported that 2013 vacation home sales were up by 47 percent since 2011 (to

³⁰ Quoted in Michele Lerner, “Tight Supply Sending Hotel Occupancy Rates to Record Levels,” *REIT Magazine*, <https://www.reit.com/news/reit-magazine/march-april-2015/tight-supply-sending-hotel-occupancy-rates-record-levels>.

³¹ Destination British Columbia, “Provincial Tourism Indicators: 2015 Year in Review,” April 2016, http://www.destinationbc.ca/getattachment/Research/Industry-Performance/Tourism-Indicators/Tourism-Indicators-2015-Year-in-Review/Provincial-Tourism-Indicators_Year-In-Review-2015.pdf.aspx. 2-3.

³² *Ibid.*

³³ HomeAway CEO Brian Sharples has stated, “You are not going to see us go head-long into city apartments, primary residences, which is what they [Airbnb] do very well.” See Suzanne O’Halloran, “HomeAway CEO: We Are Not Airbnb,” *Yahoo Finance*, March 16, 2015, <http://finance.yahoo.com/news/homeaway-ceo--we-are-not-airbnb-173758549.html>.

³⁴ The definition also states that such trips are usually last one to three days and that therefore “urban tourism is closely linked to the short-breaks market.” World Tourism Organization, “Global Report on City Tourism - Cities 2012 Project” (Madrid, Spain: UNWTO, 2012), http://cf.cdn.unwto.org/sites/all/files/pdf/am6_city_platma.pdf. 8.

³⁵ Kerstin Bock, “The Changing Nature of City Tourism and Its Possible Implications for the Future of Cities,” *European Journal of Futures Research* 3, no. 1 (December 12, 2015): 1–8, doi:10.1007/s40309-015-0078-5. Note, however that sun and beach holidays still represented 29 percent of overall trips, versus 23 percent for city trips.

³⁶ World Tourism Organization, “Global Report on City Tourism - Cities 2012 Project.” 14.

717,000), with 89 percent of buyers planning to rent out those new homes within a year.³⁷

1.4. What is Airbnb?

Airbnb has existed officially only since August 2008, yet in 2016 it already has so much cultural currency that its name is used as a verb and venture capitalists have complained they are fed up with entrepreneurial hopefuls pitching their ideas as the “Airbnb of X.”³⁸ The company is widely referred to as one of the most successful examples of the “sharing economy.”³⁹ This reference to sharing, often considered a purely altruistic activity, might lead the uninitiated to believe Airbnb is a non-profit organization. But Airbnb is a business - it might even be best categorized as a real estate business rather than a tourism one, given that it describes itself as “the easiest way for people to monetize their extra space and showcase it to an audience of millions.”⁴⁰ It has also been described as “Ebay for the entire house.”⁴¹ Analogies and category debates aside, Airbnb is a privately held internet-based corporation that makes

³⁷ HomeAway, “Vacation Home Sales Spike Thirty Percent in 2013 According to New Research from HomeAway and National Association of Realtors,” *HomeAway*, April 2, 2014, <http://www.homeaway.com/info/media-center/press-releases/2014/vacation-home-sales-spike-thirty-percent-in-2013-according-to-ne>.

³⁸ For founding date, I am relying on Airbnb’s own website, but the company did exist under a slightly different name as of 2007. See Airbnb, “About Us - Airbnb,” *Airbnb*, accessed April 11, 2015, <https://www.airbnb.ca/about/about-us>. In a *The New Yorker* cartoon, a man sitting across a restaurant table from a woman, apparently his date, tells her, “It’ll have to be your place. I Airbnb’d myself out of my apartment tonight.” Carolita Johnson, *Item # 12261385*, *The New Yorker*, Cartoon, September 15, 2014, http://www.condenaststore.com/-sp/It-ll-have-to-be-your-place-I-Airbnb-d-myself-out-of-my-apartment-tonigh-New-Yorker-Cartoon-Prints_i12261385_.htm. Also, Raf Weverbergh, “Startups, Stop Saying You’re the ‘Airbnb of X, Y, Z’ Right NOW,” *Whiteboard*, February 2013, <http://www.whiteboardmag.com/startups-stop-saying-youre-the-airbnb-of-x-y-z-right-now/>.

³⁹ Discussing the origins of, or critiquing, the term “sharing economy” is beyond the scope of this project. For a favourable account of the emergence of this phenomenon see Rachel Botsman and Roo Rogers, *What’s Mine Is Yours: The Rise of Collaborative Consumption* (Harper Collins, 2010), <http://www.harpercollins.ca/9780061963544/whats-mine-is-yours>. For a critical view, see Tom Slee, *What’s Yours Is Mine: Against the Sharing Economy* (OR Books, 2016), <http://www.orbooks.com/catalog/whats-yours-is-mine-by-tom-slee/>.

⁴⁰ Airbnb, “About Us - Airbnb.”

⁴¹ Brian Caulfield, “Airbnb: The Ebay for the Entire House,” *Forbes*, November 18, 2010, <http://www.forbes.com/forbes/2010/1206/technology-airbnb-sequoia-capital-ebay-startup-next-door.html>.

its money by connecting people - usually, but not always, tourists – who are seeking short-term accommodation with those who want to rent (or sublet) their own accommodation on the same basis.⁴² Airbnb allows three types of properties to be listed on its site: shared rooms, private rooms and entire, self-contained units of housing that may be anything from a studio apartment to a mansion, or even a castle. Unlike hotels and other traditional hospitality providers, Airbnb does not own any of the properties presented on its website. Instead, it plays the roles of broker and facilitator. It makes money by charging both operators and visitors percentages of the total amount paid for each booking and this is its main source of revenue.⁴³ STR operators generally set rates by the night, as hotels do, rather than by month, as residential landlords do.⁴⁴ While Airbnb's rates are frequently lower than the average hotel rate in a given city, on a monthly basis they are much higher than average apartment rents.⁴⁵

⁴² A note on terms: Instead of the “host” and “guest” that Airbnb uses, I will refer to those who rent out property through Airbnb as short-term rental (STR) operators and those who book these properties as visitors. This is to avoid the assumptions of familiarity and hospitality that are embedded within the concepts of “host” and “guest,” especially since critics have identified “unhosted” rentals (where the operator is not present while the visitor is staying in an entire unit) as problematic and such bookings constitute the majority of Airbnb listings in Vancouver.

⁴³ The percentage charged to operators (hosts) is three percent. The percentage charged to visitors is usually between six and 12 percent. This percentage varies based on the overall cost of the booking, with lower percentages charged on more expensive bookings. See Airbnb, “What Are Host Service Fees?,” *Airbnb*, accessed May 15, 2016, <https://www.airbnb.ca/help/article/63/what-are-host-service-fees>. And Airbnb, “What Are Guest Service Fees?,” *Airbnb*, accessed May 15, 2016, <https://www.airbnb.ca/help/article/104/what-are-guest-service-fees>. Airbnb likely also earns considerable interest income because although visitors pay at the time of booking, Airbnb holds that payments until the booking is complete. However, since it is a private company, it is not possible to know the amount of this income or the percentage of Airbnb's overall revenues it represents.

⁴⁴ Airbnb offers operators the option of setting a weekly or monthly rate, but the default and most popular option is a nightly rate.

⁴⁵ It can be difficult to compare Airbnb rates to hotel rates, since some Airbnb visitors stay in private rooms and some stay in entire units, which are larger and have more amenities than hotel rooms. Mike Bird, “Airbnb Users Want Cheap Hotel Alternatives -- But Data Suggests It's Actually More Expensive,” *Business Insider Australia*, November 17, 2015, <http://www.businessinsider.com.au/bank-of-america-says-airbnb-not-really-cheaper-than-hotels-2015-11>.

As of June 2015, Airbnb's reported valuation was \$24 billion, a figure that rivals or exceeds that of many global hotel chains.⁴⁶ Underlying this massive figure is one of the most salient aspects of Airbnb: its growth. According to media reports, in May 2011 Airbnb had only 60,000 listings worldwide, but was adding them at a rate of 1,000 per day.⁴⁷ CEO Brian Chesky celebrated reaching the one-million listings mark with a tweet in December 2014 stating listings were growing by 3,000 per day.⁴⁸ As of April 2016, Airbnb offered approximately 2.3 million listings in at least 34,000 cities worldwide.⁴⁹ That is an increase of nearly 4,000 percent in five years. Figure 1.1 illustrates Airbnb's listings growth trajectory.

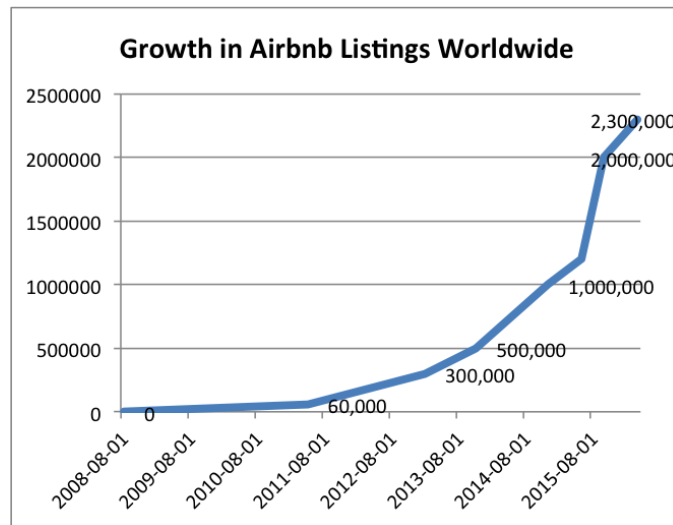
⁴⁶ Rolfe Winkler and Douglas MacMillan, "The Secret Math of Airbnb's \$24 Billion Valuation," *Wall Street Journal*, June 17, 2015, <http://www.wsj.com/articles/the-secret-math-of-airbnbs-24-billion-valuation-1434568517>.

⁴⁷ Courtney Boyd Myers, "Airbnb Is Growing Fast, Adding 1,000 Listings Every Day," *The Next Web*, May 25, 2011, <http://thenextweb.com/apps/2011/05/25/airbnb-is-growing-fast-adding-1000-listings-every-day/>.

⁴⁸ Brian Chesky, *Twitter*, December 7, 2014, <https://twitter.com/bchesky/status/541655860271783937>.

⁴⁹ This figure was referenced by an Airbnb employee named Nick who identified himself as a data scientist in a YouTube video posted in April 2016. Airbnb, *Driving User Growth at Airbnb*, 2016, <https://www.youtube.com/watch?v=03mc78IKOwl>.

Figure 1.1 Worldwide growth in Airbnb listings⁵⁰



Airbnb has grown rapidly in Canada too. Entering the country in 2009, Airbnb announced it had reached 19,000 Canadian listings as of September 2014.⁵¹ The company said it had reached 33,000 Canadian listings in July 2015 and 50,000 as of April 2016.⁵²

⁵⁰ For sources of specific figures not already given in text see, Dan Terdiman, “Airbnb’s Big Growth: 500 Castles (and 300K Other Listings),” *CNET*, February 7, 2013, <http://www.cnet.com/news/airbnbs-big-growth-500-castles-and-300k-other-listings/>. Also Ryan Lawler, “Airbnb Touts 500K Homes And 350K Hosts Around The World, Launches Groups To Share Best Practices,” *TechCrunch*, November 12, 2013, <http://social.techcrunch.com/2013/11/12/airbnb-touts-500000-homes-and-350000-hosts-around-the-world-as-it-makes-pitch-for-the-sharing-economy/>. The earliest reference to 2 million listings I have found is in Richard Nieva, “Airbnb to Employees: ‘We Failed You’ with Controversial Ads,” *CNET*, October 22, 2015, <http://www.cnet.com/news/airbnb-to-employees-we-failed-you-with-controversial-ads/>.

⁵¹ Armina Ligaya, “Airbnb to Establish Canadian Office, Hopes for ‘Sensible Laws’ from Regulators,” *Financial Post*, September 3, 2014, <http://business.financialpost.com/fp-tech-desk/airbnb-hopes-for-sensible-laws-from-canadian-regulators-as-it-seeks-to-establish-office>. Also, Laura Wright, “Top 5 Airbnb Listings in Canada All in B.C. and Ontario,” *CBC News | Canada*, April 17, 2016, <http://www.cbc.ca/news/canada/top-airbnb-listings-canada-1.3537622>.

⁵² Wright, “Check out the Top 5 Airbnbs in Canada.” Also, Aaron Zifkin interviewed in “Canadian Homeowners Using Airbnb to Curb Rising Mortgage Costs” (Business News Network, June 6, 2016), www.bnn.ca/Video/player.aspx?vid=884970. Also, Techvibes NewsDesk, “Airbnb Launches #TheAirbnbBus in Toronto to Celebrate Host Community,” *TechVibes*, July 6, 2015, <http://www.techvibes.com/blog/theairbnbbus-toronto-2015-07-06>.

Of course, listings are only one way to measure the growth and size of Airbnb. It is the metric I have been most interested in, due to my focus on the use of housing space, but bookings and visitors are probably equally if not more important to the company's financial success. Its bookings have also been described as on "hockey-stick growth curve" with five million booked nights in February 2012 and double that just a few months later.⁵³ As of May 2016, its website stated that its cumulative total of guests (visitors) was 60 million.⁵⁴

A final aspect of Airbnb central to this discussion of its rental housing impacts in Vancouver is its legal status. In Vancouver, section 10.21.6 of the zoning and development bylaw states that it is a violation "to use or permit to be used any dwelling unit for a period of less than one month unless such unit forms part of a hotel or is used for bed and breakfast accommodation."⁵⁵ Section 10.20.5 states that a "housekeeping unit" must not be used "for a period of less than one month unless such unit forms part of a hotel."⁵⁶ It is quite clear, then, that with the exception of licensed hotels or bed-and-breakfast units, all Airbnb listings that are rented for less than a month violate Vancouver's zoning rules. Other regulations and laws may also be violated, such as the requirement for a business licence for anyone operating a home-based business or renting residential property.⁵⁷ What has not been so clear is how to effectively enforce such provisions, or whether they need to be modified in light of current conditions.

⁵³ Owen Thomas, "Airbnb Could Soon Do \$1 Billion A Year In Revenues," *Business Insider*, January 24, 2013, <http://www.businessinsider.com/airbnb-billion-revenues-2013-1>.

⁵⁴ Airbnb, "About Us - Airbnb."

⁵⁵ City of Vancouver, *Zoning and Development Bylaw*, n.d., <http://former.vancouver.ca/commsvcs/BYLAWS/zoning/sec10.pdf>.

⁵⁶ *Ibid.* The bylaw defines a housekeeping unit as "a sleeping unit containing facilities for cooking."

⁵⁷ In practice, a business licence would not be granted to an STR operator due to the violation of the zoning bylaw. City of Vancouver, "Get a Business Licence," *City of Vancouver*, 2016, <http://vancouver.ca/doing-business/get-a-business-licence.aspx>. Depending on the type of property and number of units being rented, various other laws and regulations may be violated, such as the *Hotel Keepers Act* and the bylaws of individual strata corporations. For a summary, see Real Estate Board of Greater Vancouver, "When Renting a Spare Room = Trouble," *Real Estate Board of Greater Vancouver*, 2015, <http://www.rebgv.org/when-renting-spare-room-trouble>.

Thus far, as with most other bylaws, the city has taken a complaint-based approach to enforcing its short-term rental rules, though this has been under review by city staff since at least June 2015.⁵⁸ However, even if the city wanted to take a proactive approach to enforcing those rules, the nature of Airbnb's business (and to a lesser extent, all online businesses) poses obstacles to doing so. This is because Airbnb's well-designed, user-friendly interface makes it extremely quick and easy to post a listing, as well as to de-activate one.⁵⁹ Another hurdle is that the actual street addresses for listings are not publicly available and are only provided to prospective visitors on confirmation of booking.⁶⁰ Airbnb has so far not been willing to provide governments with the address and booking data they would need to directly contact or successfully fine the Airbnb operators within their jurisdictions that are violating local regulations. Finally, the mere fact that a listing is posted online (even if it has an extensive review history) and documented does not appear to meet the evidentiary tests required for successful prosecution of a bylaw violation.⁶¹ Even if the city has obtained a street address for a listing (such as through a complaint lodged by a member of the public) it must notify the alleged violator 24 hours in advance before it can send one of its approximately 20

⁵⁸ I base this date on the fact that I met with city staff to discuss the data in my June 2015 blog post shortly after I published it. Karen Sawatzky, "Airbnb Listings in Vancouver: How Many? What Type? Where?" *Short-Term Consequences*, June 20, 2015, <https://shorttermconsequences.wordpress.com/2015/06/20/airbnb-listings-in-vancouver-how-many-what-type-where/>.

⁵⁹ When I have experimented with creating a test listing, it has taken less than five minutes to fill in the required information, which Airbnb does not verify.

⁶⁰ Also, the "user conduct" section of Airbnb's terms of service state that it is a violation to contact "hosts" through the site for any purposes other than communicating about a possible booking. Airbnb Inc., "Terms of Service," *Airbnb*, accessed December 2, 2014, <https://www.airbnb.ca/terms>.

⁶¹ This is my paraphrase of oral information stated by Andreea Toma, the city's director of licensing, property use inspections & animal services at a public meeting of the city's Renters Advisory Committee. I am a member of this committee, but this information was provided in a public forum and the agenda, including this presentation, was posted online in advance. Andreea Toma, "Short-Term Rental Update," June 8, 2016, <http://vancouver.ca/docs/council/radv20160608ag.pdf>.

overstretched property use inspectors to the site.⁶² As city councillor Geoff Meggs put it, “We have a really difficult regulatory problem.”⁶³

Vancouver is at least in good company in this regard. Cities around the world are struggling to effectively regulate the STRs listed on the dozens (or more) of platforms that have proliferated in response to Airbnb’s success. I know of no centralized single list of cities that are attempting to regulate, or re-regulate, STRs, but a recent report included a list of 59 cities in the U.S. alone that it graded on a scale of “friendliness” to STRs.⁶⁴ Meanwhile, new regulatory developments in Europe make the news semi-regularly, with the most recent ones coming from Berlin.⁶⁵ The regulatory landscape of STRs is evolving rapidly and not necessarily always along the same direction or general trend. I will return to that subject, with some recommendations for Vancouver, in my concluding chapter.

In my next chapters, I will discuss the relevant literature and the methodological approach I took to capturing and analyzing Airbnb listings data. I will then describe the current state of rental housing in Vancouver and outline the policies and goals the city has set for itself in that regard. That discussion will serve as context for the results of my data collection and analysis, which I will present in my findings chapter, along with my analysis of the policy implications of those findings.

⁶² Again, my paraphrase. Ibid. The duties of property use inspectors include responding to a wide range of concerns and potential violations, including repair and maintenance issues in dozens of deteriorating SRO hotels in the city’s Downtown Eastside and complaints about illegal marijuana dispensaries.

⁶³ “Vancouver Airbnb Listings Increase as Rental Vacancies Fall below 1 per Cent,” *The Current* (Vancouver: CBC, March 2, 2016), <http://www.cbc.ca/radio/thecurrent/the-current-for-march-2-2016-1.3472126/vancouver-airbnb-listings-increase-as-rental-vacancies-fall-below-1-per-cent-1.3472258>.

⁶⁴ This does not mean that all 59 cities had regulations that specifically responded to the online STR phenomenon, because some had more older and more general regulations (as is the case in Vancouver). R Street Institute, “Roomscore,” *Roomscore*, March 2016, <http://www.roomscore.org>.

⁶⁵ Douglas Robertson, “You Can’t Rent a Flat on Airbnb in Berlin Anymore - Here’s Why,” *The Independent*, May 16, 2016, <http://www.independent.co.uk/travel/news-and-advice/berlin-has-banned-people-from-renting-flats-on-airbnb-heres-why-a7031811.html>.

Chapter 2. Literature review

In considering what literature would be relevant to my project, I first identified key aspects of Airbnb's business model. The company offers tourists temporary accommodation that is frequently cheaper than staying in a hotel, as well as a type of travel experience that it markets as more "authentic" than a hotel can provide. To those who have access to residential property (whether as an owner, manager or renter) Airbnb offers the opportunity to earn revenue from that property (as well as the chance to socialize with the type of tourists Airbnb attracts). In providing these opportunities, Airbnb creates various challenges for local governments, including to their ability to manage the housing supply within their jurisdictions. These considerations led me to look at scholarly literature within the broad fields of housing, tourism and local government regulation, as well as on Airbnb itself, for insights into my research question. I have also been guided by researchers outside the academic sphere who have produced work that quantifies and tracks the number of Airbnb units in different cities and will discuss that work in this section as well.

2.1. Airbnb and Housing

There are four examples of research on Airbnb and its housing impacts that played a significant role in the development of my own research question, design and goals. The first was a series of articles on New York City Airbnb listings published in *Skift*, an online travel industry magazine in February 2014.⁶⁶ This series was helpful methodologically in that it was the first time I realized that it was possible to automate the process of collecting Airbnb listing data. The series provided answers to many of the

⁶⁶ Jason Clampet, "Airbnb in NYC: The Real Numbers Behind the Sharing Story," *Skift*, February 13, 2014, <https://skift.com/2014/02/13/airbnb-in-nyc-the-real-numbers-behind-the-sharing-story/>.

questions I had about Airbnb listings (such as number, type, locations and rates), but for New York instead of Vancouver. It also suggested a model of how to organize and report on listing data. The *San Francisco Chronicle* published a similar analysis for that city in June of the same year.⁶⁷ A few months later, I discovered the website of Tom Slee, an Ontario-based software programmer who had written his own program (in Python language) to collect Airbnb listings data for multiple cities, which he presented in a series of maps.⁶⁸ Slee's data and maps were accompanied by critical commentary on Airbnb's business model and the "sharing economy" more generally, which contributed to my understanding of Airbnb and its relationship to inequality. Finally, in the spring of 2015, I learned of InsideAirbnb, a website created by Murray Cox.⁶⁹ Cox posted Airbnb listings data for various cities, starting with New York, in map form and also through an interactive interface that made it easy to search and find the number and type of listings in specific neighbourhoods. What these examples have in common is that they all addressed questions of how Airbnb affected the supply of rental housing in cities at a time when media coverage was focused on Airbnb's impacts on the hotel industry and there was little scholarly research on Airbnb and housing yet available.

Peer-reviewed scholarship that looks at Airbnb specifically in relation to housing issues is still scarce, but there are a few noteworthy examples. These works all refer to the U.S or Europe, because I have found no Canadian scholarly research on Airbnb - a research gap I hope my work can contribute to filling.

In a short 2015 piece in *Housing Policy Debate*, Ingrid Gould Ellen sets out some questions the "sharing economy" raises about housing in relation to low- and moderate-income households and wonders whether Airbnb provides a model that others could

⁶⁷ Carolyn Said, "Window into Airbnb's Hidden Impact on San Francisco," *San Francisco Chronicle*, June 2014, <http://www.sfchronicle.com/business/item/Window-into-Airbnb-s-hidden-impact-on-S-F-30110.php>. The company that carried out the web-scraping in both cases was Connotate. See Connotate, "About," *Connotate*, 2016, <http://www.connotate.com/about/>.

⁶⁸ Slee has posted a lengthy description of how his Python program works and a discussion of data accuracy issues on his website. See Tom Slee, "Airbnb Data Collection: Methodology and Accuracy," *Tom Slee*, 2015, <http://tomslee.net/airbnb-data-collection-methodology-and-accuracy>.

⁶⁹ Cox also credits the work of several contributors. Murray Cox, "Inside Airbnb: Adding Data to the Debate," *Inside Airbnb*, <http://insideairbnb.com>.

adapt to help house those households.⁷⁰ She takes an optimistic view, suggesting that Airbnb's success proves that surplus, under-used housing space does exist and that "many people are willing to share their homes with others and forego some of their privacy, as long as they are compensated."⁷¹ Gould also wonders whether people would be willing to share their homes with people of a different racial or ethnic background than their own. This question seems to have been partially answered by recent research on Airbnb that indicates African-American STR operators are less likely to be accepted as guests than their white counterparts.⁷² Planner Anne Wyatt also addresses Airbnb in relation to housing, noting that governments might consider offering incentives or protections to small-time landlords who currently let their properties sit vacant or rent them through short-term rental platforms.⁷³ Such incentives might be necessary, she suggests, in order to induce those landlords to instead offer their housing to long-term tenants, because for those who own only one or two low-rent properties, their total annual revenue could easily be wiped out by one tenant's damage and the relatively small amount of money that can be earned is not motivating enough to offset the perceived "hassle factor" of renting to long-term tenants.⁷⁴

Jamila Jefferson-Jones has looked at two different Airbnb housing questions from a legal perspective, in both cases taking a general position that "policies that curtail short-term rental housing are of a bygone era and are ill-suited to address the modern

⁷⁰ Ingrid Gould Ellen, "Housing Low-Income Households: Lessons From the Sharing Economy?" *Housing Policy Debate* 25, no. 4 (October 2, 2015): 783–84. 783.

⁷¹ *Ibid.*

⁷² "Overall, we find widespread discrimination against African-American guests. Specifically, African-American guests received a positive response roughly 42% of the time, compared to roughly 50% for White guests." The dissemination of this research (online, not in a peer-reviewed journal) has prompted the Twitter hashtag #AirbnbWhileBlack. See Benjamin Edelman, Michael Luca, and Dan Svirsky, "Racial Discrimination in the Sharing Economy: Evidence from a Field Experiment" (Harvard Business School, January 6, 2016), <http://www.benedelman.org/publications/airbnb-guest-discrimination-2016-01-06.pdf>. 4.

⁷³ Anne Wyatt, "When Vacancies Are an Asset: Empty Units Could Be Converted to Affordable Rental Housing," *Planning* 80, no. 9 (2014): 29–30.

⁷⁴ *Ibid.*

sharing economy.”⁷⁵ On the question of how Airbnb affects home values, she argues that since local government restrictions on short-term rentals have historically been justified by the desire to protect property values and neighbourhood character, such restrictions are now outdated because Airbnb and similar platforms allow owners to “shift and share the burden of homeownership,” therefore enabling better property maintenance and helping to avoid foreclosures, which were the original purposes of the restrictions.⁷⁶ Separately, Jefferson-Jones has also examined the question of whether short-term rental restrictions could be considered a “regulatory taking” of private property that would violate the U.S. Constitution’s fifth and fourteenth amendments.”⁷⁷ However, while she explains various grounds on which such claims could be argued, Jefferson-Jones avoids conclusive statements that answer the question she posed. In both cases, she frames her analysis in reference to areas where property values have fallen, and where local government motivations to regulate are confined to protecting those values and neighbourhood character, or to dealing with security and nuisance issues. She does not address the set of circumstances that Vancouver and many other large cities find themselves in, which include housing shortages and house prices beyond the reach of the majority of residents.

Finally, in a forthcoming book chapter, Albert Arias Sans and Alan Quaglieri Domínguez delve into empirical listing and operator data on Airbnb in Barcelona, somewhat similarly (though more broadly) to what I have done for Vancouver. They use this data to test Airbnb’s statements on the benefits of its business model, including regarding how it helps STR operators afford their housing. Based on the spatial distribution of Barcelona Airbnb units, the demographics of the neighbourhoods with high concentrations of Airbnb units, and demographic information on Barcelona STR operators provided by Airbnb, the authors conclude, “it might be claimed that Airbnb

⁷⁵ Jamila Jefferson-Jones, “Can Short-Term Rental Arrangements Increase Home Values?: A Case for Airbnb and Other Home Sharing Arrangements,” *Cornell Real Estate Review* 13 (2015): 12–19. 12. Also see Jamila Jefferson-Jones, “Airbnb and the Housing Segment of the Modern ‘Sharing Economy’: Are Short-Term Rental Restrictions an Unconstitutional Taking?,” SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, March 1, 2015), <http://papers.ssrn.com/abstract=2624700>. 560-1.

⁷⁶ Jefferson-Jones, “Can Short-Term Rental Arrangements Increase Home Values?: A Case for Airbnb and Other Home Sharing Arrangements.” 12, 19.

⁷⁷ Jefferson-Jones, “Airbnb and the Housing Segment of the Modern ‘Sharing Economy.’” 560.

solves the economic problems of people living in middle- to upper-class neighbourhoods, but it cannot be considered a potential resource for the whole city, especially not the poorest neighbourhoods.”⁷⁸

2.2. Regulation of short-term rentals and the sharing economy

There are also small bodies of scholarly literature on the regulation of short-term rentals and on the regulatory challenges and opportunities that the “sharing economy” poses for local governments. In a 2013 article, Charles Gottlieb discusses several U.S. communities that have regulated short-term rentals and some of the resulting court challenges.⁷⁹ It is notable, however, that Gottlieb’s discussion concerns itself with the impacts on neighbourhood “character” and the minimization of nuisances (i.e. noise and parking problems). He does not touch on the potential for short-term rentals to deplete affordable housing supply. This absence may be due to the fact that fears about Airbnb’s potential to remove housing from the residential supply did not become widespread until a few years after its founding, and Gottlieb’s research was likely carried out before that point. Gottlieb does, however, point to the difficult choices the spread of STRs has forced local governments to confront: “The expansion of home-rental websites presents local governments with a controversial policy debate, requiring them to more clearly choose a direction and decide whether to ban, encourage, or limit short-term rentals through regulation.”⁸⁰

Ngai Pindell addresses STR regulation as one of several types of rental restrictions aimed at enhancing community stability (including those aimed at keeping all

⁷⁸ Albert Arias Sans and Alan Quaglieri Domínguez, “Unravelling Airbnb: Urban Perspectives from Barcelona,” in *Reinventing the Local* (Bristol: Channel View, 2016), https://www.academia.edu/24653298/Unravelling_Airbnb_Urban_Perspectives_from_Barcelona a. 220-222.

⁷⁹ Charles Gottlieb, “Residential Short-Term Rentals: Should Local Governments Regulate the ‘Industry’?” *Planning & Environmental Law* 65, no. 2 (2013): 8.

⁸⁰ *Ibid.*, 8.

renters out).⁸¹ He notes that short-term rental restrictions “typically aim to protect the aesthetic tranquility and quality of life of neighborhoods” and that when framed this way, U.S. courts have generally viewed these restrictions as overly intrusive on private property rights and directed local governments to find other ways of achieving their goals, such as by stepping up enforcement of nuisance bylaws.⁸² A more successful approach, according to Pindell, is to explicitly connect the purpose of the restriction to the community’s wider planning goals: “Short-term rental ordinances appear to succeed or fail depending on how a court balances the extent of the property interest impaired with the goal of the government regulation.”⁸³

Authors that deal with local government regulation of the sharing economy often treat Airbnb as if it were equivalent to Uber and similar companies, eliding the many differences between these entities. Much of this literature is aligned with the narrative that Airbnb itself has promoted, which is of the company as a heroic disrupter of archaic, old-line businesses and governments and of the futility of attempting to limit the business activities or growth of the corporate segment of the sharing economy. Another major theme of this literature is the possibilities and mechanics of taxing sharing economy companies.⁸⁴

A more balanced perspective is provided by authors Daniel Rauch and David Scheicher, who argue that the options for regulating sharing economy firms are not as polarized as many would have it.⁸⁵ They note that local governments have a long and extensive history of regulating the areas in which “sharing” firms operate, and strong political and economic incentives to do so. Contrary to many sharing economy boosters,

⁸¹ Ngai Pindell, “Home Sweet Home: The Efficacy of Rental Restrictions to Promote Neighborhood Stability,” *Saint Louis University Public Law Review* 29 (2009): 41-84.

⁸² *Ibid.*, 54-55.

⁸³ *Ibid.*, 55-56.

⁸⁴ See, for example, Shu-Yi Oei and Diane M. Ring, “Can Sharing Be Taxed?” (Boston College Law School, February 2015), http://works.bepress.com/diane_ring/108. Also, Jordan Ferguson, “Shifting Landscapes: Regulatory Challenges Stemming from Emerging Technologies,” *Public Law Journal* 38, no. 2 (Spring 2015): 22–27.

⁸⁵ Daniel E. Rauch and David Schleicher, *Like Uber, But for Local Governmental Policy: The Future of Local Regulation of the “Sharing Economy,”* SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, January 14, 2015), 3. <http://papers.ssrn.com/abstract=2549919>.

they see no reason why this new model will break the mold. Instead, they predict three directions that local government approaches to sharing will take: subsidizing the firms with the goal of having them offer or expand certain services; working with the firms to achieve economic redistribution goals, and hiring them to provide city services.⁸⁶ It is notable that Vancouver (among other cities) has already taken steps in the first direction, by permitting users of car-sharing vehicles to park for free in resident-only spaces and various paid parking lots. The implications for STRs of these options are interesting to contemplate, especially in light of Airbnb's efforts to partner with municipalities in their disaster response efforts – notably in response to 2012's Hurricane Sandy, but in other cases since then as well.⁸⁷ As Ellen suggested, an Airbnb model could be used to help match residents in need of rooms to rent with those who have spare ones to offer – an updated and enhanced version of what Craigslist already does. But in Vancouver and other cities facing housing shortages, the benefits of converting under-used housing spaces to tourist purposes is debatable.

Most recently, Vanessa Katz has provided a useful survey of the legal landscape on sharing, as well as a helpful way to understand the common business model of these firms.⁸⁸ The common and essential characteristics are the provision of reduced transaction costs through the use of an intermediating, online platform to exchange “peer-to-peer” services.”⁸⁹ In Airbnb's case, one of the ways it has reduced transaction costs is by allowing STR operators to list their spaces for free, in contrast to having to pay an advertising fee up front as in pre-internet or other online models. Katz recommends that regulators take a tiered approach to sharing firms and their service providers, imposing higher fees, taxes and requirements on those who are the most frequent users, rather than capping use.⁹⁰ She also suggest local governments shift some of the burden of short-term rental monitoring and enforcement to the platforms themselves by insisting they provide avenues through which affected parties can seek

⁸⁶ *Ibid.*, 3-4.

⁸⁷ “Airbnb Disaster Response,” *Airbnb*, accessed April 13, 2015, <https://www.airbnb.ca/disaster-response>.

⁸⁸ Vanessa Katz, “Regulating the Sharing Economy,” *Berkeley Technology Law Journal* 30, no. 4 (November 29, 2015): 1067-1126.

⁸⁹ *Ibid.*, 1070.

⁹⁰ *Ibid.*, 1108-09.

dispute resolution or request the removal of listings.⁹¹ Katz takes the view that the sharing economy offers various benefits to consumers, but allowing firms “to self-regulate would not adequately safeguard consumers. Thus, responsible regulation of sharing platforms is a necessity, not a choice.”⁹²

2.3. New urban tourism

While a few academic studies on the tourism aspects of Airbnb have begun to appear, so far they seem to be written mainly for the purposes of deconstructing or mimicking its business model, or examining its impact on the hotel industry - and thus fall outside the scope of my research question.⁹³ Fortunately, critical tourism studies is an area that is more fruitful. While not focused on Airbnb or on STRs per se, scholars in this area interrogate ideas such as “authenticity,” which are at the root of Airbnb’s “live like a local” marketing slogan. This strain of tourism research aims to correct the historic lack of attention to tourism in urban studies and the corresponding lack of attention to the urban in tourism studies.⁹⁴

An area of interest within this strand of tourism scholarship looks at the development of a phenomenon recently named “new urban tourism.” According to planner Johannes Novvy, one of the originators of the term, new urban tourists are not interested in visiting Disney-like theme parks (even if they are within urban settings) or pre-packaged destinations such as major museums. Instead, they want to experience the “everyday” aspects of urban living in their chosen destinations, which means going to

⁹¹ Ibid., 1112.

⁹² Ibid., 1126.

⁹³ See, for example, Georgios Zervas, Davide Proserpio, and John Byers, “A First Look at Online Reputation on Airbnb, Where Every Stay Is Above Average,” SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, January 28, 2015), <http://papers.ssrn.com/abstract=2554500>. Also by the same authors, “The Rise of the Sharing Economy: Estimating the Impact of Airbnb on the Hotel Industry.” Boston University. January 2014.

⁹⁴ Gregory Ashworth and Stephen J. Page, “Urban Tourism Research: Recent Progress and Current Paradoxes,” *Tourism Management* 32, no. 1 (February 2011): 1–15.

the same bars, restaurants, grocery stores – and potentially apartments – as locals do.⁹⁵ As Henning Fuller and Boris Michel explain, “In accordance with a major shift toward longing for authenticity in current consumer culture, it is precisely the everydayness and the feel of the ordinary and authentic life of a city that has become an important marker for attraction to visitors.”⁹⁶ The authors also note that a Berlin STR company has used “Stop Being a Tourist” as one their slogans.⁹⁷

What does this phenomenon mean for Vancouver, where tourism is an important part of the local economy and source of jobs?⁹⁸ While the advent of cheap jet travel has made long-distance trips much more common, staying in a hotel is still an out-of-the ordinary experience for most people – it could be considered the most obvious signifier that the experience one is having is not everyday, not local, and therefore not “authentic.” It would seem, then, that it is difficult to be a new urban tourist while staying in a chain hotel in a central business district and that seeking accommodation in a residential neighbourhood is a more attractive option for this type of tourist. As Fuller and Michel write, “Private short-term rentals seem to be a fitting accommodation option for the demands of an increasing new urban tourism with its preference for off the beaten track areas and an ‘authentic’ city life.”⁹⁹ We can surmise that if the new urban tourism trend continues, Vancouverites can expect to find more tourists in their neighbourhoods (especially if their neighbourhoods have a reputation for being vibrant or artsy, as the West End does, or “gritty” or “ethnic” as the Downtown Eastside and Grandview-Woodland do), and fewer asking them for directions in Gastown.¹⁰⁰

⁹⁵ Stuart Braun, “Help! The Post-Tourism Tourists Are Here...,” *EXBERLINER.com*, July 1, 2010, <http://www.exberliner.com/articles/help-the-post-tourism-tourists-are-here/>.

⁹⁶ Henning Füller and Boris Michel, “‘Stop Being a Tourist!’ New Dynamics of Urban Tourism in Berlin-Kreuzberg,” *International Journal of Urban and Regional Research* 38, no. 4 (July 1, 2014): 1304–18, doi:10.1111/1468-2427.12124, 1306.

⁹⁷ *Ibid.*, 1311.

⁹⁸ As earlier noted, in 2006, Metro Vancouver had a higher percentage (eight) of accommodation and food service workers than Montreal and Toronto in 2006. See Siemiatycki, “Consumption City: Precarious Labour and Capital in Vancouver, British Columbia.” 269.

⁹⁹ Füller and Michel, “‘Stop Being a Tourist!’ New Dynamics of Urban Tourism in Berlin-Kreuzberg.” 1307.

¹⁰⁰ Gastown is an area in Vancouver’s downtown core that is popular with tourists due to its designation and marketing as a historic district.

This type of ethos, combined with Airbnb's accessible platform and the profit incentive built into its business model, sets the stage for housing competition between tourists and residents, as Fuller and Michel agree:

One consequence of the orientation towards places and activities preferred by residents is a growing competition over scarce resources and services. As resources such as money and spare time are unequally distributed and interests are often contradictory, a new urban tourism is likely to have considerable impact or at least a potential for conflict in touristifying urban neighbourhoods.¹⁰¹

This body of literature also provokes challenging questions about the once-sharp but now fading distinctions between tourists and residents, and which of those categories will win priority: Do tourists have a "right to the city?"

"Tourist" is a large category and people with a wide range of incomes might be tourists at different points in their lives, so it is not as though the contest for housing between tourists and residents is always a simple one between haves and have-nots. Still, leisure travel is a luxury whereas housing is a fundamental human need and a right recognized by the United Nations.¹⁰² The city is for both residents and tourists, of course, but if there is a shifting of housing resources towards visitors, that would seem to indicate that the market is shifting towards greater degrees of inequality. These dynamics again point to difficult decisions for policy-makers.

¹⁰¹ Fuller and Michel, "'Stop Being a Tourist!' New Dynamics of Urban Tourism in Berlin-Kreuzberg." 1307.

¹⁰² For example, Article 25(1) of the Universal Declaration of Human Rights states, "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control." See United Nations General Assembly, "The Universal Declaration of Human Rights," *United Nations*, December 10, 1948, <http://www.un.org/en/universal-declaration-human-rights/index.html>.

Chapter 3. Methodology

My project has inductive origins in that it was sparked by a series of observations on Vancouver's rental housing market and questions that emerged from those observations. Those questions are and were very much in line with the ones geographer Bent Flyvbjerg has proposed to guide urban planning projects and "phronetic" planning research: "1) Where are we going? 2) Who gains and who loses, and by which mechanisms of power? 3) Is this development desirable? and 4) What, if anything, should we do about it?"¹⁰³

I have also found Gaber and Gaber's thinking on the use of mixed methods research designs to be helpful, in that they discuss how designs that are either solely quantitative or qualitative may not be capable of adequately responding to the complexities and nuances of the issues "planning researchers" and urban policy-makers are regularly faced with.¹⁰⁴ I believe Airbnb and its rapid growth to be one such complex and multi-faceted phenomenon. Therefore, while my research design relies heavily on quantitative information and descriptive statistics, it is complemented by qualitative data. In this chapter I will describe how I collected and analyzed data that answers both aspects of my research question.

¹⁰³ Bent Flyvbjerg, "Phronetic Planning Research: Theoretical and Methodological Reflections," *Planning Theory & Practice* 5, no. 3 (2004): 283–306, doi:10.1080/1464935042000250195. 289-90. The concept of "phronesis" is associated with Aristotle and Flyvbjerg writes that it can generally be interpreted as "practical wisdom," "common sense," or "prudence." 284.

¹⁰⁴ John Gaber and Sharon L. Gaber, "Utilizing Mixed-Method Research Designs in Planning: The Case of 14th Street, New York City," *Journal of Planning Education and Research* 17, no. 2 (December 1, 1997): 95–103, doi:10.1177/0739456X9701700201. 95.

3.1. Qualitative data

I collected qualitative secondary data that consisted of staff reports from the City of Vancouver and Metro Vancouver, as well as reports from Statistics Canada and the CMHC, some of which also included quantitative data. I used this material mainly to understand the housing context in which Airbnb operates in Vancouver. I also collected media articles, academic journal articles and policy reports by non-profit organizations. In terms of media and other online secondary material, I collected this because I wanted to stay informed about regulatory and housing-related Airbnb developments, which was important given that some of those developments could eventually affect Airbnb's legal status or growth in Vancouver. I scanned, categorized and saved more than 1,300 such secondary documents during the period I was either preparing for or actively working on my thesis.

Finally, I conducted an interview with Airbnb researcher Murray Cox.¹⁰⁵ While I did this mainly to satisfy myself that it was reasonable to compare our datasets, I also sought his insights on Airbnb more generally. I also interviewed local government lawyer Bill Buholzer in an effort to learn about the local relevance of regulatory solutions proposed or enacted in other jurisdictions.

3.2. Quantitative data

The quantitative data I collected consists of datasets of Metro Vancouver Airbnb listings, in spreadsheet format. Each Airbnb listing has a unique ID number (room ID) as does each operator account. I collected data on 13 attributes that were generally available for each listing. As shown in Figure 3.1, which is an excerpt from one of the spreadsheets, those attributes are room type, city, neighbourhood, address, nightly rate, number of reviews, overall satisfaction rating, number of people who can be

¹⁰⁵ Murray Cox, Interview with Murray Cox, creator of InsideAirbnb.com, December 28, 2015. I also spoke to Tom Slee in late 2014 for technical purposes. Information from that interview is not included in my project.

accommodated, number of bedrooms and bathrooms, minimum stay, and approximate latitude and longitude coordinates.¹⁰⁶

Figure 3.1 Excerpt of listing data

Room ID	Host ID	Room Type	City	Neighbourhood	Address	Nightly r	Reviews	Overall satisf	Accommoda	Bedrooms	Bathrooms	Minimum St	Latitude	Longitude
2129	2325	Private room	Port Moody		Port Moody, BC	225	1	5	6	1	1	2	49.3052404	-122.82739
2779	3101	Private room	Richmond		Richmond, BC, C	55	16	5	2	1	1	2	49.1866811	-123.09288
4802	5E+06	Entire home/ap	Vancouver		Vancouver, BC,	112	17	4	2			1	49.2891972	-123.13687
6142	12458	Private room	Vancouver	Downtown Vai	Vancouver, BC,	80	49	5	2	1		2	49.2730466	-123.12967
9167	29054	Private room	Vancouver		Vancouver, BC,	597	0		3	1		5	49.2802033	-123.11905
9201	29640	Entire home/ap	North Vancou	North Vancou	North Vancou	180	10	5	6	2	1	5	49.3256288	-123.05772
9407	30401	Entire home/ap	Vancouver	Downtown Vai	Vancouver, BC,	165	25	5	5	1	1	3	49.2733701	-123.12716
9484	31122	Entire home/ap	Vancouver	Downtown Vai	Vancouver, BC,	202	17	4.5	4	2	1	4	49.284606	-123.11418
9539	31065	Entire home/ap	Surrey		Surrey, BC, Can	59	102	4.5	7	2	2	1	49.1852615	-122.85736
10080	30899	Entire home/ap	Vancouver	Coal Harbour	Vancouver, BC,	179	9	4.5	6	2	2	4	49.2877245	-123.12279
10083	30899	Entire home/ap	Vancouver	Downtown Vai	Vancouver, BC,	159	17	4	6	2	2	4	49.2785631	-123.10926
10098	32848	Entire home/ap	Vancouver	Fairview	Vancouver, BC,	149	9	3	6	2	2	3	49.2666931	-123.11675
10105	32848	Entire home/ap	Vancouver	Fairview	Vancouver, BC,	139	8	4	2	1	1	3	49.2643046	-123.12747

Figure 3.2 shows an excerpt of the text section of an individual listing page and how listing information input by operators is displayed.

Figure 3.2 Excerpt of individual listing page

About this listing

Top floor ocean view in downtown Vancouver, right beside Stanley Park. Great view and room with queen sized bed and Private bathroom. All the great restaurants and parks are here. Best view and location for visiting Vancouver. Free parking

[Contact Host](#)

The Space

Accommodates: 2	Check In: 9:00 AM - 12AM (midnight)
Bathrooms: 1	Check Out: 11:00 PM
Bed type: Real Bed	Property type: Apartment
Bedrooms: 1	Room type: Private room
Beds: 1	

[House Rules](#)

Amenities

<ul style="list-style-type: none"> Kitchen Internet 	<ul style="list-style-type: none"> Essentials Shampoo + More
-------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------

Prices

Cleaning Fee: \$29 Security Deposit: \$164 Weekly discount: 0%	Monthly discount: 0% Cancellation: Moderate
----------------------------------------------------------------------	-------------------------------------------------------

Description

The Space

Great room for two with incredible views and private bathroom.

3.2.1. Collecting listing data through web scraping

The volume of listings and the many details contained in those listings make Airbnb's website a rich data source for researchers interested in subjects such as tourism, housing and internet commerce. However, the sheer volume of listings in urban

¹⁰⁶ The address field contains only general and approximate location information, not a street number.

centres, as well as various design features of Airbnb's website that I have described in the appendix, also creates data collection challenges. It was in response to those design features and the volume of listings that I turned to a data collection technique commonly known as "web scraping."

Web scraping is a way of automating the process of collecting data from the internet. Data journalism instructor Chad Skelton describes web scrapers as "tiny 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, like a comma-delimited text file."¹⁰⁷ Although the use of this technique is relatively new in social science research, major universities, including SFU, have already begun to offer workshops to help their students and faculty learn how to do it.¹⁰⁸ This technique has also been used specifically for academic research on rental housing.¹⁰⁹

As discussed in my literature review, there were four examples of Airbnb research that relied on web-scraped data that influenced my research question, design, goals and data collection approach.¹¹⁰ In particular, I found the work of Murray Cox useful to answering my research question because the Airbnb listing data he collected for Vancouver included more attributes than what I collected myself. After discussing data collection details with Cox, I decided it was reasonable to integrate his December

¹⁰⁷ Chad Skelton, "Why You Should Learn Web Scraping and the Ebook That Can Help," *Media*, Spring 2013. 37.

¹⁰⁸ See, for example, the University of Cambridge's Social Sciences Methods Research Centre and the program for SFU's recent "Research Bazaar." Samuel Mather, "Digital Data Collection: Web Scraping for the Humanities and Social Sciences," Text, *University of Cambridge*, (September 3, 2014), <http://www.ssrnc.group.cam.ac.uk/ssrnc-modules/core/full-list/digital-data-collection-web-scraping-humanities-and-social-sciences>. And Simon Fraser University, "Workshop Descriptions: Research Bazaar | SFU Library," *Simon Fraser University: Library*, 2016, <http://www.lib.sfu.ca/about/branches-depts/rc/networking/research-bazaar/workshops>.

¹⁰⁹ Geoff Boeing and Paul Waddell, "New Insights into Rental Housing Markets across the United States: Web Scraping Big Data to Analyze Craigslist" 2015, <http://geoffboeing.com/wp-content/uploads/2016/03/boeing-waddell-craigslist-working-paper.pdf>. (unpublished, under peer review).

¹¹⁰ Clampet, "Airbnb in NYC." Said, "Window into Airbnb's Hidden Impact on San Francisco." Tom Slee, "Tom Slee," n.d., <http://tomslee.net/>. Cox, "Inside Airbnb."

dataset into my analysis and to compare his data to that which I had collected for earlier dates.¹¹¹

I was able to carry out my own data collection with the help of a local software programmer who created a custom program that collected Airbnb listing data for Vancouver.¹¹² Having obtained this (javascript) program, I was able to run it in my browser and generate datasets on several different dates. This collection process usually took about three hours to complete each time. This code stopped working after August 2015, so I was unable to collect my own data after that. Integrating Murray Cox's data allowed me to analyze listing data over the course of an entire year.

Selection of data collection dates

Several factors influenced my decisions about when and how often to collect data. These included the large number of listings and the detailed information available about them, other types of Airbnb-related data I originally planned to collect, uncertainty as to how long I would be able to collect listing data, my desire to avoid burdening Airbnb's servers with frequent requests, the historical seasonality of Vancouver tourism, and the fact that when I began collecting data, there was a complete absence of specific, publicly available information on the number, type and distribution of Airbnb listings in Vancouver.¹¹³

¹¹¹ Cox, Interview with Murray Cox, creator of InsideAirbnb.com. Cox also provides detailed explanations of his methods and caveats about his data on various pages of his website, including "About," "Behind," and "Get the data." See also the city-specific "About" pages. Cox, "Inside Airbnb."

¹¹² MacMunn provided this service free of charge. While it is no longer functioning, he has posted the program code on Github. See Neil MacMunn, *Kairbnb*, 2014, <https://github.com/nmacmun/KairBnB>.

¹¹³ While referencing the traditional peak season (mid-June to mid-September) as still noticeable, this news article indicates that changing demographics and consumer tastes have begun to blur those distinctions between peak and off-season. Yvonne Zacharias, "Lower Prices, Clever Marketing Breathe New Life into off-Season," *The Vancouver Sun*, October 11, 2014.D1. The absence of detailed information about Vancouver Airbnb listings is also what prompted me to release some preliminary data in a June 2015 blog post. See Sawatzky, "Airbnb Listings in Vancouver."

After weighing these factors, I decided to collect listings data for several months, on the first of each month, supplementing with mid-month collection if feasible.¹¹⁴ The program stopped functioning in mid-August, which I assume was due to changes in the structure of Airbnb's website – a risk known from the outset. In the end, I collected data for 12 different dates from late November 2014 to mid-August 2015, though with some gaps and incomplete datasets. For thesis purposes, I have analyzed and presented my own data for November 29, 2014, and July 1, 2015, as well the December 2015 data collected by Murray Cox. I selected these dates based on the completeness of the datasets and also because they were well spaced throughout the year. This allowed me to examine whether there were seasonal fluctuations in listings over the course of my study period.

Cleaning the data

Before undertaking any analysis on my datasets, I prepared them by reviewing, cleaning and revising them in Excel, while always maintaining a separate, unedited, raw version of the file. This review, cleaning and revision was necessary because the raw data always included some listings from outside Metro Vancouver, sometimes from as far away as the San Juan Islands and the Sunshine Coast. In other cases, there was misplaced or missing data in individual listings. I dealt with these by looking up the listing on Airbnb's website using the room ID or operator ID and filling in the data directly from the listing page, or in some cases from Google Maps, using the latitude and longitude coordinates.¹¹⁵ I kept track of all the deletion or revision decisions I made in a separate spreadsheet within the same Excel workbook, both as a way of standardizing and streamlining the process for future datasets, and in case I needed to retrace or reverse any of the decisions I had made.

¹¹⁴ Not all my attempts were successful, however. Occasionally the program stalled before completing the task or was unable to collect data for the full set of variables. Also, sometimes schedule demands or problems with my computer prevented data collection.

¹¹⁵ My November dataset had almost 300 listings with missing neighbourhood fields. In that case I used a simple geocoding process taught to me by Murray Cox to assign them neighbourhoods based on the City of Vancouver's local planning areas. I carried this process out in the free version of CartoDB, an online mapping application.

3.2.2. Analysis process

After completing the cleaning, I began analyzing the data using two software tools: Excel and Tableau. Guided by my research question and also by the examples previously discussed, I used Excel to create descriptive statistics. Later, I learned to use Tableau, a data visualization program, to create charts and tables with my clean data, and also to automate some of the quantification and calculation tasks. I also imported my clean data into the free, online version of ArcGIS so that I could create maps of my data. This helped me better understand and visualize the geographic distribution of the listings and where they were concentrated.

3.2.3. Accuracy

One of the drawbacks of using newer data collection methods and sources is the scarcity of similar data to use for comparison and verification purposes. Fortunately, some external sources and reports that can be used for these purposes do exist.

While it is relatively rare for Airbnb to provide listings totals by city, such totals do occasionally show up in media reports. In a March 2015 article about Airbnb, *The Province* reported that there were “about 3,000” Airbnb listings in Vancouver.¹¹⁶ While this is a very approximate number and there was no indication of whether it applied to the city or the region, the figure is consistent with my City of Vancouver totals for that period: I found 2,978 listings in the City of Vancouver on January 1, 2015, and 3,473 on June 1, 2015.

¹¹⁶ Nick Eagland, “Scrutiny Increases on Vancouver Homeowners Running Airbnbs without Licences,” *The Province*, March 10, 2015, <http://www.theprovince.com/technology/Scrutiny+increases+Vancouver+homeowners+running+Airbnbs+without+licences/10874491/story.html>. Further, In July 2015, an online article promoting a Toronto Airbnb initiative said there were 7,000 Airbnb listings in Vancouver, again without specifying whether the figure was for the city or region. Upon review, I have concluded that figure was likely a transposition error and was instead meant to refer to Toronto and a 4,500 figure also mentioned in the same sentence was meant to refer to Vancouver. See Techvibes NewsDesk, “Airbnb Launches #TheAirbnbBus in Toronto to Celebrate Host Community.”

Also, as mentioned, I have reviewed listing data collected by Tom Slee and Murray Cox. Tom Slee found 3,783 Vancouver Airbnb listings on April 25, though this figure includes some of the larger Metro Vancouver cities, such as Burnaby, Richmond, New Westminster and North Vancouver.¹¹⁷ The total does not include listings in Surrey, Delta, Coquitlam and Langley. My Metro Vancouver listings totals for January 1, 2015 and June 1, 2015 were 3,888 and 4,628, respectively. While these datasets are not directly comparable because of the differences in the included cities and selected dates, the two sets of figures do both indicate that total Airbnb listings for Metro Vancouver were between 3,700 and 4,600 in the period between January 1 and June 1, 2015. I also have a June 5 (2015) dataset from Murray Cox, which was collected only four days later than my June 1 (2015) dataset, so it works better for comparison purposes. As shown in Table 3.1, the overall listings totals for these two datasets vary by only 76 listings, or two percent of the lower total.¹¹⁸

Table 3.1 Comparing June 2015 listings totals and room types

Room types	My data (June 1)		Inside Airbnb (June 5)	
	#	%	#	%
Entire	2,481	71	2,410	71
Private	922	27	917	27
Shared rooms	70	2	70	2
	3,473	100	3,397	100

Further, on three different dates in June and July 2015, I conducted about 10 manual searches of Airbnb’s website (on each date) while the scraping program was running to see if both methods would return the same results. I chose narrow parameters for my manual searches (for example, searching for specific neighbourhoods or only shared rooms), so that the results would be well under the Airbnb’s limit of 1,000. With only a few exceptions, I found that the results of both methods matched within one

¹¹⁷ Tom Slee, “Airbnb Listings in Vancouver, April 2015 - Google Fusion Tables,” *Tom Slee*, April 25, 2015, <https://www.google.com/fusiontables/DataSource?docid=1A89f1kbhXE5s2iq-bp-AIGQFEDXXZhhlw40iuZ4z#map:id=3>.

¹¹⁸ There is more variation in the neighbourhood totals, but is in part due to the fact that 278 of the listings in the InsideAirbnb dataset do not have assigned neighbourhoods. Cox provided this June data at my request and so did not go through the process of filling in missing neighbourhood data, as was the case for the data he posted online.

to five digits, which given the relatively small numbers involved worked out to five percent or less.¹¹⁹

By looking at Airbnb listings data collected by other people, media reports on Vancouver listings totals, and conducting manual searches of the site while the scraping program was running, I have taken steps to verify the accuracy of my data through triangulation, which is “the use of several different research methods to test the same finding.”¹²⁰ As Babbie and Benaquisto note, this is an important social science research strategy that helps to compensate for the weaknesses of any one particular method.¹²¹ The fact that I have collected multiple datasets has also helped to establish the reliability of my data, since that has allowed me to observe patterns over time and anomalies are more likely to be revealed by looking at multiple datasets than just one or two. While I did observe growth in the overall listings with each subsequent dataset I collected, other aspects of the data, such as the percentage of each room type, remained consistent.

I have made serious efforts to confirm the accuracy of my listings data, but it is still the case that I was unable to verify my findings against Airbnb’s own data while I was in the research phase of this project, due to Airbnb’s unwillingness to release its listings data. When reports on scraped Airbnb data have appeared in the media, Airbnb has stated, “We do not comment on public scrapes of our information, because...these scrapes use inaccurate information to make misleading assumptions about our

¹¹⁹ For example, on June 1, 2015, the difference between the code results and my manual searches for all listings in Riley Park was six listings (132 versus 138), equalling five percent of the lower total produced by the code. In another example, from July 4, the difference in entire listings for Fairview was four listings, which was two percent of the total produced by the code (200) versus that produced by manual searches (204). In general, manual searches are more likely to return larger numbers because the website results will sometimes include listings from adjacent neighbourhoods. In one case, the difference in total listings was 58 versus 73, which worked out to 15 units or 26 percent of the lower total. I found this result on June 3 for the Downtown Eastside. In most cases the results were either an exact match or varied by only one or two listings whether for the smallest result totals (25 or 26 listings) or the larger ones (three to four hundred listings).

¹²⁰ Earl R. Babbie and Lucia Benaquisto, *Fundamentals of Social Research* (Toronto: Nelson Education, 2009). 110.

¹²¹ *Ibid.*

community.”¹²² In other cases, Airbnb has referred to Tom Slee’s data and analysis as “flawed,” without providing any specific criticisms or other data to counter it.¹²³

However, in July 2016 (after my data collection was complete and I had written my findings), Airbnb did publish some Vancouver listing data, at the city’s request.¹²⁴ The City of Vancouver also published some figures on short-term rentals that it obtained independently from a data-scraping company.¹²⁵ In both cases, this data was published as part of the city’s plan to review and update its STR regulations, which has been in progress since the spring of 2015. Airbnb’s report deals with a different time period than my study and does not address all the questions I have dealt with (such as geographic distribution of listings and rates) and it also uses different metrics.¹²⁶ However, having reviewed Airbnb’s report, I have not found any data that directly contradicts my findings. Where Airbnb’s data overlaps with my own I have found it generally consistent with my own. For example, regarding room types Airbnb reports that for 2015, entire units were 69 percent of total listings that booked a trip, private rooms were 28 percent and shared rooms were three percent.¹²⁷ These percentages are similar for 2013 and 2014 and are essentially the same as what I found in my study period. Airbnb also reports rapid growth

¹²² Christopher Nulty, Airbnb spokesperson, quoted in Ryan Hutchins and Bill Mahoney, “‘Scraped’ Airbnb Data Shows 58% of Listings Possibly Illegal,” *Politico New York*, February 10, 2015, <http://www.capitalnewyork.com/article/city-hall/2015/02/8562038/scraped-airbnb-data-shows-58-listings-possibly-illegal>.

¹²³ Nick Papas, Airbnb spokesperson, quoted in Jessica Plautz, “The Airbnb vs. New York Hearing: Lots of Yelling, No Decisions,” *Mashable*, January 20, 2015, <http://mashable.com/2015/01/20/airbnb-new-york-city-council/>. Also Tom Slee has estimated that his web scrapes produce totals accurate to within 10 to 20 percent “most of the time.”

¹²⁴ See Airbnb’s blog post and report. Airbnb, “The Airbnb Community in Vancouver,” *Airbnb Action*, July 8, 2016, <https://www.airbnbaction.com/the-airbnb-community-in-vancouver/>. And Airbnb, “The Airbnb Community in Vancouver,” June 1, 2016, https://1zxiw0vqx0oryvpz3ikczauf-wpengine.netdna-ssl.com/wp-content/uploads/2016/07/VancouverReport_finalcopy_June-1.pdf.

¹²⁵ City of Vancouver, “Short-Term Rentals,” *City of Vancouver*, July 17, 2016, <http://vancouver.ca/doing-business/short-term-rentals.aspx>.

¹²⁶ As with its similar reports for other cities, much of Airbnb’s Vancouver report is concerned with making the case for the economic benefits of Airbnb. I wrote a blog post in response to Airbnb’s release of listing data, pointing to some gaps and unanswered questions in the report. It can be found at Karen Sawatzky, “Responses to Airbnb’s Report on Vancouver Listings,” *Short-Term Consequences*, July 8, 2016, <https://shorttermconsequences.wordpress.com/2016/07/08/responses-to-airbnbs-report-on-vancouver-listings/>.

¹²⁷ Airbnb, “The Airbnb Community in Vancouver,” June 1, 2016. 5.

in listings – 86 percent from 2014 to 2015. This is higher than what I found in my study period (63 percent increase in total listings from November 2014 to December 2015), but the metric is somewhat different.¹²⁸ Airbnb reports that it has 4,200 active hosts, while I found just over 3,600 in December (based on Murray Cox’s data).¹²⁹ It also reports that there were 6,400 unique listings that booked a trip in 2015. This listings total is larger than what I found, but Airbnb is reporting on an entire year rather than on how many listings existed on a particular date, as I have.¹³⁰ The city’s data briefly reports on short-term rentals in general rather than just Airbnb. While Airbnb accounts for 85 percent of short-term rentals, the inclusion of other platforms means my data and the city’s public data cannot be directly compared.¹³¹ However, having reviewed the city’s figures, the only point where I find divergence is in the geographic distribution of listings. The city reports on the location of STR listings based on the zones of the city used by CMHC. The city reports that only four percent of listings were in the West End, Stanley Park and English Bay zones, which roughly correspond to the West End as defined by the city and Airbnb.¹³² I do not know the reason for this divergence and my data consistently showed concentrations of listings in the West End (see Figure 5.5 and Table 5.3).

For the sake of accuracy and reliability, it would certainly be helpful if Airbnb would regularly disclose the number, type and geographic distribution of its listings on a city-by-city basis, along with its definitions and the methodology it used to arrive at those

¹²⁸ Airbnb is reporting on growth from the year 2014 to the year 2015, whereas my data is based on data collected on various dates throughout the year. Also, I have reported on total listings, whereas Airbnb is reporting on listings booked at least once during the year. Ibid.

¹²⁹ Airbnb, “The Airbnb Community in Vancouver,” June 1, 2016. 4.

¹³⁰ Ibid.

¹³¹ City of Vancouver, “Short-Term Rentals.”

¹³² For a map of CMHC zones, see CMHC, “Rental Market Report: Vancouver and Abbotsford-Mission CMAs,” Fall 2015, http://www.cmhc-schl.gc.ca/odpub/esub/64467/64467_2015_A01.pdf. 11. The boundaries of the city’s local planning areas are approximated in Figure 4.3. See Appendix B for a discussion of how the city and Airbnb define the city’s neighbourhoods.

figures, but so far it has been unwilling to do that.¹³³ Therefore, given Airbnb's exponential worldwide growth over the last several years and the urban concentration of that growth, urban researchers and policymakers have little choice but to look to alternate measures, such as web-scraping, to obtain the data they need to make decisions and understand Airbnb's impacts. While I agree with the San Francisco Office of the Budget and Legislative Analyst in its acknowledgement that "webscrapes are subject to limitations," I note that this local government office has also found it necessary and useful to use web-scraped data provided by Cox and Slee as the basis for two of its own policy reports.¹³⁴ The lack of Airbnb data against which to validate my own data is a problem, but it is one that affects most other research on "sharing economy" companies. As Andrew Gelman has put it, "How do we research the 'sharing' economy when the data can't be validated?"¹³⁵ The answer that I have arrived at is that, as with any other research and exploratory research such as this in particular, researchers must be rigorous about disclosing their data sources (including raw data where possible) as well as their methods and limitations, which I hope I have done here. The only alternative is not to conduct the research at all and simply accept company claims and company-commissioned research as fact. Given the transformative effects that companies such as Airbnb and Uber are having on the use of urban housing and transportation resources – effects agreed to and celebrated by both companies – that alternative is untenable.

¹³³ In November 2015, Airbnb published a document it called its "Community Compact," in which it promised to release annual "Home-sharing Activity Reports" in cities where it has a 'significant presence.' The total number of listings and the percentages of each room type were not included in its list of the data these reports would include. Airbnb Inc., "The Airbnb Community Compact," Corporate, *The Airbnb Community Compact*, (November 11, 2015), <http://publicpolicy.airbnb.com/wp-content/uploads/2015/11/Airbnb-Community-Compact.pdf>. 2.

¹³⁴ Also, in its discussion of the accuracy of web-scraped data, the office noted that the data for the seven different San Francisco webscrapes it reviewed showed "a consistency over time in the number of Airbnb listings and in rental rates." See Budget and Legislative Analyst's Office, "Policy Analysis Report: Analysis of the Impact of Short-Term Rentals on Housing" (San Francisco, May 13, 2015). 42, 17. Also, Office of the Budget and Legislative Analyst, "Policy Analysis Report: Short-Term Rental 2016 Update" (San Francisco, April 7, 2016), <http://www.sfbos.org/Modules/ShowDocument.aspx?documentid=55575>.

¹³⁵ Andrew Gelman, "How Do We Research the 'sharing' Economy — When the Data Can't Be Validated?" *Washington Post*, June 6, 2016, <https://www.washingtonpost.com/news/monkey-cage/wp/2016/06/06/how-do-we-research-the-sharing-economy-when-the-data-cant-be-validated/>.

3.2.4. Legal and ethical issues

I did not seek Airbnb's cooperation or permission to collect this publicly available listing data. Based on information I gathered from media reports on Airbnb as well by reviewing its terms of service, I believed seeking Airbnb's cooperation or permission would be fruitless at best, and at worst could have substantially delayed or prevented my data collection. In arriving at this decision, I was also guided by Article 3.6 of the Government of Canada's ethics policy for research involving human subjects (TCPS 2). It states that when research on an organization is carried out for the purposes of critical inquiry, the researcher is not required to obtain the prior permission of that organization.¹³⁶

Airbnb has a lengthy "user conduct" section in its terms of service. At the time I began collecting listing data, that section stated that it was a violation to use "manual or automated software, devices, scripts, robots or other means or processes to access, 'scrape,' 'crawl' or 'spider' any web pages or other services contained in the Site, Application, Services or Collective Content."¹³⁷ This section also stated that by using the site, users agreed not to "copy, store or otherwise access any information contained on the Site, Application, Services or Collective Content for purposes not expressly permitted by these Terms."¹³⁸

These terms are obviously quite restrictive. As I successfully argued in my application to SFU's Office of Research Ethics, abiding by these terms would preclude researchers from conducting certain types of critical inquiry into matters of pressing public interest, such as Airbnb's influence on housing markets and the tourism industry.

¹³⁶ Secretariat on Responsible Conduct of Research, "Tri-Council Policy Statement: Ethical Conduct of Research Involving Humans, 2nd Edition," *Panel on Research Ethics*, September 11, 2015, <http://www.pre.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/chapter3-chapitre3/#toc03-1a>.

¹³⁷ Airbnb Inc., "Terms of Service."

¹³⁸ Ibid.

3.2.5. Use of NHS data

I have chosen to include secondary data from the 2011 NHS in my study in various places, despite my awareness of its shortcomings.¹³⁹ Chief among these shortcomings is that the NHS data is drawn from a voluntary survey, rather than the mandatory long-form census, as was the case in previous years. Prominent Canadian researchers have pointed to problems with the NHS, such as lower response rates for renter, single-parent and one-person households, as well as for those with the highest and lowest incomes.¹⁴⁰ These problems are also more pronounced when dealing with neighbourhood-level data than at the city scale.¹⁴¹ Some researchers have even suggested that is better not to use NHS data at all than to use it knowing its limitations.¹⁴² While understanding and agreeing with these limitations and knowing they are particularly relevant when it comes to questions of rental housing, given the age of the 2006 census data and the fact that Airbnb was founded after that date, I decided it was necessary to include 2011 NHS data in my analysis. It is also the case that various secondary sources I drew on (such as some City of Vancouver reports) relied on 2011 NHS data, so avoiding its use entirely would have proven unworkable.

¹³⁹ I relied on NHS data for figures on housing tenure, dwellings, number of bedrooms and incomes.

¹⁴⁰ David Hulchanski et al., "Canada's Voluntary Census Is Worthless. Here's Why" *The Globe and Mail*, October 4, 2013, <http://www.theglobeandmail.com/opinion/canadas-voluntary-census-is-worthless-heres-why/article14674558/>.

¹⁴¹ The City of Vancouver's global non-response rate was 24.5 percent. Statistics Canada, "NHS Profile, Vancouver, CY, British Columbia, 2011," *Statistics Canada*, May 8, 2013, <http://www12.statcan.gc.ca/nhs-enm/2011/dp-prof/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=5915022&Data=Count&SearchText=Vancouver&SearchType=Begins&SearchPR=59&TABID=1&A1=All&B1=All&Custom=#tabs1>.

¹⁴² Hulchanski et al., "Canada's Voluntary Census Is Worthless."

Chapter 4. The City's Rental Housing Context, Policies and Goals

In order to understand the implications of Airbnb's presence in Vancouver for the city's rental housing policies and goals, we must first understand what those policies and goals are. I have summarized those that are most relevant to STR issues in the second part of this chapter and will refer to them when analyzing my listings data. First, however, I will provide an overview of the current state of the city's rental housing so that the number, type and nature of Airbnb listings provided in my findings chapter can be understood in that context.

To ground these discussions in spatial realities, I have provided four maps that situate the city within its region, show its zoning districts and "local planning areas," (which I also refer to as neighbourhoods) and provide the total number of rental units within those areas.

Figure 4.1 Boundaries of local governments within Metro Vancouver¹⁴³



As figure 4.1 shows, the physical area of the City of Vancouver is small compared to the Metro area. Despite this, the City of Vancouver has the vast majority of the region's Airbnb listings.

¹⁴³ TastyCakes, *A Map of Vancouver Proper in the GVRD.*, digital, January 16, 2009, https://commons.wikimedia.org/wiki/File:GVRD_-_Vancouver.svg.

Figure 4.2 Zoning districts in the City of Vancouver¹⁴⁴

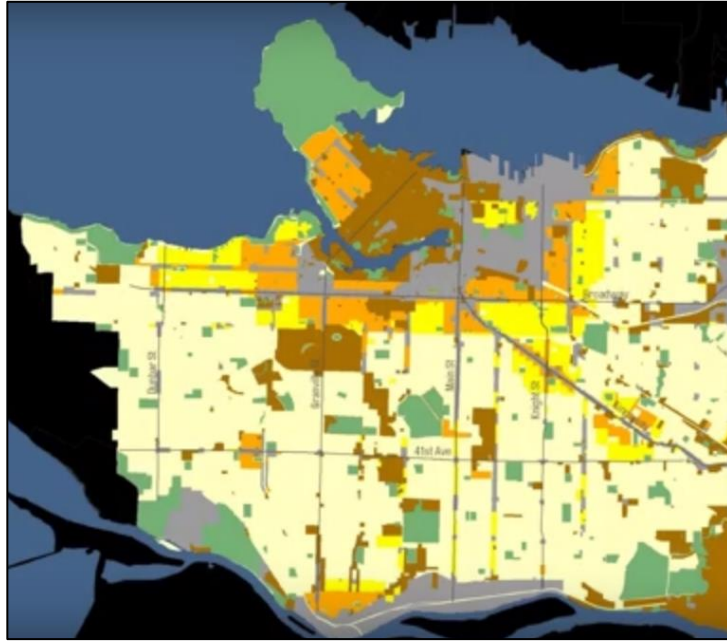


Figure 4.2 is a simplified version of the city's zoning districts that I am using for the sake of visual clarity. The palest yellow area, which takes up the most space (57 percent of the city), is zoned for one-family dwellings, although those zones now allow for secondary suites and laneway houses.¹⁴⁵ The medium-yellow area is zoned for two-family dwellings (seven percent of the city).¹⁴⁶ Orange areas are zoned for multiple dwellings (seven percent of the city), which may be either apartments (rented) or condominiums (owned or rented).¹⁴⁷ The brown areas are zoned for comprehensive

¹⁴⁴ This is a screen capture from Andy Yan, *Residential Density in the City of Vancouver*, Museum of Vancouver Exhibition, "Your Future Home: Creating the New Vancouver: Your Next Home.," 2016, <https://www.youtube.com/watch?v=PPAjnEHwBO0>. See 0:21 in the presentation for this map.

¹⁴⁵ Ibid. Also, determining the amount of land that is zoned for single-family dwellings depends on whether you count parks, which are typically zoned RS (single-family dwelling), and surrounding roads. A good discussion of the various approaches to this question can be found at Jens von Bergmann, "SDH Zoning and Land Use," *Mountain Doodles: Spare Time Data, Analysis, Visualization*, 2016, <http://doodles.mountainmath.ca/blog/2016/06/17/sdh-zoning-and-land-use/>.

¹⁴⁶ Andy Yan, *Residential Density in the City of Vancouver*.

¹⁴⁷ Ibid.

development, which can include any type of residential use (15 percent of the city).¹⁴⁸ These last two zoning categories are where most of the city's Airbnb listings are found, as well as where most of the city's renting households are. Residential dwellings are not allowed in the other zones.

Figure 4.3 City of Vancouver's local area boundaries¹⁴⁹

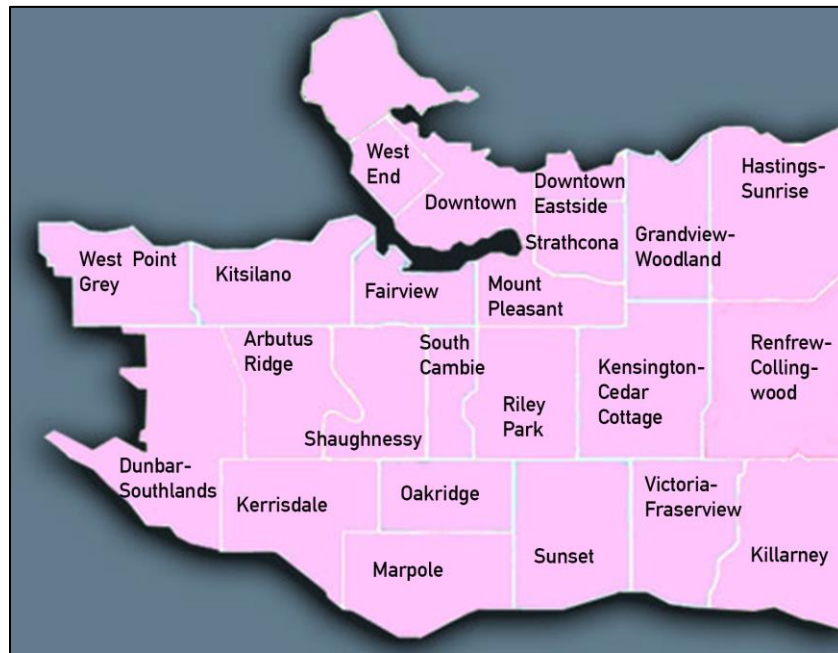


Figure 4.3 shows a version of the city's neighbourhood boundaries.¹⁵⁰ The areas that have the most Airbnb listings are Downtown, the West End, Kitsilano, Fairview, Mount Pleasant and Grandview-Woodland. These neighbourhoods contain or are

¹⁴⁸ Ibid.

¹⁴⁹ Buchanan Hermit, *Vancouver Renfrew-Collingwood.jpg*, Digital, May 15, 2006, [https://commons.wikimedia.org/wiki/File: Vancouver_Renfrew-Collingwood.jpg](https://commons.wikimedia.org/wiki/File:Vancouver_Renfrew-Collingwood.jpg).

¹⁵⁰ The boundaries for the Downtown Eastside and Strathcona neighbourhoods are often debated, particularly because both areas are subject to gentrification pressures. Many local residents consider Strathcona to be a neighbourhood within the larger Downtown Eastside area. For the boundaries of the Downtown Eastside used in the city's recent Downtown Eastside Local Area Plan, see the city website. City of Vancouver, "Downtown Eastside Plan," *City of Vancouver*, 2016, <http://vancouver.ca/home-property-development/dtes-local-area-plan.aspx>. The map I've used here is a not an official city map, but I consider it more accurate than two others I found in the city's open data catalogue regarding Strathcona and the Downtown Eastside boundaries. See Appendix B for a further discussion of neighbourhood issues.

adjacent to most of the city's top cultural attractions and popular beaches and green spaces, some of which are also tourist attractions. These natural amenities and cultural attractions include Stanley Park (adjacent to the West End), Granville Island, Chinatown, Gastown, Science World and the Vancouver Art Gallery. They are well-served by rapid transit (SkyTrain) and buses. As mentioned, these areas also all have high percentages of renter households. Actual numbers of rental dwellings by neighbourhood are provided in section 4.2.

4.1. Population and housing tenure

The City of Vancouver's population as of the 2011 census was 603,502, a 4.4 percent increase over the 2006 total.¹⁵¹ The 2011 Census counted 264,573 private dwellings as "occupied by usual residents" and it is this figure (rounded) that Statistics Canada's voluntary 2011 National Household Survey (NHS) uses as the baseline when reporting on the types and tenure of Vancouver dwellings.¹⁵²

Housing tenure over time

As Table 4.1 shows, according to the 2011 NHS, renter households comprised 51 percent of Vancouver's private households. I emphasize here that this figure refers to households, not population, as Statistics Canada does not report on the tenure status of individuals.

¹⁵¹ Statistics Canada, "2011 Census Profile: City of Vancouver."

¹⁵² This figure excludes those who were counted but who had a "usual place of residence" elsewhere in Canada or the world on the census date. Statistics Canada, "Dwelling, Private, Occupied by Foreign and or Temporary Residents," *Census Dictionary*, November 27, 2015, <https://www12.statcan.gc.ca/census-recensement/2011/ref/dict/dwelling-logements010-eng.cfm>. It also excludes those who were living in what Statistics Canada refers to as "institutional collective dwellings," which included seniors homes, hotels, motels and student residences. This therefore excluded residents of the city's single-room occupancy units from this count of private dwellings. See Statistics Canada, "Detailed Information for 2011," *National Household Survey*, October 5, 2011, <http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=5178>. For a discussion of my use of data from the 2011 National Household Survey, see my methodology chapter.

Table 4.1 Housing tenure, City of Vancouver, 2011 NHS¹⁵³

	#	%
Total private households	264,575	
Owner households	128,440	49
Renter households	136,135	51

Table 4.2 provides historical perspective on Vancouver’s tenure mix back to 1951.¹⁵⁴ As is shown, the percentage of renting households peaked in 1991 at 59 percent and has been declining since then. This decline has taken place in spite of the various city policies aimed at retaining and increasing the amount of rental housing stock discussed later in this chapter. It was also echoed at the regional level, where the percentage of renting households went from 44 percent in 1986 to 35 percent in 2011.¹⁵⁵ While these trends were in progress well before Airbnb established itself in Vancouver, my data suggests that Airbnb has exacerbated them, which in turn will make the city’s rental policy goals harder to achieve.

Table 4.2 Percentage of owner and renter households, 1951-2011¹⁵⁶

	1951	1961	1971	1981	1991	2001	2011
Own	63	61	47	45	41	44	49
Rent	37	39	53	55	59	56	51

¹⁵³ Statistics Canada, “NHS Profile, Vancouver, CY, British Columbia, 2011.”

¹⁵⁴ Tables 4.2 and 4.3 draw from both census data and 2011 data from the NHS because the 2011 census did not include a question on tenure status. Statistics Canada has cautioned that, due to differences in data collection methods between the census and the voluntary NHS, the two types of data may not be directly comparable. I discuss my decision to use 2011 NHS data in my methodology chapter. See Statistics Canada, “Chapter 5 Data Quality Assessment and Indicators,” *NHS User Guide*, December 31, 2015, https://www12.statcan.gc.ca/nhs-enm/2011/ref/nhs-enm_guide/guide_4-eng.cfm#A_5_4.

¹⁵⁵ Metro Vancouver, “2006 Census Bulletin: Dwellings by Type and Tenure,” n.d., http://www.metrovancouver.org/services/regional-planning/PlanningPublications/2006census_dwelling_Dec2007.pdf.

¹⁵⁶ Dale McClanaghan, “City of Vancouver Rental Housing Strategy Research and Policy Development Synthesis Report,” August 2010, <http://vancouver.ca/docs/policy/housing-rental-housing-strategy-synthesis.pdf>. 24. Statistics Canada, “NHS Profile, Vancouver, CY, British Columbia, 2011.”

Neighbourhood-level tenure data is also available. The 2001 and 2006 figures provided in Table 4.3 come from the city's custom data requests to Statistics Canada.¹⁵⁷ The 2011 figures come from the Canadian Rental Housing Index and are based on NHS data, which may not be directly comparable to previous years' census figures due to methodology differences in data collection.¹⁵⁸ However, given the age of the 2006 data the 2011 figures are helpful in providing a general sense of the direction of the tenure trends.

¹⁵⁷ City of Vancouver, "Census Local Area Profiles 2001," *Open Data Catalogue*, n.d., <http://data.vancouver.ca/datacatalogue/censusLocalAreaProfiles2001.htm>. City of Vancouver, "Census Local Area Profiles 2006," *Open Data Catalogue*, n.d., <http://data.vancouver.ca/datacatalogue/censusLocalAreaProfiles2006.htm>.

¹⁵⁸ BC Non-Profit Housing Association, "Canadian Rental Housing Index," *Canadian Rental Housing Index*, n.d., <http://rentalhousingindex.ca>. Also, BC Non-Profit Housing Association, "Data FAQs, Canadian Rental Housing Index," 2015, <http://rentalhousingindex.ca/pdf/dataFAQ.pdf>. The whole numbers of renter households by neighbourhood found in the Canadian Rental Housing Index, from which the percentages in Table 4.3 are derived, correspond very closely to the rental dwelling units by neighbourhood figures found in city's map (Figure 4.5).

Table 4.3 Percentage of renting households by neighbourhood, 2001-2011

Neighbourhood	% 2001	% 2006	% change 2001-06	% 2011	% change 2001-11
Arbutus Ridge	39	35	-4	31	-8
Downtown	69	58	-11	54	-15
Dunbar-Southlands	20	18	-2	17	-3
Fairview	66	60	-7	58	-8
Grandview-Woodland	71	66	-5	65	-6
Hastings-Sunrise	39	36	-3	36	-3
Kensington-Cedar Cottage	45	41	-4	43	-2
Kerrisdale	37	36	-2	35	-2
Killarney	41	38	-3	39	-2
Kitsilano	60	57	-3	57	-3
Marpole	62	57	-4	56	-6
Mount Pleasant	72	67	-4	64	-8
Oakridge	39	36	-4	34	-5
Renfrew-Collingwood	40	35	-5	39	-1
Riley Park	45	41	-4	40	-5
Shaughnessy	27	21	-6	22	-5
South Cambie	46	39	-7	39	-7
Strathcona	89	86	-2	84	-5
Sunset	41	41	-1	42	1
Victoria-Fraserview	35	35	0	34	-1
West End	82	81	-1	79	-3
West Point Grey	38	36	-3	34	-4

This data shows that there have been significant declines in the percentage of renter households in several of the city's core neighbourhoods between 2001 and 2006, and that this trend continued between 2006 and 2011. Downtown showed the most marked decrease with the percentage of renter households going from 69 to 54 percent. From 2001 to 2011, there were eight percent declines in Mount Pleasant and Fairview and a six percent decline in Grandview-Woodland. It is also notable that two neighbourhoods with high percentages of renters (the West End and Kitsilano) experienced small declines of three percent each. This may be due to the concentrations of purpose-built rental housing in those areas.

The reasons for the declines in renting households (both citywide and by neighbourhood) no doubt include the fact some of those households took advantage of the historically low interest rates throughout this period to buy homes. However, when considered in light of other factors, such as the city's consistently low rental vacancy rate and the incomes of renters in relation to housing costs (discussed later in this chapter), it seems likely that the decreases were mainly due to those households being unable to find or afford rental housing – a problem that my data indicates is worsened by the significant increase in Airbnb units over the course of 2015 in the parts of the city where the majority of renters live. If the city is to have a realistic chance of achieving its goal of ensuring a supply of housing that is “affordable and suitable for all income levels,” and preserving the existing rental stock, it will be necessary for it to address new factors (such as Airbnb) that have the potential to further decrease the availability of rental housing.¹⁵⁹

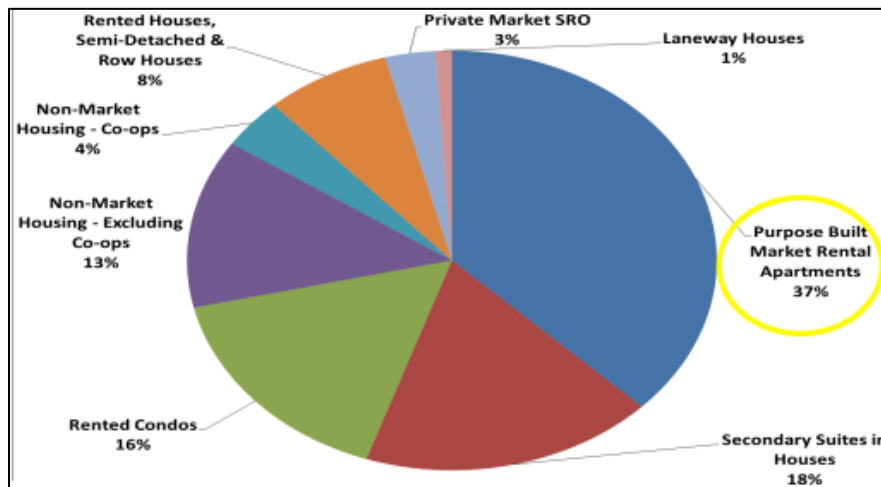
4.2. Composition and location of the rental housing stock

In order to understand Airbnb's impacts on the city's rental housing stock and rental policy goals, we must understand the baseline - what that rental stock consists of. This is not as straightforward as it may sound because the majority of the city's rental stock is now made up of the so-called “secondary market,” a term that refers to all types of rental units other than those in purpose-built, private rental apartment buildings (referred to as the primary rental market). Secondary suites, rented condominiums and houses (including laneway houses) are all part of the secondary market, as are social housing units. With the exception of co-ops and social housing units, these secondary units are much harder to count and track than those in the primary market because they are scattered across the entire city, often one-by-one in private homes, as is the case with secondary suites. Also, depending on the layout and construction of these secondary units, they may be invisible to passers-by and unidentifiable as rental

¹⁵⁹ City of Vancouver, “Housing and Homelessness Strategy 2012-21: A Home for Everyone,” June 2011, <http://vancouver.ca/files/cov/Housing-and-Homeless-Strategy-2012-2021pdf.pdf>. 5.

housing, as is the case with rented condominium units and many suites.¹⁶⁰ Also, while the city requires those who earn income from renting residential units to have a business licence, this provision cannot be effectively enforced for secondary units, due to the reasons just mentioned and the fact that many secondary suites have been constructed without permits.¹⁶¹ Due to these factors, estimates of the number of units in the secondary market will always be less precise than those for the primary market. However, the city does provide information on the percentages of units in both the primary and secondary rental markets, based on the various data sources to which it has access. The composition of the city's rental stock is depicted in Figure 4.5.

Figure 4.4 Composition of the rental housing stock¹⁶²



While this chart and its percentages are useful, for purposes of understanding Airbnb listings in relation to the rental housing stock and Vancouver's rental policy goals, I wanted whole numbers that added up to an overall total. I could not find a ready-made source for these figures for all the same year, so I compiled figures from city sources

¹⁶⁰ A 2009 city report on secondary suites discusses the challenges of counting them and the range of estimates. City of Vancouver, "The Role of Secondary Suites: Rental Housing Strategy - Study 4," December 2009, <http://vancouver.ca/docs/policy/housing-secondary-suites.pdf>. 10-12.

¹⁶¹ Ibid., 7,10.

¹⁶² City of Vancouver, "Affordable Housing - Presentation to the UBCM." 4.

noted below. These have various dates and so do not neatly add to the rented private dwellings total given in the 2011 NHS.¹⁶³

¹⁶³ These figures also include some units, such as single-room occupancy units (SROs) and possibly also seniors homes, that Statistics Canada considered “collective dwellings” in 2011, and therefore did not include in its total of private dwellings. City of Vancouver, “Housing Characteristics Fact Sheet” (City of Vancouver, December 18, 2015), <http://vancouver.ca/files/cov/housing-characteristics-fact-sheet.pdf>.

Table 4.4 Composition of the city's rental housing stock

Type of unit	# of units	% of 2011 rental stock
Total rented private dwellings (2011) ¹⁶⁴	136,135	
Private, purpose-built apartments (2015) ¹⁶⁵	56,518	42
Secondary suites (2015) ¹⁶⁶	26,900	20
Rented condominiums (2015) ¹⁶⁷	26,001	19
Rented houses (2006) ¹⁶⁸	11,470	8
Nonmarket units, including non-market co-op (2015) ¹⁶⁹	25,584	19
SROs, privately owned (2014) ¹⁷⁰	4,579	3
Total	150,977	111
Units in excess of NHS 2011 total rented private dwellings	14,842	

Both Figure 4.4 and Table 4.4 show that the majority of the city's rental stock is not purpose-built apartments, but instead made up of various types of secondary market units (including social housing). Based on these figures, the current number of private market rental units within the secondary market is about 64,371 (the total of secondary suites, rented condominiums and houses) or 43 to 47 percent of the overall rental

¹⁶⁴ In this context, private refers to “a separate set of living quarters with a private entrance either from outside or from a common hall, lobby, vestibule or stairway inside the building”. It may include social housing owned by provincial or municipal government or by nonprofit social agencies. Statistics Canada, “Dwelling, Private, Occupied by Usual Residents,” *NHS Dictionary*, January 4, 2016, <https://www12.statcan.gc.ca/nhs-enm/2011/ref/dict/dwelling-logements006-eng.cfm>.

¹⁶⁵ CMHC, “Rental Market Report,” Fall 2015. 19, 30. This figure includes purpose-built, privately rented townhouses.

¹⁶⁶ City of Vancouver, “Housing Characteristics Fact Sheet.” Also, Statistics Canada, “Figure 22 Dwelling Universe,” *Census Dictionary*, n.d., <https://www12.statcan.gc.ca/census-recensement/2011/ref/dict/figures/figure22-dict-eng.cfm>.

¹⁶⁷ City of Vancouver, “Housing Characteristics Fact Sheet.”

¹⁶⁸ This figure comes not from the housing characteristics factsheet, but from a 2010 report written by Dale McClanaghan & Associates for the city. It cites the 2006 Census as the source. McClanaghan, “City of Vancouver Rental Housing Strategy Research and Policy Development Synthesis Report.” 16.

¹⁶⁹ City of Vancouver, “Housing Characteristics Fact Sheet.”

¹⁷⁰ Ibid.

stock.¹⁷¹ Even before Airbnb existed, these units were the least reliable source of long-term private rental housing because unlike purpose-built apartments, which have some degree of protection from demolition or conversion (to strata units) through city policy, these secondary units are relatively easy to remove from the rental stock and in some cases doing so may not even create a paper trail. B.C.'s *Residential Tenancy Act* has various grounds for ending a tenancy, including when a landlords want to live in their property themselves or allow a close family member to do so.¹⁷² Alternatively, landlords can simply wait for their tenants to move out voluntarily (the no paper-trail scenario). The unit can then be used for any legal purpose allowed by local zoning or left vacant. For those who are willing to contravene Vancouver's zoning bylaw (or who are unaware of it) the unit can also be converted to short-term rental use.

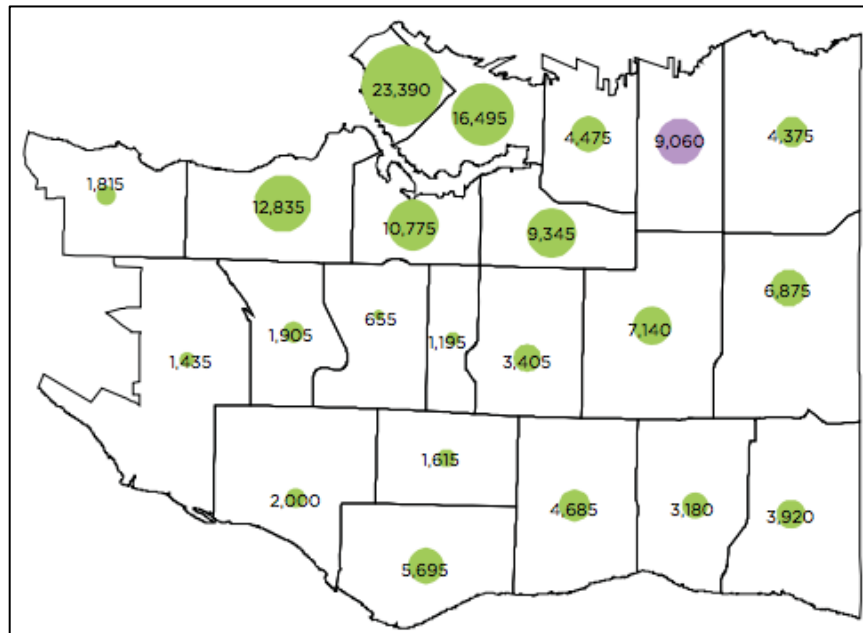
4.2.1. Location of the rental housing stock

Neither Airbnb listings nor rental units are distributed in an even or random manner across the city. Instead, both are concentrated in particular areas in the city core or adjacent to it, mainly where multi-family housing is allowed by zoning. Figure 4.5 and Table 4.5 that follow show where rental housing (of all types) is found and in what amounts.

¹⁷¹ The percentage range is due to the difference in the percentages in the Figure 4.5 chart provided by the city versus the percentages derived from whole numbers (also provided by the city) in Table 4.5. In both cases, these percentages are in relation to the 2011 NHS total of private rented dwellings.

¹⁷² Province of British Columbia, *Residential Tenancy Act*, 2002, http://www.bclaws.ca/civix/document/id/complete/statreg/02078_01#section49.

Figure 4.5 Total rental units by neighbourhood (2011)¹⁷³



¹⁷³ The purple circle on the map indicates the location of the Grandview-Woodland neighbourhood because this map comes from a city report on that neighbourhood. City of Vancouver, "Grandview-Woodland Community Profile 2014- Updated," n.d., <http://vancouver.ca/files/cov/grandview-woodland-community-profile-2014.pdf>. 32.

Table 4.5 Share of the city's rented dwellings by neighbourhood (2011)¹⁷⁴

Neighbourhood	# of rented dwellings	% of all rented dwellings in city
Arbutus Ridge	1,905	1
Downtown	16,495	12
Dunbar-Southlands	1,435	1
Fairview	10,775	8
Grandview-Woodland	9,060	7
Hastings Sunrise	4,375	3
Kensington-Cedar Cottage	7,140	5
Kerrisdale	2,000	1
Killarney	3,920	3
Kitsilano	12,835	9
Marpole	5,695	4
Mount Pleasant	9,345	7
Oakridge	1,615	1
Point Grey	1,815	1
Renfrew-Collingwood	6,875	5
Riley Park	3,405	2
Shaughnessy	655	0.5
South Cambie	1,195	1
Strathcona	4,475	3
Sunset	4,685	3
Victoria-Fraserview	3,180	2
West End	23,390	17
Total	136,270	

Table 4.5 shows that the top six neighbourhoods in terms of the number and percentage of all rented dwellings (the West End, Downtown, Kitsilano, Fairview, Mount Pleasant and Grandview-Woodland) have 60 percent of the city's total units. These areas are also where the most Airbnb listings are found, as I discuss in my next chapter.

¹⁷⁴ Ibid.

4.3. Vacancy rates and demand for rental housing

The Canada Mortgage and Housing Corporation (CMHC) regularly collects and publishes data on vacancy rates and average rents for purpose-built rental stock, for each of the 10 zones into which CMHC has divided the city for these purposes. These vacancy rates are perhaps the best indicator of the need for rental housing in Vancouver and can also be used in a general way to measure the city's progress against its high-level housing policy goals. If the city has healthy rental vacancy rates, that would indicate that some long-term rental housing could be used for STR tourist purposes without affecting residents' ability to find housing. This is not the case, however. The city's overall vacancy rate for purpose-built apartments was 0.6 percent in 2015, a decline from 1.0 percent in 2013.¹⁷⁵ Over the past 30 years, the citywide overall vacancy rate for purpose-built private apartments has averaged 0.9 percent, far lower than the three to five percent that is generally considered to be a healthy rate.¹⁷⁶ This overall rate varies depending on the number of bedrooms, as shown in Table 4.6.

Table 4.6 Average citywide vacancy rates for purpose-built private apartments (2015)¹⁷⁷

Bachelor	1bdm	2bdm	3+bdm	Total
0.5	0.7	0.7	0.4	0.6

It also varies by geography. The vacancy rate for units of 3 or more bedrooms was zero in eight out of the 10 CMHC zones.¹⁷⁸ It was 2.0 percent for bachelors in

¹⁷⁵ CMHC, Rental Market Report, Vancouver and Abbotsford-Mission CMAs, Fall 2015, page 54, http://www.cmhc-schl.gc.ca/odpub/esub/64467/64467_2015_A01.pdf?lang=en, page 52. For 2013, see CMHC, "Rental Market Report: Vancouver and Abbotsford-Mission CMAs," Fall 2013, https://www.cmhc-schl.gc.ca/odpub/esub/64467/64467_2013_A01.pdf. 14. Also, City of Vancouver, "2014 Housing and Homelessness Strategy Report Card," May 15, 2015, <http://former.vancouver.ca/ctyclerk/cclerk/20150526/documents/rr1a.pdf>. 4.

¹⁷⁶ City of Vancouver, "Tenant Relocation and Protection Policy," December 10, 2015, <http://vancouver.ca/files/cov/tenant-relocation-and-protection-policy.pdf>. 3. See also Federation of Canadian Municipalities, "No Vacancy: Trends in Rental Housing in Canada" (Ottawa, 2012), https://www.fcm.ca/Documents/reports/FCM/No_Vacancy_Trends_in_Rental_Housing_in_Canada_EN.pdf. 9.

¹⁷⁷ Metro Vancouver, "Metro Vancouver Housing Data Book" (Metro Vancouver, March 2016), http://www.metrovancouver.org/services/regional-planning/PlanningPublications/MV_Housing_Data_Book.pdf. 2.10.

southeast Vancouver and one-bedrooms in the Westside/Kerrisdale zone.¹⁷⁹ CMHC also collects vacancy rate data for rented condominiums on a regional basis. The condominium vacancy rate was slightly higher than for purpose-built units, at 0.9 percent for 2015.¹⁸⁰ These vacancy rates indicate that Vancouver cannot afford to have any units that could be used as long-term rentals to be used instead as STRs, and in fact needs to add more supply to the rental stock in order to achieve healthy vacancy rates in the primary and secondary markets.

Vacancy rates are important indicators, but when considering the implications of Airbnb for Vancouver's rental housing goals, it is also useful to understand how those rates translate into actual numbers of available rental units. Vacancy rates represent the number of vacant apartments and rented condominiums in the month that CMHC conducts its rental market survey (the most recent was conducted in October 2015). We can therefore estimate the number of rental units that were vacant that month by multiplying the vacancy rate (or rates) by the total number of rental units surveyed. The calculations in Table 4.7 are inexact (because of the difficulty of counting secondary market units) and depend on various assumptions, but they do provide an approximation of the number of units of rental housing that are available at a given time at the applicable vacancy rates.¹⁸¹

¹⁷⁸ Canada Mortgage and Housing Corporation, "Rental Market Report: Vancouver and Abbotsford-Mission CMAs" (Canada Mortgage and Housing Corporation, Fall 2015), http://www.cmhc-schl.gc.ca/odpub/esub/64467/64467_2015_A01.pdf?lang=en. 17.

¹⁷⁹ Ibid., 17.

¹⁸⁰ Ibid., 6. CMHC does not collect data on vacancy rates in secondary suites and detached houses.

¹⁸¹ Since the vacancy rate for rented condominiums is only available for the Metro region rather than the City of Vancouver, I have assumed it applies to the City of Vancouver. Given that the vacancy rate tends to be lower in the City of Vancouver than the rest of the region, this is a conservative assumption that serves to overestimate the number of vacant rented condominiums. Also, since the vacancy rate is not available for secondary suites and houses, I have chosen to apply the rate for rented condominiums to those parts of the rental stock in this calculation. Since this rate is higher than for purpose-built apartments, this is also a conservative assumption that serves to overestimate the number of vacant secondary suites and houses.

Table 4.7 Estimated total number of market rental units available in the City of Vancouver (Oct. 2015)

Type of unit	# of units	Vacancy rate %	Est. # of market units vacant in in October 2015
Private, purpose-built apartments (2015) ¹⁸²	56,518	0.6	339 ¹⁸³
Rented condominiums (2015) ¹⁸⁴	26,900	0.9	242
Secondary suites (2015) ¹⁸⁵	26,001	0.9	234
Rented houses (2006) ¹⁸⁶	11,470	0.9	103
Total	120,889		815

Based on these calculations, 815 is a reasonable estimate of the number of primary and secondary market rental units that are vacant in the City of Vancouver in any given month at these vacancy rates.

The Canadian Rental Housing Index, developed by the B.C. Non-profit Housing Association, offers another way of estimating the demand for rental housing in Vancouver.¹⁸⁷ It provides information such as the number of renter households, the number of those households that are overcrowded and the number paying 30 percent or

¹⁸² CMHC, "Rental Market Report," Fall 2015. 19, 30. This figure includes purpose-built, privately rented townhouses.

¹⁸³ The mayor of Vancouver referred to a very similar figure (330) in a housing release in the summer of 2016. Vancouver Mayor's Office, "Vancouver Takes next Steps on Taxing Empty Homes," *Vancouver Mayor's Office*, June 22, 2016, <http://www.mayorofvancouver.ca/news/vancouver-takes-next-steps-taxing-empty-homes>.

¹⁸⁴ City of Vancouver, "Housing Characteristics Fact Sheet."

¹⁸⁵ Ibid. Also, Statistics Canada, "Figure 22 Dwelling Universe."

¹⁸⁶ This figure comes from a 2010 report written by Dale McClanaghan & Associates for the city. It cites the 2006 Census as the source. McClanaghan, "City of Vancouver Rental Housing Strategy Research and Policy Development Synthesis Report." 16. The date precedes the city's laneway homes program and so this figure may underestimate the number of rented houses.

¹⁸⁷ BC Non-Profit Housing Association, "Canadian Rental Housing Index." The index was built using a custom data request from Statistics Canada, based on 2011 NHS data. Methodological details can be found on the index website itself, as well as in BC Non-Profit Housing Association, "Data FAQs, Canadian Rental Housing Index." For discussion of my use of 2011 NHS data, see my methodology chapter.

more of their gross incomes on shelter costs. It also provides an overall rating comprised of those indicators. In Vancouver, 21 of 22 neighbourhoods are rated poor, severe or critical, as seen in Table 4.8. The index also includes a “bedroom shortfall” total. It “measures the minimum number of additional bedrooms a community would need to house all renters suitably, based on CMHC's National Occupancy Standard.”¹⁸⁸ As shown in Table 4.8, according to this standard, the City of Vancouver is short more than 25,000 bedrooms.

¹⁸⁸ BC Non-Profit Housing Association, “Canadian Rental Housing Index.” For CMHC’s National Occupancy Standard, see CMHC, “Housing in Canada Online - Definition of Variables, Suitable Housing,” *CMHC*, n.d., http://cmhc.beyond2020.com/HiCODefinitions_EN.html#_Suitable_dwellings.

Table 4.8 Canadian Rental Housing Index, Vancouver neighbourhoods, 2011¹⁸⁹

Neighbourhood	# of over-crowded HH	Bdm. shortfall	Rating
Arbutus Ridge	310	355	Critical
Downtown	2,015	2,390	Critical
Dunbar-Southlands	105	105	Severe
Fairview	975	1,065	Severe
Grandview-Woodland	960	1,195	Poor
Hastings-Sunrise	775	1,190	Poor
Kensington-Cedar Cottage	1,350	1,955	Severe
Kerrisdale	295	355	Critical
Killarney	580	785	Poor
Kitsilano	1,315	1,495	Severe
Marpole	1,050	1,325	Severe
Mount Pleasant	1,315	1,645	Severe
Oakridge	280	330	Critical
Renfrew-Collingwood	1,370	2,025	Severe
Riley Park	415	555	Poor
Shaughnessy	75	105	Severe
South Cambie	130	155	Severe
Strathcona	595	1,050	Moderate
Sunset	1,275	1,895	Severe
Victoria-Fraserview	745	1,140	Severe
West End	3,260	3,920	Severe
West Point Grey	185	215	Severe
Totals	19,375	25,250	

As with the CMHC vacancy rates, the Vancouver data in the Canadian Rental Housing Index indicates that the city has a dire shortage of long-term rental housing

¹⁸⁹ Table 4.8 contains only an excerpt of the data available in the Canadian Rental Housing Index.

space, and particularly in some of the most popular neighbourhoods for STRs, like the West End and Downtown.

4.4. Monthly rents for private apartments and rented condominiums

When considering what impact Airbnb has on the city’s ability to achieve its rental housing policy goals, it is necessary to determine whether Airbnb provides a financial incentive to use housing for short-term tourist purposes rather than for long-term rental to residents, and if so, the size of that incentive. Doing that requires understanding long-term rental rates, which are collected by CMHC and provided by zone and number of bedrooms in Table 4.9. I provide Airbnb nightly rates in my finding chapter.

Table 4.9 Average monthly rents for private apartments by zone and number of bedrooms (2015 dollars)¹⁹⁰

	Bach.	1bdm	2bdm	3+bdm
West End, Stanley Park	1,028	1,274	1,975	3,156
English Bay	1,021	1,308	1,908	2,854
Downtown	1,084	1,331	1,968	2,656
West End/Downtown zone	1,059	1,313	1,951	2,904
South Granville/Oak	977	1,200	1,698	2,166
Kitsilano/Point Grey	988	1,194	1,732	2,978
Westside/Kerrisdale	936	1,170	1,824	2,470
Marpole	776	889	1,157	1,269
Mount Pleasant/Renfrew Heights	902	1,037	1,367	1,619
East Hastings	846	971	1,268	1,319
Southeast Vancouver	943	1,009	1,327	1,235
City of Vancouver	982	1,175	1,643	2,070

CMHC also provides some rent data for condominiums, though only for the city not by zone. This shows that condominium rents tend to be higher than for purpose-built

¹⁹⁰ CMHC, “Rental Market Report,” Fall 2015. 18.

rentals, which is attributed to the stock of condominiums being generally newer, as well as more centrally located and with more amenities.

Table 4.10 Monthly rents for condominiums for the Vancouver CMA (2014 and 2015 dollars)¹⁹¹

1-bdm		2-bdm	
2014	2015	2014	2015
1,375	1,314	2,032	2,021

4.5. Household incomes of renters and owners

The City of Vancouver’s rental housing policy goals refer to the need and importance of providing housing that is “accessible, affordable and suitable for all income levels.”¹⁹² It is therefore necessary to understand how much income the city’s residents earn, both in order to determine what they can afford to pay for housing and to understand how they could be affected by the extent and nature of Airbnb listings. As of 2010, the median gross income for a renting household in Vancouver was \$41,333.¹⁹³ This was substantially lower than the median income for owning households, which was \$77,753.¹⁹⁴ The average *family* gross income (as of 2010) for all households was considerably higher at \$104,278.¹⁹⁵ As of 2011, 46 percent of renter households in the City of Vancouver were spending 30 percent or more of their total household income on shelter costs. By contrast, only 29 percent of owner households were doing so.¹⁹⁶ This higher percentage of renters who spend more than 30 percent of their gross income on

¹⁹¹ Ibid., 51.

¹⁹² City of Vancouver, “Housing and Homelessness Strategy 2012-21: A Home for Everyone.” 5.

¹⁹³ Note that this household income. Incomes of single-occupant renter households will necessarily be lower. Metro Vancouver, “Metro Vancouver Housing Data Book.” Median Household Income, by Tenure, for Metro Vancouver Municipalities, 2011, 1.2.

¹⁹⁴ Ibid.

¹⁹⁵ Statistics Canada, “NHS Profile, Vancouver, CY, British Columbia, 2011.”

¹⁹⁶ The 30-percent-of-gross-income ratio is an approach to defining housing affordability used by CMCH and Statistics Canada and CMHC, as well as many other government and nonprofit agencies. In both cases, this ratio was calculated using 2010 income, as is the usual practice for Statistics Canada. <https://www12.statcan.gc.ca/nhs-enm/2011/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=5915022&Data=Count&SearchText=Vancouver&SearchType=Begins&SearchPR=01&TABID=1&A1=All&B1=All&Custom=#tabs1>

shelter costs is one of the reasons why, as a group, renters are considered to be more precariously housed than homeowners.¹⁹⁷ People who spend more of their incomes on housing costs are less able to save money for emergencies and more likely to be unable to afford their housing if they lose their jobs or suffer other financial setbacks, such as a sudden rent increase. The fact that almost half of the city's renter households and almost one-third of owner households were exceeding affordability thresholds as of 2011 shows that further steps to protect housing affordability and supply, particularly for renters, are needed to achieve the city's housing policy goals.

4.6. Costs to purchase housing in relation to incomes

The high cost of purchasing housing in relation to local incomes means that for some Vancouver households, their wages are insufficient to cover their mortgage costs and this provides motivation to seek out additional income sources, such as from renting out bedrooms and secondary suites to residents, and, with the advent of Airbnb, renting space on a short-term basis to tourists as well. In September 2015, the benchmark price of detached single-family house was \$1,160,900 for the Multiple Listing Service area Vancouver East, which was about 11 times the city's average gross family income (as of 2010).¹⁹⁸ The cost of a detached house on the city's Westside was even further out of reach at \$2,743,800.¹⁹⁹ The cost of condominium units for the same date was considerably less, though still high in relation to local incomes. The benchmark prices for condominiums in the eastern and western sections of the city were \$338,400 and \$555,500, respectively.²⁰⁰ Figure 4.6 shows how housing prices in B.C., driven by Metro Vancouver, have risen in relation to local incomes, reaching levels between 10 and 12

¹⁹⁷ There will be exceptions to this general principle, of course. Some high-income renting households with savings and low debt may be more secure than lower-income, over-leveraged owning households.

¹⁹⁸ Statistics Canada, "NHS Profile, Vancouver, CY, British Columbia, 2011," *Statistics Canada*, May 8, 2013, <http://www12.statcan.gc.ca/nhs-enm/2011/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=5915022&Data=Count&SearchText=Vancouver&SearchType=Begins&SearchPR=59&TABID=1&A1=All&B1=All&Custom=#tabs1>.

¹⁹⁹ Ibid.

²⁰⁰ City of Vancouver, "Housing Characteristics Fact Sheet."

times income between 2010 and 2014. These trends have only increased, putting additional pressure on both homeowners and the rental market, since 2014.

Figure 4.6 BC and Canadian house prices in relation to incomes, 2000-2014²⁰¹

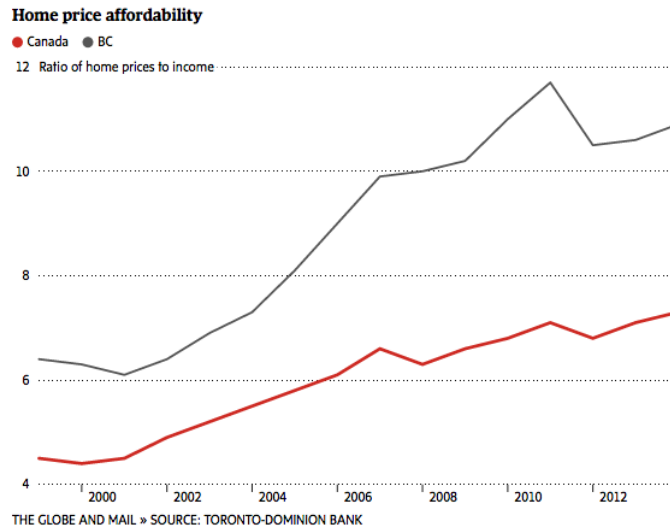
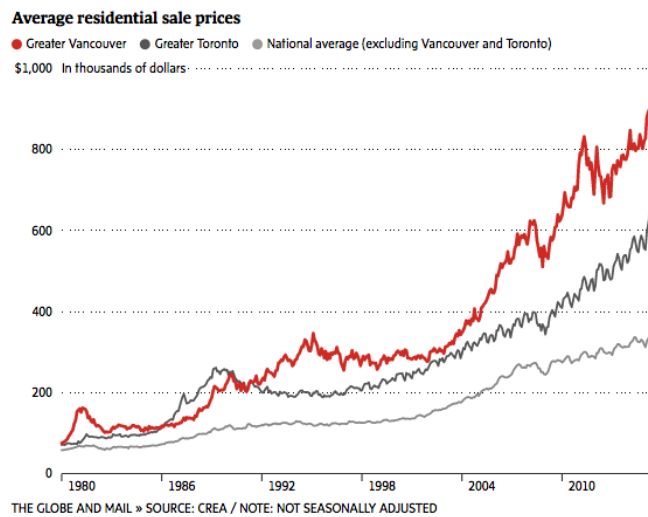


Figure 4.7 shows the trend in house prices over the last 35 years in Greater Vancouver, Greater Toronto and Canada. Greater Vancouver is clearly the outlier.

²⁰¹ Toronto Dominion Bank, found in Tom Cardoso and Evan Annett, "B.C.'s Budget Day: Five Charts You Should See First," *The Globe and Mail*, February 16, 2016, <http://www.theglobeandmail.com/news/british-columbia/bcs-budget-day-five-charts-you-should-read-first/article28764608/>.

Figure 4.7 Thirty-five year trend in average housing prices, Greater Vancouver, Greater Toronto and Canada²⁰²



The fact that costs to purchase housing in Vancouver (both the city and the region) are so disproportionate to local incomes and to housing costs in the rest of the country means that the city and local homeowners are forced to contend with more intense affordability pressures than elsewhere, which in turn creates more obstacles to reaching the city’s affordability policy goals. At the same time, as of 2011, 48 percent of the city’s owner households (about 62,000) had no mortgage at all, indicating that housing cost pressures are being most keenly felt by new homeowners, lower-income owner households, and those trying to enter the market.²⁰³

4.7. Household debt levels

Given the costs and ratios just discussed, it is predictable that Vancouverites would have high levels of mortgage debt, but even so, the data is striking. In his study of household debt levels, Dylan Simone found that households in the Vancouver CMA have the highest level of overall debt of any region in Canada, at 311 percent of

²⁰² “B.C.’s Budget Day: Five Charts You Should See First,” *The Globe and Mail*, February 16, 2016, <http://www.theglobeandmail.com/news/british-columbia/bcs-budget-day-five-charts-you-should-read-first/article28764608/>.

²⁰³ Statistics Canada, “NHS Profile, Vancouver, CY, British Columbia, 2011.”

disposable income as of 2012.²⁰⁴ This was in contrast to a national average of 223 percent. Unsurprisingly, the Vancouver CMA also had the highest level of mortgage debt at 237 percent of disposable income.²⁰⁵ As with housing prices, these high levels of overall and mortgage debt create pressures for residential property owners to earn extra income through rental of housing space and the higher returns that short-term rentals offer are especially attractive in this context. These financial incentives to use housing for short-term tourist purposes rather than long-term rentals are an obstacle to achieving the city's goals of preserving and increasing the supply of long-term rental housing and the related goal of increasing affordable housing choices for renters.

4.8. Rental housing building costs and sale prices

One of the concerns about STRs is their potential to drain the existing supply of rental housing, which raises the question of how much it would cost to replace any units that are converted or diverted to that purpose. Given the price of residentially zoned land in the City of Vancouver, those costs are high indeed. In practice, the city rarely buys land and then builds rental housing on it, at least not without significant contributions from senior governments, but understanding the costs of doing so is necessary to understanding the implications of Airbnb's business model for the city's housing goals.

In the first half of 2015, average prices per buildable square foot of downtown core land (zoned to allow for a multi-storey concrete apartment building) ranged from \$200 to \$250.²⁰⁶ Prices for the same type of land were lower in the eastern section of the city (which is less expensive than the city's Westside) at \$125 to \$200 per buildable square foot and also lower for sales of land suitable for smaller wood-framed apartment buildings, at \$150 to \$190 per buildable square foot.²⁰⁷ Vancouver construction costs per

²⁰⁴ Dylan Simone, "Household Indebtedness and Socio-Spatial Polarization among Immigrant and Visible Minority Neighbourhoods in Canada's Global Cities" (University of Toronto, 2014). See 27-29 for a discussion of his data sources and 35 for the debt levels.

²⁰⁵ Ibid.

²⁰⁶ Colliers International, "Metro Vancouver Landshare Report: First Half of 2015," Metro Vancouver Landshare Report, 2015.1. These prices have since increased quite dramatically but I have not included those prices here, since my study period is 2015.

²⁰⁷ Ibid., 3.

square foot in 2015 ranged from \$185 to \$210 for a basic quality apartment or condominium building.²⁰⁸ Given these figures, a conservative estimate of the land and construction costs alone to build a basic 500 square-foot, one-bedroom, wood-frame condominium or apartment unit in East Vancouver as of 2015 were about \$168,000 (\$325 per square foot).²⁰⁹ This does not include other necessary and widely varying costs such as legal and professional fees, permits and development charges, a profit margin for the developer, or amenities in case of rezoning.²¹⁰ Allowing for time to process permits and deal with various government requirements, it can take up to three or four years to construct a new purpose-built rental building in the City of Vancouver and developers must carry these costs for that entire time.²¹¹ Looking at existing apartment buildings, in 2015 average per-unit selling prices ranged from \$245,661 in Marpole to \$392,162 in the West End to \$611,340 in Kerrisdale.²¹² These land, construction costs and sales figures provide some baseline estimates that help us understand what it would cost to replace each entire unit of rental housing that is converted to STR or used for STR purposes from the start instead of entering the long-term rental stock where it could help increase vacancy rates and meet the city's goals of increasing the availability and affordability of rental housing. Obviously, these costs are considerable and must be viewed in relation to the city's 2015-2018 capital budget, which allotted a total of \$125 million for all types of affordable housing projects, including badly needed upgrades to single-room-occupancy (SRO) hotels in the Downtown

²⁰⁸ Altus Group, "Construction Cost Guide 2015" (Canada, 2015), http://www.altusgroup.com/media/4099/costguide_2015_web.pdf.

²⁰⁹ I arrived at this figure by adding the lower end square foot land costs for East Vancouver (\$150) to the basic construction costs per square foot (\$185) and multiplying by 500.

²¹⁰ Altus Group, "Construction Cost Guide 2015." 2. See the Altus report for the full list of what is not included in construction costs. Also for a full discussion of these costs for a 60-unit wood-frame building in Vancouver, see Simon Fraser University Urban Studies Program and Greater Vancouver Homebuilders Association, "Residential Building Approval Processes In Metro Vancouver - Year 2: Focus on WoodFrame Apartments," Getting to Groundbreaking, March 2016, https://assets-production-webvanta-com.s3-us-west-2.amazonaws.com/000000/27/01/original/G2G/G2G_Apartments_Report_Final.pdf. 20-21.

²¹¹ The Goodman Report, "2015 Greater Vancouver Rental Apartment Review," January 2016, http://goodmanreport.com/content/2015%20Year-End%20Report_Web.pdf. 14. For a discussion of application processing times for a 60-unit wood-frame apartment building in Metro Vancouver, see also Simon Fraser University Urban Studies Program and Greater Vancouver Homebuilders Association, "Residential Building Approval Processes In Metro Vancouver - Year 2: Focus on WoodFrame Apartments." 19, 22.

²¹² The Goodman Report, "2015 Greater Vancouver Rental Apartment Review." 5.

Eastside, where the city's poorest residents live.²¹³ From this perspective, it is certainly in the city's financial interests to prevent the conversion of existing and new housing units to tourist use.

4.9. Policies and goals

The importance of maintaining and increasing rental housing is recognized and articulated in many of the City of Vancouver's policy reports and plans, going back to at least 1980 and spanning administrations of various political stripes.²¹⁴ In the last five years, the city has also created and updated some of its housing policies that pertain specifically to rental housing. However, none of the city's current rental housing policies acknowledges or addresses the existence of Airbnb or other short-term rental platforms and their potential effects on the availability or costs of rental housing.

4.9.1. Housing and Homelessness Strategy

When it comes to addressing the city's various housing shortages, the main current policy document is called the *Housing and Homelessness Strategy, 2012-2021: A Home for Everyone*, which was adopted in July 2011.²¹⁵ One of main high-level goals of this strategy is to "increase affordable housing choices for all Vancouverites."²¹⁶ The report goes on to state that "affordable" housing "includes housing that is accessible, affordable and suitable for all income levels, seniors, families and residents challenged by disability. Modest market and rental housing is key to the economic development of

²¹³ City of Vancouver, "Capital Plan for 2015-2018," *City of Vancouver*, April 7, 2015, <http://vancouver.ca/your-government/capital-plan-proposal.aspx>.

²¹⁴ For example, see "Goals for Vancouver" and CityPlan. Vancouver City Planning Commission, "Goals for Vancouver," 1980, http://vancouverplanning.ca/component/docman/doc_download/18-goals-for-vancouver-1980. City of Vancouver, "CityPlan: Directions for Vancouver, Summary Document," n.d., <http://former.vancouver.ca/commsvcs/planning/cityplan/dfvs.htm>.

²¹⁵ Metro Vancouver, "Metro Vancouver Housing Data Book" (Metro Vancouver, December 2015), http://www.metrovancouver.org/services/regional-planning/PlanningPublications/MV_Housing_Data_Book.pdf.

²¹⁶ *Ibid.*, 5.

our city.”²¹⁷ *A Home for Everyone* emphasizes the importance of rental housing throughout, with “protect the existing rental stock” identified as a priority action.”²¹⁸ The report also provides specific targets for the creation of new rental housing. The 2021 goal is to “enable 11,000 new market rental units, including 5,000 purpose-built units and 6,000 secondary market units.”²¹⁹

4.9.2. Secondary suites

The city legalized secondary suites in all single-family zones in 2004, in response to widespread public concern over housing affordability and lack of affordable rental housing.²²⁰ The accompanying staff report stated that secondary suites are “essential to the City’s ability to provide for low- or modest-income renters.”²²¹ In a subsequent study for the city, it is noted that secondary suites are a ground-oriented form of housing that is especially important to families and that they “provide renters with an opportunity to live in lower density residential neighbourhoods, which usually have easy access to schools, recreation centres, and other services but may have very little conventional rental housing.”²²² Further, the study states, the presence of secondary suites “encourage[s] more diverse communities, by allowing a mix of socioeconomic backgrounds and age groups to live in a neighbourhood.”²²³ Enabling new secondary suites is specifically mentioned as a strategy for achieving the city’s policy goals in *A Home for Everyone*, but as it stands, the city has no way of ensuring that existing or new secondary suites are actually used to house residents instead of as short-term tourist accommodation. This is especially problematic given that overall, secondary suites tend to rent for less than

²¹⁷ Ibid.,5.

²¹⁸ Ibid.,6. The report outlines three specific ways the city will prioritize the protection of existing rental stock.

²¹⁹ Ibid.,12. When referring to secondary units, the report cites secondary suites and laneway houses here, rather than rented condominiums.

²²⁰ City of Vancouver, “The Role of Secondary Suites: Rental Housing Strategy - Study 4.”, 3. See also City of Vancouver, “Secondary Suites,” January 13, 2004, <http://council.vancouver.ca/20040301/p2.pdf>. The latter report states that the Tenants Rights Action Coalition (TRAC) formally recommended that the city legalize secondary suites in June 2003.

²²¹ City of Vancouver, “Secondary Suites.”

²²² City of Vancouver, “The Role of Secondary Suites: Rental Housing Strategy - Study 4.” 6.

²²³ Ibid., 6.

either purpose-built apartments or rented condominiums, especially in the city's east side.²²⁴

4.9.3. Laneway houses

In July 2009, Vancouver council voted in favour of amending the city's RS-1 and RS-5 single-family housing zones to allow homeowners to build small homes, referred to as laneway houses, in their backyards.²²⁵ As with secondary suites, this policy change initially faced some opposition due to the increased density it would allow for. However, the change was publicly justified on a variety of grounds, including that allowing laneway houses would increase the supply of rental housing, and this policy rationale continues to be reflected on the city's website.²²⁶ As with secondary suites and due to the difficulties of enforcing the city's zoning rules that prohibit short-term rentals, the city cannot currently ensure that existing or new laneway houses are used for their intended purpose of housing residents, rather than accommodating tourists. This undermines the city's ability to achieve its rental housing policy goals.

4.9.4. Rate of change regulations

One of the main policy mechanisms that the city has for meeting its goal of preserving the existing rental stock is its "rate of change" regulations, which were introduced in 1989, in response to a wave of conversions and demolitions of purpose-built apartment buildings to allow for condominium construction.²²⁷ In general, the

²²⁴ Ibid. 6, 20. Also, CMHC, "Research Highlight: The Secondary Rental Market in Canada - Estimated Size and Composition," Socio-Economic Series, April 2016, <https://www.cmhc-schl.gc.ca/odpub/pdf/68565.pdf?lang=en>. 5.

²²⁵ Sarah Schatz, "Neighbourhood Intensification: Attitudes Towards Laneway Housing in the Dunbar Neighbourhood" (Simon Fraser University, 2013), 6. For a full and current description of the city's definitions of laneway housing and where it is allowed, see City of Vancouver, "Building Your Laneway House," *City of Vancouver*, September 8, 2015, <http://vancouver.ca/home-property-development/building-your-laneway-house.aspx>.

²²⁶ Schatz, "Neighbourhood Intensification: Attitudes Towards Laneway Housing in the Dunbar Neighbourhood.", 6. Also, City of Vancouver, "Laneway Housing (LWH) in Single Family Areas - Issues and Options" (Vancouver, B.C., Canada, October 15, 2008), <http://council.vancouver.ca/20081030/documents/pe3.pdf>., 7. Also, City of Vancouver, "Building Your Laneway House."

²²⁷ City of Vancouver, "Affordable Housing - Presentation to the UBCM." 8.

regulations require a developer who wishes to demolish rental housing to replace each unit, compensate the tenants and assist them with finding new housing.²²⁸ However, the regulations do not cover rental housing in the secondary market and only apply to rental buildings with six or more units.²²⁹ The regulations have proven successful in stemming the loss of purpose-built apartments (the primary rental market), but they are not drafted in a way that allows them to be used to prevent the conversion of secondary suites, rented condominiums or houses (all part of the secondary rental market) to tourist accommodation.

4.9.5. Rental 100

The city created the Rental 100 program, and its predecessor, STIR (short-term rental incentives program) to encourage the creation of purpose-built market rental housing in the absence of provincial or federal programs to do the same.²³⁰ This program, approved in May 2012, is another of the main tools the city uses to achieve its rental housing goals. Under Rental 100, city staff are authorized to offer developers a range of incentives, conditional on the construction of buildings that are 100 percent rental and legally secured as rental for 60 years (or the life of the building). The available incentives are waivers of development cost levies (DCLs), reductions in the number of required parking spots, smaller unit sizes, additional density and faster application processing.²³¹ As well as encouraging developers to build rental housing, these incentives are meant to help achieve more affordable market rents for the finished project.²³² In terms of costs to the city, in 2012 the city estimated that waiving DCLs to

²²⁸ City of Vancouver, "Increased Protection for Renters - Tenant Relocation and Protection Policy and Associated Guidelines." 9.

²²⁹ *Ibid.*, 9.

²³⁰ City of Vancouver, "Secured Market Rental Housing Policy Staff Report," May 8, 2012, http://vancouver.ca/files/cov/secured_market_rental_housing_council_report.pdf. STIR was a previous version of the policy that ran from June 2009 to December 2011. One key difference between STIR and Rental 100 is that STIR did not require that eligible developments be 100 percent rental. The "short-term" referred to the nature of the incentives rather than the nature of the housing.

²³¹ City of Vancouver, "Creating and Preserving Market Rental Housing," text/xml, (September 1, 2015), <http://vancouver.ca/people-programs/creating-new-market-rental-housing.aspx>.

²³² City of Vancouver, "Secured Market Rental Housing Policy," May 2012, http://vancouver.ca/files/cov/secure_market_rental_policy.pdf. 3.

encourage the creation of the 3,350 rental units projected to be built under the Rental 100 policy would amount to foregone DCL revenues of between \$5.6 and 8.6 million, depending on what percentage of projects were granted waivers.²³³ On a per unit basis, that works out to \$1,700 to \$2,600 in waived DCLs, though the city anticipated the average DCL waiver for all-rental projects would be \$5,000.²³⁴ Given the city's low rental vacancy rates, I am not suggesting that controlling or reversing the growth of full-time STR units would render the Rental 100 program and its associated costs to the city unnecessary. However, effective regulation of STRs could certainly add to the rental housing supply and that would in turn reduce the need for the city to spend money on creating new units.

4.9.6. Other rental-related policies

The city has developed many other initiatives and programs to meet its rental housing policy goals, including a rent bank and a publicly accessible database to track maintenance and safety violations. It also has an “emerging policy” to encourage the creation of more family-friendly two and three-bedroom housing units (both rented and owned), in response to an identified under-supply of that housing type.²³⁵ The city has also integrated its housing goals into its environmental goals through its Greenest City Action plan, which refers to the importance of maintaining and creating “complete communities” where residents can walk to the services and stores that meet their daily needs, thereby reducing the need to drive, as well as household transportation

²³³ City of Vancouver, “Secured Market Rental Housing Policy Staff Report.” 9-10. The two scenarios used for estimate purposes were if DCL waivers were offered to 50 percent of projects or to 75 percent. In practice, the city has exceeded its five-year targets for Rental 100 projects, so it is likely that these overall amounts have now been exceeded.

²³⁴ Ibid. 9-10. The per unit cost for the previous, pilot version of Rental 100 (STIR) was considerably higher – up to \$75,000 - because those were larger, mixed rental-strata projects and in addition to waived DCLs, a portion of each project's community amenity contributions were also allocated. City of Vancouver, “Results of Short Term Incentives for Rental (STIR) Program,” March 27, 2012, <http://vancouver.ca/files/cov/stir-presentation.pdf>.

²³⁵ City of Vancouver, “Healthy City Strategy: Housing for Children and Families,” June 9, 2015, <http://former.vancouver.ca/ctyclerk/cclerk/20150609/documents/rr2presentation.pdf>. 11, 19, 27, 29-30.

costs.²³⁶In terms of capital investment, the city designated \$125 million to be spent on affordable housing projects in its 2015-2018 capital plan.²³⁷ I refer to these other efforts to emphasize the fact that the City of Vancouver has invested considerable financial and staff resources in the protection and creation of rental housing and arguably, has done more than any other Metro Vancouver municipality to address its housing crises and meet its related housing policy goals.²³⁸ At the same time, my data suggests that these considerable efforts were undermined by the rapid increase in Airbnb listings in the city over the course of 2015 and the lack of effective and proactive efforts to prevent existing and new market rental units from being used as full-time STRs.

4.9.7. Recent progress on rental housing goals

The city has made significant progress on achieving its targets for enabling new market rental housing in the last five years. According to the city's 2015 "housing report card" it had exceeded its five-year targets for purpose-built rental housing, secondary suites and laneway houses. The five-year target for purpose-built rental was 2,500 units and the city reported 5,119 units, or 205 percent of the target.²³⁹ For suites and laneway houses, the five-year target was 3,000 units and the city achieved 3,547 units or 118 percent of the target.²⁴⁰ Note, however, that in calculating these totals, the city counted not only completed units, which made up only a third of these totals, but also units under construction and approved units, which each made up about one-third of the overall total.²⁴¹ Also, as previously mentioned, while secondary suites and laneway houses are

²³⁶ City of Vancouver, "Greenest City Action Plan 2020," n.d., <http://vancouver.ca/files/cov/Greenest-city-action-plan.pdf>. 31.

²³⁷ City of Vancouver, "Creating Rental Units Remains a High Priority for the City of Vancouver," <http://vancouver.ca/news-calendar/creating-rental-units-remains-high-priority-for-city-of-vancouver.aspx>, *City of Vancouver*, (August 14, 2015). Also City of Vancouver, "Capital Plan for 2015-2018."

²³⁸ A 2012 report by Metro Vancouver lists 39 different tools that the region's various municipalities were using to address housing affordability and the City of Vancouver was using 36 of them – far more than any other municipality at the time. Metro Vancouver, "What Works: Affordable Housing Initiatives in Metro Vancouver Municipalities," November 2012. 54-55.

²³⁹ City of Vancouver, "2015 Housing Report Card: Part 1," May 17, 2016, <http://council.vancouver.ca/20160517/documents/rr1presentation.pdf>.

²⁴⁰ Ibid.

²⁴¹ Ibid.

intended by policy to be used for housing family members or as rental units, the city currently has no effective way of ensuring that is what happens.

As significant as the addition of new market rental units is, especially in absence of provincial or federal government funding, it unfortunately did not result in a higher vacancy rate. On the contrary, the vacancy rate for purpose-built rentals decreased from 2013 to 2015.²⁴² The city is not officially measuring its success against the vacancy rate, which on one hand is reasonable, since many factors outside the city's control, including overall housing starts, international and intra-provincial migration and the rental housing policies of nearby municipalities, affect that rate. However, when asked about the city's rental vacancy rate in relation to Airbnb during a 2016 radio interview, city councillor Geoff Meggs said, "We've quadrupled the number of [rental] units being added each year, but there's very little satisfaction in that when the vacancy rate continues to remain below zero [sic] because of some of these other factors."²⁴³ My findings suggest that the substantial policy efforts and financial investments I have outlined in this chapter are being undermined by the absence of effective measures to prevent and reverse the use of housing as tourist accommodation, as facilitated by Airbnb.

²⁴² The citywide vacancy rate was 1.0 percent in 2013 and 1.1 percent in 2012. CMHC, "Rental Market Report: Vancouver and Abbotsford-Mission CMAs," Fall 2013, https://www.cmhc-schl.gc.ca/odpub/esub/64467/64467_2013_A01.pdf. 14.

²⁴³ "Vancouver Airbnb Listings Increase as Rental Vacancies Fall below 1 per Cent," *The Current* (CBC, March 2, 2016), <http://www.cbc.ca/radio/thecurrent/the-current-for-march-2-2016-1.3472126/vancouver-airbnb-listings-increase-as-rental-vacancies-fall-below-1-per-cent-1.3472258>.

Chapter 5. Findings

This section contains the data I have collected on the number, type and nature of Airbnb listings in Vancouver. I will present my findings starting from the broadest and most general level, then proceed to the more fine-grained. Most data are provided for the dates November 29, 2014, July 1, 2015 and December 3, 2015, allowing for evaluation of change (or lack of change) over a 12-month period. In addition to the start and end dates, I chose the July date with the goal of determining whether listing patterns and rates varied from winter to summer. In some cases, I also looked at data for August 1, 2015, because it is the latest date for which I have Metro Vancouver data, which allows for a comparison among cities in the region.

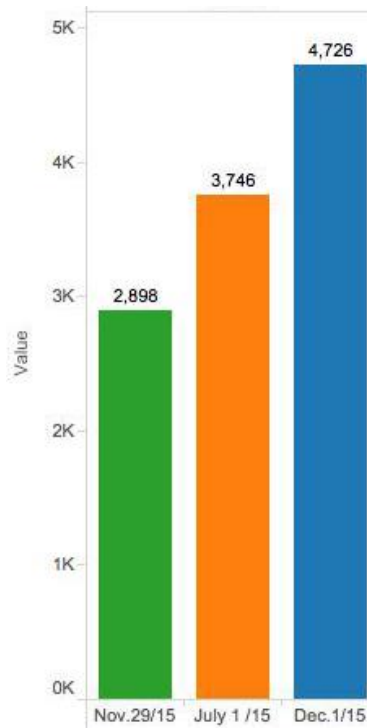
My most fundamental goal was to quantify how many Airbnb listings there were in Vancouver over the 12-month period, since this information has not been publicly available from Airbnb and is needed if the city is to develop new policy on short-term rentals as part of its overall housing goals. My data collection approach was designed to capture all units listed on Airbnb's website for the specified areas. These listings totals (and all that follow) therefore include all listings found on the site on the specified date, regardless of their availability, booking history, or lack thereof.

5.1. Total listings and growth

As Figure 5.1 shows, the total number of Airbnb listings in the City of Vancouver as of November 29, 2014, was 2,898. That figure had climbed to 3,746 on July 1, 2015, a 29 percent increase over the seven-month period. Listings continued to grow over the

remainder of the year. As of December 3, total listings were 4,726, for a 63 percent increase over 12 months.²⁴⁴

Figure 5.1 City of Vancouver Airbnb listings totals, November 29, 2014 to December 3, 2015²⁴⁵



This data shows that listings growth in this 12-month period was not confined to the months leading into summer, but instead continued for the whole year. This is a somewhat surprising finding given that historically, tourism activity in B.C. has been concentrated in the peak period between mid-June and mid-September.²⁴⁶

²⁴⁴ Murray Cox, "Inside Airbnb: Vancouver," *Inside Airbnb*, December 3, 2015, <http://insideairbnb.com/vancouver>.

²⁴⁵ These totals come from the Airbnb listing data I collected (for November 2014 and July 2015), as well as Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015).

²⁴⁶ While referencing the traditional peak season (mid-June to mid-September) as still noticeable, this news article indicates that changing demographics and consumer tastes have begun to blur those distinctions between peak and off-season. Zacharias, "Lower Prices, Clever Marketing Breathe New Life into off-Season." D1.

Regionally, the most recent listings total I have is 5,438 for August 1, 2015. That was a 42 percent increase over the Metro Vancouver total of 3,813 listings on November 29, 2014 (a period of eight months). For the sake of perspective, I have provided some recent listings totals for other North American urban centres along with their populations and approximate number of listings per 1,000 residents. This data can provide only a general sense of where the City of Vancouver ranks in terms of total listings to residents because the dates when the listings totals were collected and the censuses vary.

Table 5.1 Total Airbnb listings and listings per 1,000 residents for selected North American urban areas²⁴⁷

Jurisdiction	Airbnb total listings	Date of listing total	Population, source and date	000s of residents	Total Airbnb listings per 1,000 residents
City of Vancouver	4,726	15-12-03	603,502 Census, 2011	604	7.8
			648,608 prov. govt. est. 2015	649	7.3
Metro Vancouver	5,438	15-08-01	2,313,328 Census, 2011	2,313	2.4
			2,513,869 prov. govt. est. 2015	2,514	2.2
City of Montreal	10,619	16-05-04	1,649,519 Census, 2011	1,650	6.4
City of Toronto	10,207	16-07-05	2,615,060 Census, 2011	2,615	3.9
City of San Francisco	8,619	16-07-02	864,816 U.S. Census est. July 2015	865	10.0
City of Portland	3,360	16-07-04	632,309 U.S. Census est. July 2015	632	5.3
City of Seattle	3,818	16-01-04	684,451 U.S. Census est. July 2015	684	5.6
Los Angeles County	25,475	16-07-03	10,170,292 U.S. Census est. July 2015	10,170	2.5
New York City	38,810	16-07-02	8,550,405 U.S. Census est. July 2015	8,550	4.5

Table 5.1 shows that the number of listings per 1,000 residents is higher in the City of Vancouver than in the cities of Portland and Seattle, which have similarly sized populations. It is also higher than in the cities of Toronto and Montreal, though both those cities are larger by population and land area and less dense than the City of

²⁴⁷ I selected these cities because I wanted to look at the City of Vancouver in relation to other major Canadian cities (for which listing data is available) and also cities on the West Coast of North America, like Vancouver is. I included New York City for perspective, because it is one of Airbnb's top world markets. The listings ratio would have been much higher had I chosen to look at the boroughs of Manhattan or Brooklyn, which have the majority of NYC listings. Figures in this table come from various sources. For the Airbnb listings totals, see InsideAirbnb.com and look at each city's page. The date of the data collection is provided on the map for each city. Data for previous dates can be found on the "Get the data" page. Census populations for Canadian jurisdictions comes from the 2011 Census. Population figures for U.S. jurisdictions come from the U.S. Census Bureau and its annual population estimates, which can be found at U.S. Census Bureau, "American FactFinder," *American Fact Finder*, n.d., <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>. The 2015 population estimates for the City of Vancouver and Metro Vancouver come from BC Stats. BC Stats, "Population Estimates: Municipalities, Regional Districts and Development Regions, 2011-2015" (Government of British Columbia, 2015), <http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>.

Vancouver.²⁴⁸ In July 2015, Airbnb stated it had reached 33,000 listings in Canada, which would mean that the City of Vancouver's listings made up about 11 percent of that total at the time, even though the city had only two percent of Canada's population and private dwellings (as of 2011).²⁴⁹ In terms of where the city ranks globally as an Airbnb destination, Vancouver was not included in a 2015 list of the "largest Airbnb cities outside the U.S." compiled by Airdna, a company that "provides data and analytics to vacation rental entrepreneurs and investors," though Toronto was on the list.²⁵⁰ However, Vancouver placed highly in terms of demand for bookings, according to Airdna. Vancouver's average occupancy rate for entire unit bookings was tied for third place (with Osaka) at 64 percent, behind only Tokyo (68) and Melbourne (66).²⁵¹ The high occupancy rate indicates that Vancouver's Airbnb operators are relatively easily able to fill their available spaces, and this supports continued growth in the number of listings, as well as more frequent use of existing listings. The rate of listings growth in 2015, the disproportionate percentage of Vancouver Airbnb listings in relation to the city's size and the city's high occupancy rate all suggest that new regulation is needed to control and even decrease the amount of Vancouver's housing space that is being used for tourist purposes. If not, the existing quantity of listings and continued growth is likely to undermine the city's ability to achieve its policy goals of protecting and increasing the existing rental stock.

5.1.1. Listings turnover and activity

While my data shows significant growth in listings between November 2014 and December 2015, the fact that the number of units and grew does not necessarily mean that growth was achieved in a straightforward cumulative fashion. I compared the

²⁴⁸ The rate of listings per 1,000 residents would be even lower for these cities if current population estimates were available, as the populations are likely to have grown since 2011. This would increase the difference between the City of Vancouver's listings per 1,000 residents and that of these two other cities.

²⁴⁹ Techvibes NewsDesk, "Airbnb Launches #TheAirbnbBus in Toronto to Celebrate Host Community." Statistics Canada, "2011 Census Profile: City of Vancouver."

²⁵⁰ Scott Shatford, "Hard Data on the Biggest Airbnb Cities in The World," *Airdna: Airbnb Data and Analytics*, September 18, 2015, http://blog.airdna.co/biggest_airbnb_cities_in_the_world/. Also, Airdna, "About," *Airdna*, 2015, <https://www.airdna.co/about>.

²⁵¹ Shatford, "Hard Data on the Biggest Airbnb Cities."

(unique) ID numbers of units listed in November to those listed in December 2015. In doing so, I found that only 1,331 (46 percent) of the units that were listed in November 2014 were still listed in December 2015. The other 3,395 units on the site in December were therefore different and in addition to the ones found there in November 2014.

Table 5.2 Turnover in listings, November 2014 to December 2015²⁵²

	Nov./14	Dec./15
# of listings	2,898	4,726
# of Nov. 2014 listings still on site in Dec. 2015	1,331	
% of Nov. 2014 listings still on site in Dec. 2015	46	

This finding is in keeping with what Tom Slee reported when he analyzed the “churn” rate of Airbnb listings for eight cities between November 2013 and May 2014. He found that over the course of those six months, more than a third of the listings were removed, but were replaced by either a similar or greater number of other listings (depending on the city).²⁵³ While I did not collect any data that illuminated the potential causes of the high turnover rate, Slee concluded that, “It seems likely that many hosts try Airbnb, have a few guests (or none at all) and then simply decide that, for whatever reason, the service is not for them.”²⁵⁴ Slee’s analysis was based on eight cities and it is possible that this same dynamic was at play in Vancouver.

Similarly, it would be useful in future research to distinguish between total listings and “active listings,” which some have done using a combination of the number of reviews and listing calendar data. Applying the criteria Murray Cox developed for “recently and frequently booked” to his December 2015 data results in a total of 1,794

²⁵² These totals come from the Airbnb listing data I collected (for November 2014), as well as Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015).

²⁵³ Tom Slee, “The Shape of Airbnb’s Business (II),” *Whimsley*, June 9, 2014, <http://tomslee.net/2014/06/the-shape-of-airbnbs-business-ii.html>.

²⁵⁴ *Ibid.*

listings or 38 percent of the overall total (4,726).²⁵⁵ Looking at more recent proprietary data, a June 2016 report by Airdna states that the total number of “active” listings (of all room types) for the City of Vancouver was 3,248.²⁵⁶ Obviously, different criteria result in different numbers of active or regularly booked listings.

The 2015 listing turnover data that I have collected and the approaches to identifying active listings that others have developed all indicate that it is useful to group Airbnb listings into two broad categories: those that are frequently versus occasionally booked. For purposes of protecting the existing rental stock for residents’ use, it may therefore be helpful to focus enforcement efforts on those listings that are frequently booked, but doing so would require access to Airbnb’s booking data, which the company has so far not been willing to provide, except in response to subpoena.²⁵⁷ It may also be useful to focus enforcement efforts on listings that have been on the site for at least a year, in order to avoid wasting resources on listings that may have a short shelf life.

5.1.2. Spatial distribution of listings

Understanding the nature of Vancouver Airbnb listings and their implications for rental housing policy requires going beyond answering the “how many” questions to exploring where they were located and how they were distributed across the city and region. This is because the nature of the city’s housing stock varies across the city and because the implications for the city’s rental housing policies, including its approach to short-term rentals, may vary depending on whether listings are evenly spread across

²⁵⁵ To view this total, visit the Vancouver section of InsideAirbnb and select the box for “only recently and frequently booked.” Cox, “Inside Airbnb,” December 3, 2015. Cox defines “frequently rented” as rented for at least 90 days per year. He defines a “recently rented” listing that has been reviewed at least once within the last six months (based on a review rate of 50 percent). These criteria are stated and explained on the website.

²⁵⁶ Airdna does not state its definition of “active” listings, but it does say that “A large percentage of listings on Airbnb are no longer being actively rented, haven’t updated their calendar in many months and haven’t accepted a reservation for an extended period of time” and that those listings are not included in its analyses. Airdna, “Vancouver, Canada Airbnb Rental Property Data and Analytics,” *Airdna*, June 2016, <https://www.airdna.co/sample/ca/vancouver>. Also Airdna, “Data Methodology,” *Airdna*, 2015, <https://www.airdna.co/methodology>.

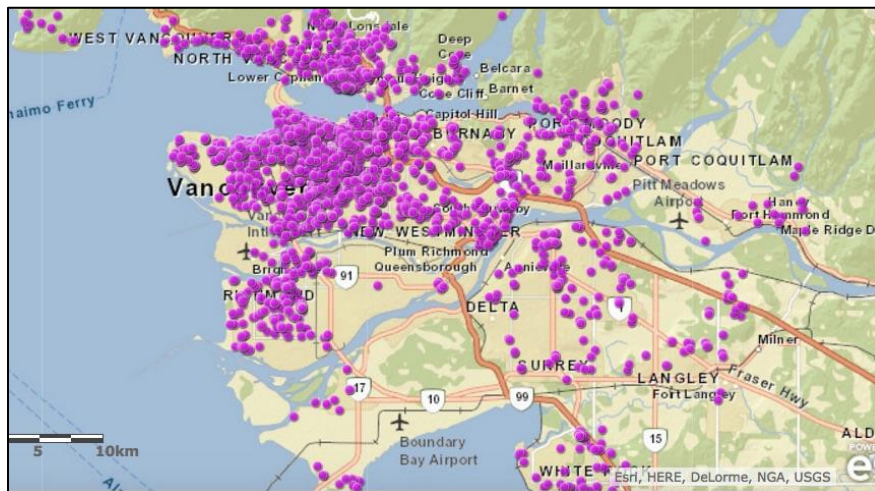
²⁵⁷ The anonymized Airbnb booking and listing data subpoenaed by the New York State’s Attorney General is the basis for that office’s 2014 report. New York State Attorney General, “Airbnb in the City,” October 2014, <http://www.ag.ny.gov/pdfs/Airbnb%20report.pdf>.

the city or concentrated in certain areas. Also, if listings were evenly distributed across the region, the city might find it possible and useful to work with neighbouring local governments to develop a common approach to the short-term rental issue. The next set of maps and tables therefore aims to illustrate how Airbnb listings were geographically distributed over the 12-month study period.

5.1.3. Spatial distribution of listings within Metro Vancouver

An impressionistic understanding of the city-to-region ratio of local Airbnb listings can be obtained by viewing a map of Metro Vancouver listings as of August 1, 2015 (the latest Metro data available).

Figure 5.2 Map of Metro Vancouver listings, August 1, 2015²⁵⁸



As Figure 5.2 shows, the region's listings were overwhelmingly concentrated in the City of Vancouver (see Figure 4.1 for a map of the region's local government boundaries), with the density of listings decreasing the further one moves away from the areas of the city with the densest population and buildings. More precise information on how listings were distributed across the region is provided in Figure 5.3, again, using data collected in August.

²⁵⁸ This map is based on Airbnb listing data I collected for August 1, 2015.

Figure 5.3 Metro Vancouver listings by city, August 1, 2015²⁵⁹

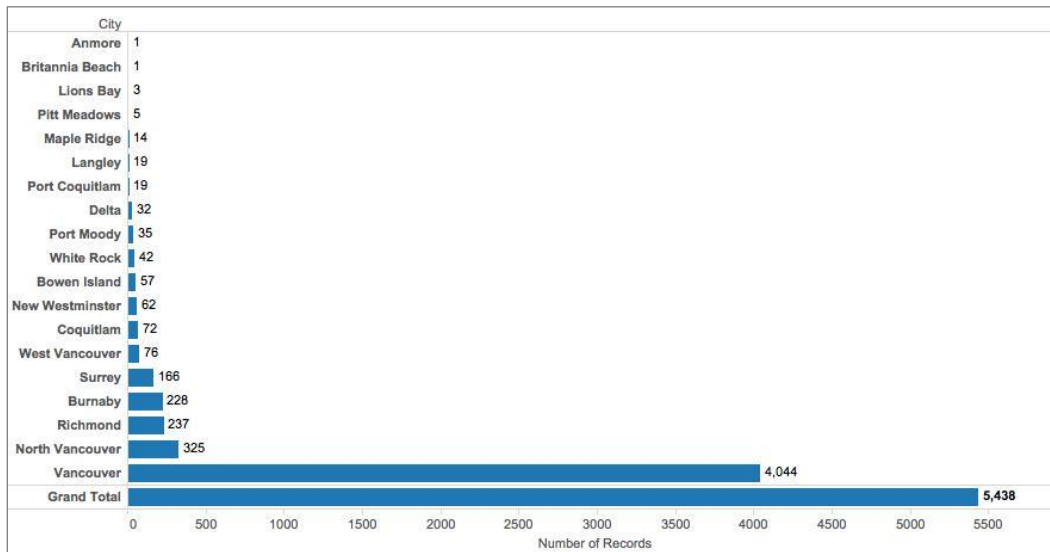


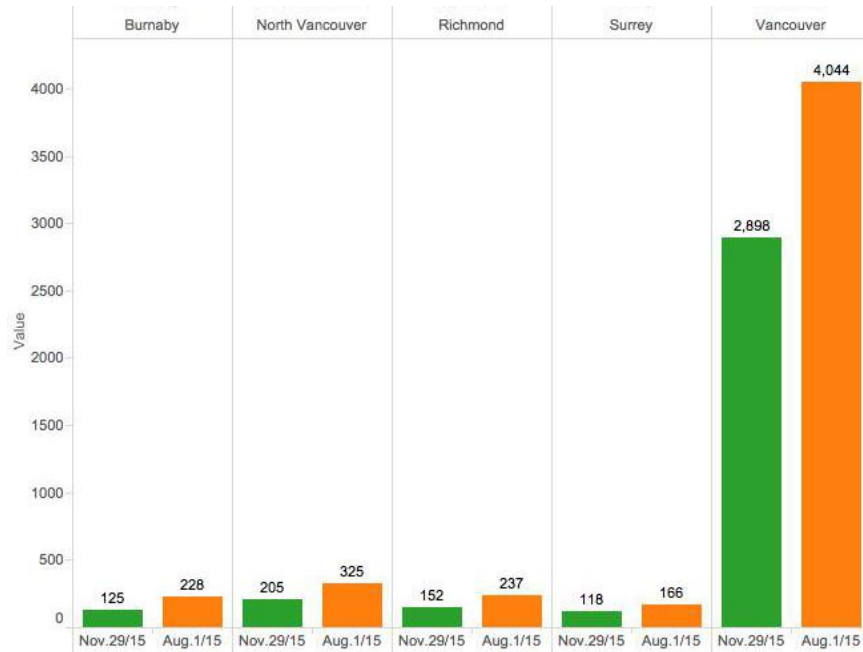
Figure 5.3 shows that 4,044 (74 percent) of the region’s 5,438 Airbnb units were within the City of Vancouver, even though the City of Vancouver has only 26 percent of the region’s population (2,313,328).²⁶⁰ This listing ratio held true for the other dates analyzed, varying by only two percent over the eight-month period (76 percent for November 2014). Given the concentration of regional tourist attractions in the City of Vancouver, this is not a surprising finding.

A review of the growth of listings in the Metro cities with the most listings provides further evidence of the pattern.

²⁵⁹ These totals come from the Airbnb listing data I collected August 1, 2015.

²⁶⁰ Statistics Canada, “2011 Census Profile: Vancouver CMA,” *Statistics Canada*, February 8, 2012, <http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CMA&Code1=933&Geo2=PR&Code2=59&Data=Count&SearchText=vancouver&SearchType=Begin&SearchPR=01&B1=All&Custom=&TABID=1>.

Figure 5.4 Selected city listings totals, November 2014 vs. August 2015²⁶¹



While listings did grow in these communities over the eight months (nearly doubling in Burnaby’s case), the baseline figures were such that even after the growth, their total listings in each case were still less than 10 percent of City of Vancouver totals.²⁶²

Together, this data on the regional distribution of listings shows that for this 12-month period, within Metro Vancouver, Airbnb listings are overwhelmingly concentrated within the City of Vancouver. Vancouver also had a much higher rate of total listings per 1,000 residents (6.7) than other large municipalities within the region, which had rates no higher than 2.0.²⁶³ As a result, it is likely that the other municipalities within the region will be less inclined to prioritize dealing with the issue of short-term rentals, whether for housing reasons or any others, than the City of Vancouver itself.

²⁶¹ These totals come from the Airbnb listing data I collected for November 29, 2014 and August 1, 2015.

²⁶² It was not practical for my purposes to separate the listings for the District and City of North Vancouver in the raw data, so those totals are combined here. The same is true for the District and Township of Langley.

²⁶³ These rates are based on the 2011 census population of the municipalities and the total listings for August 1, 2015, since August is the last date for which I have Metro Vancouver data.

5.1.4. Spatial distribution of listings within the City of Vancouver

The data shows that what was true for the region was also true for the City of Vancouver: that is, listings are concentrated in the core areas, close to public transit, and natural and built amenities. What is also apparent is a clustering of listings in traditional hotel districts (Downtown and West Broadway), although sizable other clusters of listings were also found in residential areas such as Kitsilano, Mount Pleasant, and Grandview-Woodland, where there are few or no hotels. Again, a map provides an impressionistic understanding of the pattern.

Figure 5.5 Map of City of Vancouver listings, August 2015²⁶⁴

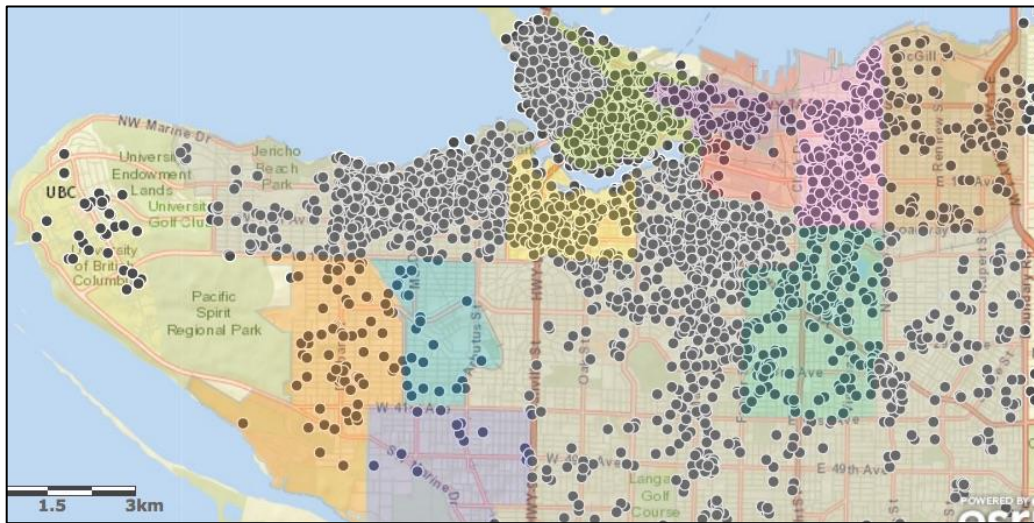


Table 5.3 provides the actual neighbourhood listings totals for each of the three dates examined.

²⁶⁴ This map is based on Airbnb listing data I collected August 1, 2015.

Table 5.3 Spatial distribution of listings in the City of Vancouver, November 2014 to December 2015²⁶⁵

Airbnb neighbourhood	Nov. 29/14		July 1/15		Dec. 3/15	
	#	% of total	#	% of total	#	% of total
Arbutus Ridge	18	1	21	1	35	1
Chinatown	23	1	39	1	43	1
Coal Harbour	15	0.5	20	0.5	21	0.4
Downtown	544	19	718	19	829	18
Downtown Eastside	55	2	59	2	105	2
Dunbar-Southlands	42	1	66	2	103	2
Fairview	172	6	195	5	266	6
Fraserview	43	1	61	2	108	2
Gastown	56	2	62	2	66	1
Grandview-Woodland	183	6	239	6	304	6
Hastings-Sunrise	81	3	109	3	148	3
Kensington-CC	132	5	169	5	231	5
Kerrisdale	16	0.5	17	0.5	24	0.5
Killarney	15	1	21	1	29	1
Kitsilano	325	11	413	11	572	12
Marpole	18	1	44	1	70	1
Mount Pleasant	264	9	348	9	485	10
Oakridge	25	1	36	1	44	1
Point Grey/UBC	41	1	85	2	50	1
Renfrew-Collingwood	77	3	104	3	149	3
Riley Park	116	4	144	4	191	4
Shaughnessy	11	0.3	11	0.3	13	0.3
South Cambie	35	1	47	1	55	1
Strathcona	26	1	24	1	29	1
West End	454	16	504	13	603	13
Yaletown	111	4	190	5	153	3
Totals	2,898		3,746		4,726	

²⁶⁵ These totals come from the Airbnb listing data I collected (for November 2014 and July 2015), as well as Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015). Percentages may not add to 100 due to rounding.

In addition to the concentration of listings in the core areas of the city, review of Table 5.3 shows that the neighbourhood percentages in relation to the city total remained stable over the 12-month period. Despite rapid growth, this percentage share of total listings did not change by more than three percent for any neighbourhood, with most areas remaining the same or varying by only one percent. The areas with the most listings also stayed in the same order: Downtown, West End, Kitsilano, Mount Pleasant, Grandview-Woodland and Fairview. Given that the relative percentages and the order of the neighbourhoods with the most listings were stable over the three dates examined, this data can be taken as a reliable indicator of the geographic pattern of listings over this period.

Comparing this data on the spatial distribution of listings to the data in Table 4.3, which presents the percentage of renting households in the city's neighbourhoods, reveals considerable overlap between the areas that have the most listings and the areas within the city that have the highest percentages of renting households.²⁶⁶ Also, Table 4.5 shows that the top six neighbourhoods in terms of number of rental units (Downtown, the West End, Kitsilano, Fairview, Mount Pleasant and Grandview-Woodland) have 60 percent of the city's total units and these same neighbourhoods are where the highest percentages of Airbnb listings are found, as seen in Table 5.4.

²⁶⁶ The only two neighbourhoods that have percentages of renting households that are higher than 50 and that are not also among the areas with the highest percentages of Airbnb listings are Marpole and Strathcona. Several factors could account for Marpole's lack of Airbnb listings compared to other areas: It is far from the city's best known cultural and natural amenities and is not known as artistic, or gritty or particularly lively – characteristics that “new urban tourists” tend to seek. Also, its housing stock is dominated by single-family homes and purpose-built rental housing (see Figures 4.2 and 4.3 for zoning and neighbourhood boundary maps). While the houses may have secondary suites that are easily converted to short-term rentals, tenants in purpose-built rental buildings are subject to more surveillance and other mechanisms that deter the use of those units for short-term or tourist purposes. Strathcona has a high percentage of renters and is close to downtown amenities and attractions, but as discussed in the Appendix, Airbnb's neighbourhood boundaries for this area do not reflect the generally accepted boundaries and enclose a mainly industrial area with few actual residences.

Table 5.4 Neighbourhoods with highest percentage of Airbnb listings and renting households²⁶⁷

Nbhoods with the highest % of Airbnb listings Dec. 2015	% of city listings	% of renting households 2001, 2006, 2011
Downtown	18	69, 58, 54
West End	13	82, 81, 79
Kitsilano	12	60, 57, 57
Mount Pleasant	10	72, 67, 64
Fairview	6	66, 60 58
Grandview-Woodland	6	71, 66, 65
City of Vancouver		56 52, 51

This correlation between the areas with high percentages of Airbnb listings and areas where the majority of residents rent could be interpreted to suggest that most Airbnb operators are renters, rather than homeowners and owners of investment properties. While it is not possible to know with any certainty or precision what the tenure status of Airbnb operators is, other information suggests that is very unlikely that the majority of Airbnb operators are renters, despite the spatial correlation I have pointed to here. One of the main reasons is that under the provincial *Residential Tenancy Act (RTA)*, tenants must obtain their landlord’s permission to sublet and failing to do so is grounds for eviction.²⁶⁸ Given the widespread publicity there has been to various incidents of property damage and neighbourhood disruption involving Airbnb visitors, it seems unlikely that the majority of landlords would grant their tenants such permission, especially since under the *RTA*, landlords are legally responsible for ensuring all their tenants have “quiet enjoyment” of their units and for maintaining rental units in a condition that meets “health, safety and housing standards.”²⁶⁹ In fact the industry association Landlord BC has taken a strong position against short-term rentals, stating

²⁶⁷ Most of the data in this table is drawn from tables 4.3 and 5.3. For the 2006 tenure figure for the City of Vancouver, see City of Vancouver, “Census Local Area Profiles 2006.”. As noted elsewhere (also see Appendix B), the boundaries of Airbnb’s neighbourhoods and the city’s local planning areas are a close, but not exact match.

²⁶⁸ See section 34(1), Province of British Columbia, *Residential Tenancy Act*.

²⁶⁹ *Ibid.* See sections 28 and 32(1)(a).

that they are “not a business model our industry is embracing.”²⁷⁰ Also, tenants’ use of their units is inherently subject to greater scrutiny than homeowners’ (or investors’) use of their own properties, again due to provisions of the *RTA*, such as the one that allows landlords inspect a rental unit monthly, following the required notice.²⁷¹ Further, while not all tenants may be aware of the specific requirement to obtain their landlords’ permission to sublet, in a rental market such as Vancouver where vacancy rates have been so low for so long, most tenants will be acutely conscious of the difficulties they would face in finding a new rental unit should they have to leave their current one, particularly if they have displeased their current landlord and so cannot offer prospective ones a reference. These conditions also act as a general deterrent to Vancouver tenants becoming Airbnb operators.

A more probable explanation for the overlap of areas with high percentage of Airbnb units and high percentages of renters is that these same areas are also where most of the city’s secondary rental units, which make up about 60 percent of all rental stock, can be found (see Figure 4.2 for the zones where condominiums are concentrated).²⁷² As previously discussed, these secondary units, primarily condominiums and suites in houses, are easily converted to owner occupation – or to use as an STR unit - when tenants move out.

The fact that Airbnb units are concentrated in the parts of the city where most of the renters live and where much of the easily converted secondary rental units are found is cause for concern given the overall shortage of rental units. This data shows that the majority of Vancouver tenants and Airbnb visitors are seeking shelter, whether short-

²⁷⁰ Landlord BC CEO David Hutniak in Wendy McLellan and Sam Cooper, “Not a Business Model Our Industry Is Embracing’: Airbnb’s Crunch on Vancouver Rental Housing Drawing Calls for Government Regulation,” *The Province*, November 27, 2015, <http://www.theprovince.com/business+model+industry+embracing+airbnb+crunch+vancouver+rental+housing+drawing+calls+government/11547046/story.html>.

²⁷¹ See section 29, Province of British Columbia, *Residential Tenancy Act*.

²⁷² For information on composition of the rental housing stock, see Figure 4.4 and Table 4.4. Also, for areas where areas of the city that condominiums are allowed, see City of Vancouver, “Zoning Map” (Vancouver, October 28, 2014). Also, Andy Yan, “The End of the \$1 Million Line for Single Family Homes in the City of Vancouver,” *BT | A | Works*, January 27, 2016, <http://www.btaworks.com/2016/01/27/the-end-of-the-1-million-line-for-single-family-homes-in-the-city-of-vancouver/>.

term or long-term, in the same areas – and are thus being put into competition for the same scarce resource. Given that, as of 2011, 46 percent of Vancouver renters were paying more than 30 percent of their incomes on housing costs, it is unlikely that renters will collectively end up on the winning side of this competition.²⁷³ This close overlap between the areas of the city where most renters live and the parts of the city that are most desirable to Airbnb visitors (based on where the most listings and the most expensive listings are found) has the potential to undermine the city’s efforts to achieve its policy goals of preserving existing rental stock and “increasing affordable housing choices for all Vancouverites.”²⁷⁴

5.2. Types of units

Previous sections have answered the question of how many Airbnb listings there were in the City of Vancouver during the study period, using various units of quantification. The goal of this next section is to understand the types of housing units that were listed. This is relevant to the City of Vancouver’s rental housing policies because it is in the interests of the city to do what it can to encourage and ensure that the types of housing available to residents (and potential future residents it wishes to attract) match residents’ needs. This is why, for example, the city has created incentives that encourage developers to build more units with two and three-bedrooms, since it is only these larger units that are suitable for families with children.

5.2.1. Room type percentages

Airbnb allows for three types of spaces to be listed and booked on its website: “shared room,” “private room” and “entire home/apt.”²⁷⁵ Figure 5.6 shows the breakdown of those listings types for the City of Vancouver on each of the three dates. As is shown,

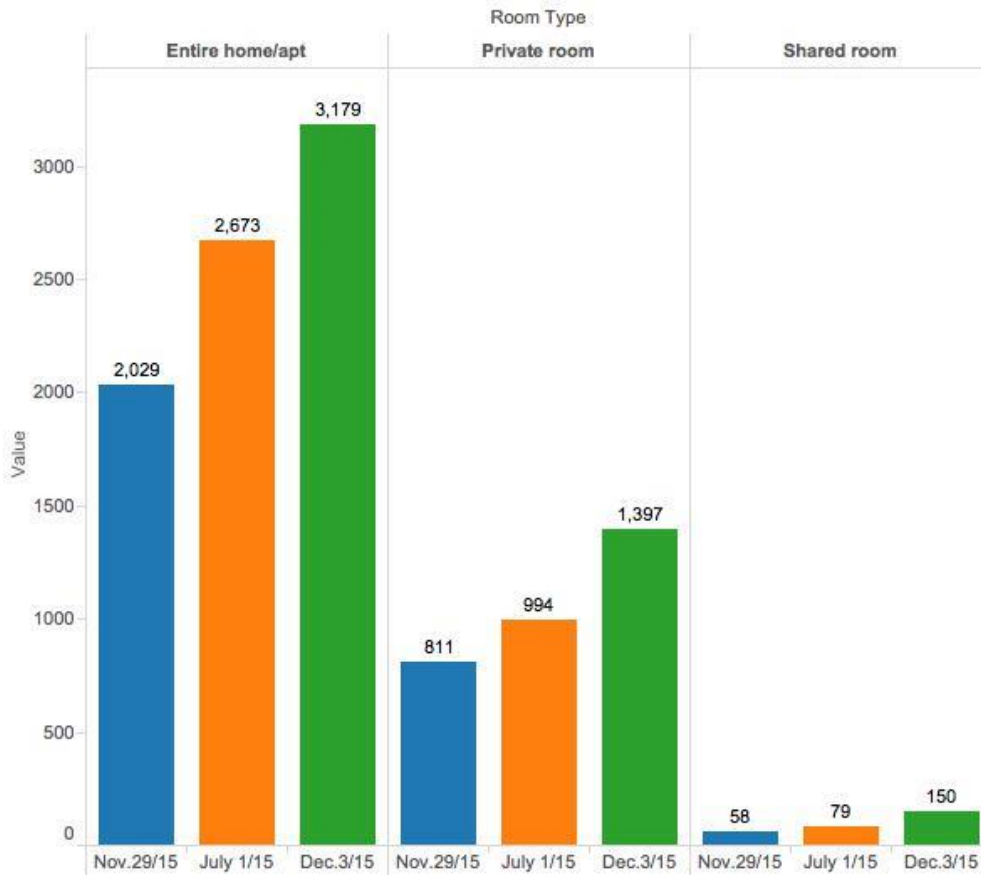
²⁷³ Statistics Canada, <https://www12.statcan.gc.ca/nhs-enm/2011/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=5915022&Data=Count&SearchText=Vancouver&SearchType=Begins&SearchPR=01&TABID=1&A1=All&B1=All&Custom=#tabs1>.

²⁷⁴ City of Vancouver, “Housing and Homelessness Strategy 2012-21: A Home for Everyone.” 5.

²⁷⁵ Airbnb Inc., “What Should I Choose for My Room Type?,” *Airbnb.ca*, accessed November 30, 2015, <https://www.airbnb.ca/help/article/317/what-should-i-choose-for-my-room-type>.

on each date, the “entire home home/apt.” type made up about 70 percent of all listings (70, 71 and 67). Private rooms comprised the other just under 30 percent (28, 27 and 30) and shared rooms filled in the remaining small gap (two, two and three percent).

Figure 5.6 Percentage of room types, November 2014 to December 2015²⁷⁶



It is important for policy-makers to understand how Airbnb actually operates and what types of listings make up the bulk of Airbnb activity in Vancouver because each of these three types of listing has different effects on the supply of long-term rental housing, which I will now discuss.

²⁷⁶ These totals come from the Airbnb listing data I collected (for November 2014 and July 2015), as well as Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015).

Shared rooms

A shared room listing, while growing like other types of listings, is by far the least common form of accommodation available on Airbnb in Vancouver. These listings are where the visitor sleeps on the STR operator's sofa or perhaps on a cot or bunk bed in a bedroom with other guests, intensifying the use of existing housing space. These types of listings do not convert housing space to tourist accommodation because the resident is using the space as housing at the same time as the visitor is using it as tourist accommodation. The two uses exist simultaneously. Because they involve an intensification of use, these types of listings may be problematic for other reasons, such as noise, safety or disruption, but they do not diminish the housing supply unless an operator decides to convert an entire unit into multiple shared rooms and the unit is no longer used as long-term housing at all.

Private rooms

On Airbnb, a private room is one where the visitor does not have to share the space that they sleep in with anyone else, though they will have to share other spaces with the STR operator, such as the kitchen, bathroom or living room.²⁷⁷ This is very similar to a roommate arrangement in long-term rentals. My data indicates that the number of private room listings in the City of Vancouver increased from 811 in November 2014 to almost 1,400 in December 2015. According to Murray Cox's December data, just under 400 (391) of those private rooms were recently and frequently rented and also highly available, suggesting that they were more likely being used as full-time rather than occasional STRs.²⁷⁸ Over the course of Vancouver's history, many residents have been unable to afford to rent an entire, self-contained unit of housing, and instead have had to make their homes in rooming or lodging houses, or in an apartment or house shared with roommates. This remains true today. British

²⁷⁷ Airbnb Inc., "What Should I Choose for My Room Type?"

²⁷⁸ Cox, "Inside Airbnb," December 3, 2015. Cox defines "frequently rented" as rented for at least 90 days per year. He defines a "recently rented" listing that has been reviewed at least once within the last six months (based on a review rate of 50 percent). These criteria are stated and explained on the website. His "highly available" criteria is also 90 days per year.

Columbia's minimum wage was \$10.45 per hour as of September 2015.²⁷⁹ Anyone making that wage, even if working full-time, is unable to afford the rent for an entire self-contained unit of housing in Vancouver, as is evident in Table 4.9, which provides average rents of private apartments.²⁸⁰ Someone working 40-hour weeks at \$10.45 will earn about \$1,700 gross per month. If spending only 30 percent of that gross income (CMHC's affordability threshold) on housing costs, that person would be able to afford only slightly more than \$500 per month. CMHC does not track the rents for private rooms as they do for apartments, but a review of postings on Craigslist and other sites where renters seek private rooms shows that while some are available at that rate, most cost more.²⁸¹ Still, depending on location and various other factors, private rooms rent for several hundred dollars per month less than entire apartments and they are thus an important source of housing for the city's minimum wage and part-time workers. If the city's goal of ensuring a supply of "housing that is accessible, affordable and suitable for all income levels" is to be realized, it seems necessary for the city to find ways of preserving not only entire units, but also private rooms as a source of housing for residents."²⁸²

Entire units

Airbnb allows for the rental of entire, self-contained units of housing, a room type the site refers to as "entire home/apt." With this room type, visitors and the operator of the unit do not occupy the space at the same time and may never meet in person, because all booking and logistics arrangements (such as checking in or out) can be

²⁷⁹ Government of British Columbia, Employment Standards Branch, "Minimum Wage Factsheet," March 2014, http://www2.gov.bc.ca/assets/gov/employment-business-and-economic-development/employment-standards-workplace-safety/employment-standards/factsheets-pdfs/pdfs/minimum_wage.pdf.

²⁸⁰ A report on the minimum wage in B.C. notes that the people earning that wage are not mainly teenagers, as stereotypes would have us believe. The report states that about 74 percent of those earning between \$10 and \$12 per hour are adults, and we can therefore reasonably assume they need to pay for their shelter themselves. See David Green, "The Case for Increasing the Minimum Wage: What Does the Academic Literature Tell Us?" (Vancouver: Canadian Centre for Policy Alternatives, April 2015), https://www.policyalternatives.ca/sites/default/files/uploads/publications/BC%20Office/2015/04/CCPA-BC-Case-for-Incr-Minimum-Wage_0.pdf.

²⁸¹ Craigslist, "Search Rooms and Shares," Craigslist Vancouver, (n.d.), <https://vancouver.craigslist.ca/search/van/roo>.

²⁸² City of Vancouver, "Housing and Homelessness Strategy 2012-21: A Home for Everyone." 5.

made by email or telephone or with the help of a third party, if necessary. Visitors have the entire unit to themselves for the duration of the booking.²⁸³ The number of entire Airbnb units is important to know because it provides a starting point for measuring how many such units may be devoted exclusively to STR use. Renting out entire units only occasionally, when the usual occupant is away for a short time, does not subtract from the housing supply available to residents, because a resident occupies the unit before and after the STR booking. However, if a unit is used only for STR purposes, that unit may be subtracting from the supply of housing available for residents.²⁸⁴ Entire units made up the vast majority of listings over the course of my study period – between 67 and 71 percent depending on the date.

As discussed in Chapter 4, building new purpose-built rental housing is expensive and time-consuming. It also seems to require public subsidy and incentives to persuade developers to build this type of housing instead of condominiums.²⁸⁵ It can also be politically expensive, in that nearby residents often oppose proposals for new multi-family housing, for a variety of reasons.²⁸⁶ These factors increase the importance of preventing entire housing units from being used exclusively as short-term rentals and reclaiming units that have already been converted to that purpose.

²⁸³ Airbnb Inc., “What Should I Choose for My Room Type?”

²⁸⁴ I say “may be subtracting” here because I acknowledge that some property owners who post their properties on Airbnb may not or would not choose to make those properties available for long-term rental if they did not have the STR option. Reasons for this could include not wanting to be subject to the legal obligations of landlords and not deeming the revenue from long-term rental sufficient to offset the risks.

²⁸⁵ This is based on the very low number (50 to 120 in 2006, 2007 and 2008) of purpose-built units that were constructed annually in Vancouver in the years prior to the city initiating incentive programs (STIR and Rental 100). City of Vancouver, “Results of Short Term Incentives for Rental (STIR) Program.” 10. Currently, there are no corresponding programs at provincial or federal levels.

²⁸⁶ Simon Fraser University Urban Studies Program and Greater Vancouver Homebuilders Association, “Residential Building Approval Processes In Metro Vancouver - Year 2: Focus on WoodFrame Apartments.” 16, 31. For a 2016 example of Vancouver neighbourhood groups unified against rezoning to allow for the construction of a new rental apartment building and some of the reasons for the opposition, see Coalition of Vancouver Neighbourhoods, “CVN Letter Supports Cedar Cottage Area Neighbours in Opposition to 3365 Commercial Dr. Rezoning,” *Coalition of Vancouver Neighbourhoods*, April 20, 2016, http://coalitionvan.org/posts/cvn_letter_ccan_3365_commercial_dr/.

5.2.2. Number of units by room type and neighbourhood

My data also allowed me to break down how the room type listings were distributed across the city for each date, as is shown in Table 5.5. I chose not to include the shared rooms in this table, since their absolute numbers are small and also because they do not subtract from the rental housing supply available for residents and are therefore less germane to my research question.²⁸⁷ As well as showing the absolute number of the two main room types in each Airbnb neighbourhood for each of the three dates, Table 5.5 also shows that these room type percentages were stable across the three dates, generally fluctuating by between zero and a maximum of two percent.

²⁸⁷ This is true unless, as previously mentioned, unless an operator decides to convert an entire unit into multiple shared rooms and the unit is no longer used as long-term housing at all.

Table 5.5 Room types by neighbourhood, Nov. 2014 to Dec. 2015²⁸⁸

Purple = percentage variations of two percent or more within the 12-month period.

	Entire Units						Private Rooms					
	Nov.	% of all EU in city	July	% of all EU in city	Dec.	% of all EU in city	Nov.	% of all PR in city	July	% of all PR in city	Dec.	% of all PR in city
Arbutus Ridge	6	0	12	0	14	0	12	1	9	1	19	1
Chinatown	21	1	35	1	36	1	2	0	4	0	7	1
Coal Harbour	13	1	17	1	17	1	2	0	3	0	4	0
Downtown	444	22	593	22	674	21	95	12	115	12	142	10
Downtown Eastside	38	2	45	2	69	2	17	2	13	1	36	3
Dunbar-Southlands	31	2	42	2	58	2	11	1	22	2	43	3
Fairview	115	6	135	5	192	6	56	7	57	6	63	5
Fraserview	13	1	26	1	47	1	30	4	35	4	59	4
Gastown	52	3	59	2	61	2	4	0	3	0	3	0
Grandview-Woodland	112	6	155	6	191	6	62	8	81	8	100	7
Hastings-Sunrise	40	2	52	2	72	2	39	5	54	5	70	5
Kensington-Cedar Cottage	56	3	75	3	106	3	66	8	79	8	111	8
Kerrisdale	11	1	9	0	12	0	4	0	8	1	12	1
Killarney	1	0	1	0	5	0	14	2	19	2	22	2

²⁸⁸ These totals come from the Airbnb listing data I collected (for November 2014 and July 2015), as well as Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015).

Kitsilano	232	11	312	12	411	13	89	11	95	10	143	10
Marpole	3	0	11	0	27	1	14	2	31	3	40	3
Mount Pleasant	212	10	279	10	370	12	49	6	64	6	105	8
Oakridge	9	0	12	0	15	0	16	2	23	2	28	2
Point Grey-UBC	29	1	59	2	29	1	12	1	23	2	20	1
Renfrew-Collingwood	19	1	38	1	43	1	53	7	60	6	98	7
Riley Park	90	4	110	4	127	4	26	3	34	3	59	4
Shaughnessy	6	0	6	0	6	0	5	1	5	1	7	1
South Cambie	23	1	27	1	29	1	12	1	20	2	26	2
Strathcona	21	1	18	1	21	1	5	1	5	1	7	1
West End	341	17	387	14	428	13	98	12	104	10	141	10
Yaletown	91	4	158	6	119	4	18	2	28	3	32	2
Totals	2,029	100	2,673	100	3,179	100	811	100	994	100	1,397	100

Collecting data on the geographic distribution of the various room types allowed me to look at the number of entire units in each Airbnb neighbourhood in relation to the number of rental units.²⁸⁹ To create Table 5.6, I used the city's data on the number of rental units in each of its local planning areas and calculated how many of those units would be available in a given month, assuming a 0.7 percent vacancy rate.²⁹⁰ For context, I also included the percentage of the city's rental housing in the local planning areas. This data can only approximate the relationship between the number of entire-unit Airbnb listings and the amount of rental housing available, because Airbnb has more neighbourhoods than the city has local planning areas, but the boundaries are similar enough to provide a general sense of the relationship between the amounts of each.²⁹¹

²⁸⁹ There are more Airbnb neighbourhoods than the city has local planning areas, which is why there are gaps in the two last columns. For a discussion of boundary issues, see Appendix B. Also, the city's data on rental units (particularly regarding secondary rental stock) is derived from the 2011 NHS and it is likely that the number of rental units was greater in 2015 than it was in 2011.

²⁹⁰ I chose to use a 0.7 percent vacancy rate for these purposes because the latest information from CMHC (i.e. its October 2015 rental market survey) indicates that the citywide vacancy rate is 0.6 percent for purpose-built rentals and 0.9 percent for rented condominiums. Vacancy rates for other types of secondary market rental units (suites and houses) are not available. See Table 4.7 for these calculations and further explanation.

²⁹¹ For example, the boundaries of downtown as defined by the city include Yaletown and Coal Harbour. See Figure 4.3 and associated notes for a map of the city's local area boundaries. Airbnb does not provide a city map with its neighbourhood boundaries, though boundaries of a particular Airbnb neighbourhood can be seen when one views an individual listing page. For a discussion of boundary issues, see Appendix B.

Table 5.6 Neighbourhood patterns in total Airbnb listings, entire units and rental units²⁹²

Airbnb Neighbourhood	# of entire unit Airbnb listings Dec. 2015	# of L-T rental units available at 0.7% vacancy (2011)	% of city's total rental units (2011)
Arbutus Ridge	14	13	1
Chinatown	36	-	-
Coal Harbour	17	-	-
Downtown	674	115	12
Downtown Eastside	69	-	-
Dunbar-Southlands	58	10	1
Fairview	192	75	8
Fraserview	47	-	-
Gastown	61	-	-
Grandview-Woodland	191	63	7
Hastings-Sunrise	72	31	3
Kensington-Cedar Cottage	106	50	5
Kerrisdale	12	14	1
Killarney	5	27	3
Kitsilano	411	90	9
Marpole	27	40	4
Mount Pleasant	370	65	7
Oakridge	15	11	1
Point Grey-UBC	29	13	1
Renfrew-Collingwood	43	48	5
Riley Park	127	24	2
Shaughnessy	6	5	0.5
South Cambie	29	8	1
Strathcona	21	31	3
West End	428	164	17
Yaletown	119	-	-
Total	3,179		

²⁹² This table uses data already presented in or derived from Table 5.5 (for the second column, on the number of entire unit Airbnb listings by neighbourhood) and Table 4.5 (for the last two columns). See note 290 for the vacancy rate percentage.

I also want to emphasize here that the number of entire units in any given neighbourhood does not equate to the number of units that might otherwise be available to long-term renters if it were not for the existence of Airbnb or other STR platforms. As Airbnb routinely points out, many people rent out only their own primary residences on only an occasional basis and this type of activity does not subtract units from the long-term rental stock. I discuss how the number of entire units devoted to full-time STR use can be approximated in section 5.7. For the purposes of this section, however, I do think it is relevant to look at the number of entire units in the various neighbourhoods in relation to the approximate vacant rental stock. As Table 5.6 shows, if even one-third of entire units are being used as full-time STRs, there are cases where that would nearly equal or exceed the number of vacant rental units at a 0.7 percent vacancy rate, based on city and CMHC data.²⁹³ For example, that would be true in the West End, Mount Pleasant and Kitsilano, which are all areas with significant concentrations of both the city's long-term rental housing and overall Airbnb listings.²⁹⁴

This data in this section has offered a more detailed and nuanced look at the spatial distribution data discussed in section 5.2.2 and provides more evidence that there is cause for concern over the competition for shelter that Airbnb sets up between tenants and tourists.

5.2.3. Listings by number of bedrooms

It is also possible to categorize Airbnb listings by their number of bedrooms. This provides another way of understanding the amount and type of housing space that was (either occasionally or regularly) used for tourist accommodation. While there is great

²⁹³ The one-third ratio that I reference here is not chosen randomly. In section 5.7 and Table 5.17, I reason that this is a reasonable approximation of the percentage of entire units devoted to full-time STR use, based on the December 2015 data collected by Murray Cox of Inside Airbnb.com.

²⁹⁴ These three areas are also ones where there appears to be very close correspondence between the city's local planning area boundaries and Airbnb's neighbourhood boundaries. I did not include downtown here because Airbnb's downtown neighbourhood is smaller than the city's definition of the area. For example, Yaletown and Coal Harbour are usually included in the city's definition of downtown.

variation in square footage among housing units with the same number of bedrooms, the number of bedrooms does offer a means to approximate unit size.

STR operators are expected to choose the appropriate bedroom number from a drop-down list when creating their listings. The exception is when the listing is for a private or shared room. In that case, Airbnb's online interface does not allow for user choice, instead defaulting to "1." Since entire units make up a solid majority of Vancouver listings and are the only ones that vary by bedroom size, I have analyzed only entire units here.

As seen in Table 5.7, the majority (58, 55 and 55 percent) of entire units were one-bedroom units on each of the three dates examined. This is unsurprising, given that it has already been shown that listings are concentrated in the areas of the city closest to the downtown core, where land prices are generally highest and housing unit sizes correspondingly smaller. About 25 percent of entire units had two bedrooms and between eight and 10 percent had three or more. Lastly, this field was blank for 10 percent of the listings on each date. In some cases, this blank may result from the operator not supplying the information, while in others the blank field is likely associated with studio units.²⁹⁵

²⁹⁵ I started the process of posting a listing in order to better understand the choices available to operators. However, I did not complete the process and so am unsure whether it is possible for an operator to complete and post a listing for an entire unit without selecting an option in the "bedrooms" drop-down menu. When listing an entire unit, "studio" is a choice operators can select in the bedrooms drop-down menu instead of a numeral.

Table 5.7 Entire units by number of bedrooms, November 2014 to December 2015²⁹⁶

# of bedrooms	November 2014		July 2015		December 2015	
	#	% of units	#	% of units	#	% of units
1	1,173	58	1,477	55	1,752	55
2	490	24	678	25	795	25
3 or more	162	8	255	10	304	10
Studio/Unknown	204	10	263	10	328	10
All entire units	2,029	100	2,673	100	3,179	100

We know from 2011 NHS data that 41 percent of the city’s overall housing stock is made up of studios and one-bedroom units, which means that, at well over 50 percent of listings on all three dates, this unit size was over-represented among Airbnb listings for the study period.²⁹⁷

On the other hand, the lack of larger units that are suitable for families, whether available for purchase or rent, has been identified as a problem in Vancouver and, as discussed in Chapter 4, city policy is now moving towards requiring more larger units in new multi-family housing developments.²⁹⁸ Table 5.7 shows there were at least 652 units with two or more bedrooms listed on Airbnb as of November 2014 and this number had increased to almost 1,100 by December 2015. Meanwhile, the citywide vacancy rate for two-bedroom private apartments was critical: 0.7 percent in 2015 and zero percent for units of three or more bedrooms in eight out of the 10 CMHC zones (see Table 4.6).²⁹⁹

While I do not know the percentage of the larger units listed on Airbnb that were devoted exclusively to STR use, these listings totals combined with the dire need for more family-suitable housing suggests that it would be easier and quicker for the city to

²⁹⁶ These totals come from the Airbnb listing data I collected (for November 2014 and July 2015), as well as Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015).

²⁹⁷ Statistics Canada, “NHS Profile, Vancouver, CY, British Columbia, 2011.”

²⁹⁸ City of Vancouver, “Healthy City Strategy: Housing for Children and Families.”, 10, 27, 29-30.

²⁹⁹ Canada Mortgage and Housing Corporation, “Rental Market Report: Vancouver and Abbotsford-Mission CMAs.” 17.

meet its family-friendly housing goals if it would find a way to discourage or ban the use of units with two or more bedrooms as full-time STRs.

Since the lack of family housing options has been the subject of so much concern in Vancouver, I also examined the geographic distribution of the larger (by number of bedrooms) Airbnb listings. Table 5.8 shows that across all three dates, at least 70 percent of those units were found in 12 areas of the city that were close to the core, the frequent public transit network, and major public green spaces that families of all income levels can use for recreation. It is somewhat surprising that more of these larger units were not found in the areas of the city further from the core, where detached single family homes and larger housing unit sizes are far more common. Instead, the spatial distribution of these larger entire Airbnb units seems to closely mirror the distribution of other sizes and types of listings.

Table 5.8 Number of 2+ bedroom listings by neighbourhood, November 2014 to December 2015³⁰⁰

Neighbourhood	Nov.29/ 2015		July 1/2015		Dec.3/15	
	#	% of all city 2bdms	#	% of all city 2bdms	#	% of all city 2bdms
Chinatown	4	1	8	1	6	1
Coal Harbour	6	1	9	1	7	1
Downtown	154	24	193	21	208	19
Downtown Eastside	13	2	16	2	27	2
Fairview	24	4	34	4	40	4
Gastown	10	2	11	1	10	1
Grandview-Woodland	42	6	64	7	85	8
Kitsilano	87	13	142	15	171	16
Mount Pleasant	57	9	74	8	90	8
Strathcona	4	1	7	1	4	0
West End	49	8	55	6	70	6
Yaletown	30	5	52	6	46	4
Selected nbhood totals	480	74	665	71	764	70
All 2+ bdms in city ³⁰¹	652		933		1,099	

Again, this data suggests that the city could more easily meet its family-friendly housing policy goals, as well as its greenest city “complete community” housing goals, if it took active steps to protect the supply of rental units of two or more bedrooms from conversion to full-time tourist use, especially in neighbourhoods that provide the amenities and services that low- and moderate-income families rely on.

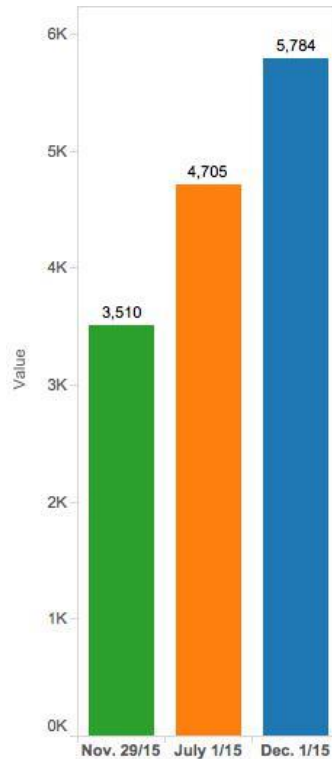
³⁰⁰ These totals come from the Airbnb listing data I collected (for November 2014 and July 2015), as well as Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015).

³⁰¹ The totals in this row are the sum of totals found in Table 5.7 for 2 bedroom units and units with three or more bedrooms.

5.2.4. Total number of bedrooms

It is also possible to simply quantify the total number of bedrooms in Airbnb listings over the three selected dates. The data in Figure 5.7 includes bedrooms that were listed as private rooms and those that were included in entire units.³⁰²

Figure 5.7 Total number of bedrooms listed on Airbnb, November 2014 to December 2015³⁰³



As Figure 5.7 shows, the number of bedrooms listed on Airbnb (in private rooms and entire units) in the City of Vancouver grew from 3,510 as of late November 2014 to 5,784 in early December 2015, a 65 percent increase. In Table 4.8, I showed that

³⁰² I chose not to include the “bedrooms” in the “shared rooms” category here because some of those shared rooms may be living rooms and I did not think it worthwhile to count these for purposes of separating them. Also, shared spaces by definition already have someone living in them and so are less relevant to understanding issues such as the amount of space devoted to Airbnb use that might otherwise be used to alleviate Vancouver’s housing shortages.

³⁰³ These totals come from the Airbnb listing data I collected (for November 2014 and July 2015), as well as Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015).

according to the Canadian Rental Housing Index, an additional 25,000 bedrooms were needed in Vancouver (as of 2011) to remedy the city’s “bedroom shortfall,” meaning the number of bedrooms required to relieve crowding, as defined by the CMHC.³⁰⁴ The fact that so many more bedrooms are needed to meet basic occupancy standards raises the question of whether the “extra” space that Airbnb encourages people to monetize is in fact “extra” at all, if extra is taken to mean more than is needed.³⁰⁵ Of course, it is unlikely that many of the bedrooms rented through Airbnb are located in crowded dwellings, as crowded dwellings by definition do not have extra space. Instead many of the bedrooms rented through Airbnb are likely to be rented on a part-time basis, when the usual occupant is away, or found in larger dwellings, perhaps left vacant after grown children moved away. Still, the facts are that Vancouver has a bedroom shortage and a crowding problem while in 2015 almost 5,800 bedrooms – 23 percent of the number that would be required to address the bedroom shortfall - were listed on Airbnb as available for tourists at least some of the time. Therefore, along with pro-active enforcement of any regulations that limit short-term rentals, local and provincial governments may wish to consider ideas discussed in the literature, such as developing mechanisms to encourage landlords and STR operators to rent bedrooms to residents instead of tourists, or adapting the Airbnb model to match residents in need of housing with those who are able and willing to provide it.³⁰⁶

5.2.5. Property types

As mentioned, the December listing data collected by Murray Cox of InsideAirbnb has more attributes than the data I collected myself. One of the additional attributes is property type, which is another way of categorizing a listing.

Airbnb’s website provides a drop-down menu with almost 30 property type options, ranging from the most common (apartment, house, condominium) to the unusual (castle, boat, tipi, tree house, igloo). The room type and property type fields are separate, so it is possible to list “private room” or “shared room” as the room type and

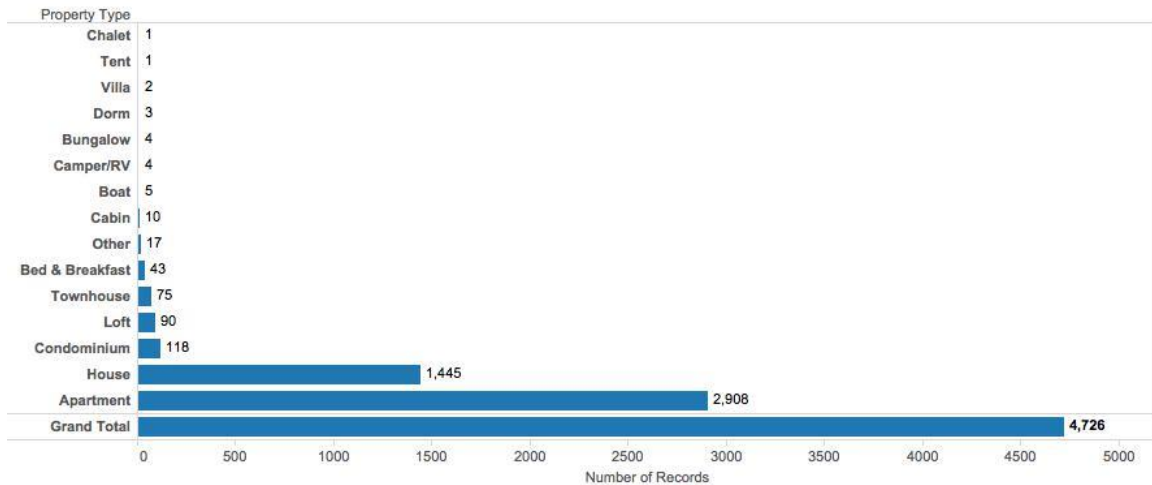
³⁰⁴ BC Non-Profit Housing Association, “Canadian Rental Housing Index.”

³⁰⁵ Airbnb, “About Us - Airbnb.”

³⁰⁶ See, Wyatt, “When Vacancies Are an Asset.” Also, Ellen, “Housing Low-Income Households.”

“house” as the property type if that is where the listing is located. Figure 5.8 shows the number of listings of each property type for the City of Vancouver for December 2015.

Figure 5.8 Property types, December 2015³⁰⁷



In December 2015, 62 percent (2,908) of listings were for “apartments” and 31 percent were in or for “houses.” Also, two percent of listings (118) were for “condominiums.” I reiterate here that selecting the property type is up to operators and those choices are not verified by Airbnb. Because of this, and also because the distinction between “apartment” and “condominium” is one of law rather than building form, I believe it is more useful to consider these two categories together, rather than interpreting the number of “condominium” listings as an accurate representation of the quantity of listings in legal condominiums. When considering apartments and condominiums together, they make up 64 percent of all December 2015 listings.

The fact that only 31 percent of listings were in or for houses is not surprising given that listings are concentrated in areas of the city where relatively few single family houses are found (see the city zoning map, Figure 4.2).

There were also 43 listings categorized as bed-and-breakfasts. Another 17 were categorized as “other.” It is possible that some or all of the latter were hotel listings, as

³⁰⁷ These totals come from the Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015).

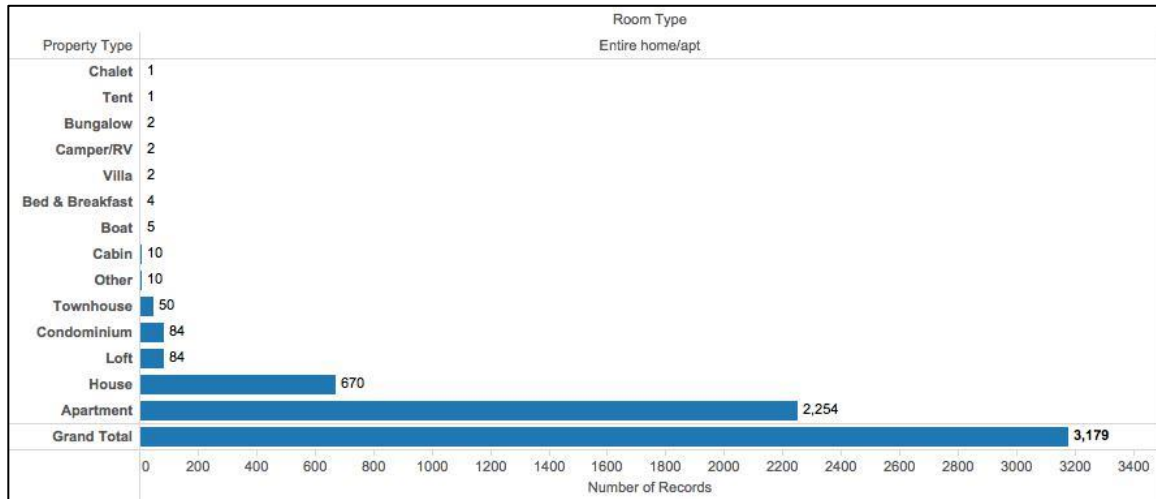
boutique hotels in other cities have been known to use Airbnb to advertise units. There is not a separate “hotel” category in the property type drop-down menu.

While I do not know how many of the listings in condominiums or apartments were used as full-time rentals, the fact that the majority of listings were in apartments and condominiums is notable in that rented condominiums make up at least 16 percent of the city’s overall rental housing stock (as shown in Figure 4.4) and are easily (compared to purpose-built units) converted to short-term rentals. Because building new purpose-built rentals seems to be dependent on city incentives and can be a long and contentious process, achieving the goal of increasing the supply of affordable housing choices for the renters will require the city to find ways to discourage the use of rented condominiums as full-time short-term rentals and instead encourage them to be used for their intended purpose – housing for residents.

5.2.6. Entire units by property type

Given that entire units make up the bulk of listings, I decided to analyze the breakdown of property types within that room type. At 71 percent, the proportion of apartments is even higher among entire units than among listings overall. This figure rises to 74 percent if condominiums are included. Houses make up only 21 percent of entire unit listings (670). This data serves to emphasize the points made in the previous section.

Figure 5.9 Property type percentages for entire units, December 2015³⁰⁸



5.3. Average nightly rates

I used nightly rate data for each of the three dates to calculate average nightly rates for four different types of listings (private rooms and 1, 2 and 3-bedroom entire units), by neighbourhood. This level of rate specificity allows for a nuanced picture of nightly rates and also for more accurate comparisons to average monthly long-term rental rates for similarly sized and located properties.

A fact to be kept in mind when reviewing this rate data is that it includes the nightly rates for all listings, whether or not they had ever been reviewed. This means that rates that were set too high to attract bookings are factored into these calculations. The average rates I have provided are therefore likely to be somewhat higher than the rates for properties that were frequently booked. Further and more precise analysis of rates could be conducted by excluding listings that had no or very few reviews from the calculations, but I have not done that here.³⁰⁹

³⁰⁸ These totals come from the Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015).

³⁰⁹ An additional complication here is that there are other reasons for listings to have no or few reviews, including the recency of a listing and its availability for booking.

The one somewhat consistent pattern that emerges from this rate data is that of increases from winter 2014 to summer 2015 and year over year. While there were exceptions, that was the most common pattern across all sizes of listings. For private rooms, this pattern existed for 11 of the 26 Airbnb neighbourhoods. It also existed for 16 neighbourhoods when looking at one-bedroom entire units, 15 when looking at two-bedroom entire units, and nine when looking at three-bedroom entire units. This pattern appeared more often in the neighbourhoods with larger numbers of listings than in those that had fewer. It showed up for seven neighbourhoods across all listing types analyzed, with the exception of private rooms, which I did not analyze. Where rate changes deviated from this pattern, it was sometimes because rates decreased from November 2014 to July 2015, but more often because the December 2015 rate was lower than the average for November of the previous year. In some cases the November 2014 rate was higher than both the July and December 2015 rates, again in areas with the fewest listings.

In order to even out the fluctuations in average rates that can result from the fact that some neighbourhoods have very few listings (overall or in specific size categories or on certain dates, as shown in Table 5.5), I calculated averages of the average nightly rates, using all three dates. Even after doing so, there were considerable differences in nightly rates for the various listing categories. For private rooms, the three-date average ranged from \$45 per night in Fraserview to \$115 in Coal Harbour. The average for all areas was \$76. When it comes to entire units, for one-bedrooms, the lowest average rate was \$67 in Killarney and the highest was \$171 in Yaletown. The one-bedroom entire unit average for all areas and dates was \$116. For two-bedrooms, the lowest average rate was \$95 in Renfrew-Collingwood and the highest was \$260 in Chinatown. The average was \$163. For three-bedroom listings, the lowest average rate was again in Fraserview: \$162. The highest average rate was \$592, in Coal Harbour. The average for all areas was \$276.

Table 5.9 Average nightly rates by size of listing and neighbourhood, November 2014 to December 2015³¹⁰

Purple = increases in July or December 2015 relative to November 2014 | Yellow = decreases from November 2014 to July 2015 | Green = decreases from November 2014 to December 2015

Neighbourhood	Private rooms				1bdms				2bdms				3bdms			
	Nov	July	Dec.	Avg. \$	Nov.	July	Dec.	Avg. \$	Nov.	July	Dec.	Avg. \$	Nov.	July	Dec.	Avg. \$
Arbutus Ridge	\$63	\$75	\$72	\$70	\$125	\$153	\$117	\$131	\$139	\$141	\$112	\$131	\$645	\$426	\$370	\$480
Chinatown	\$93	\$80	\$97	\$90	\$100	\$153	\$126	\$126	\$325	\$221	\$233	\$260	-	\$199	-	\$199
Coal Harbour	\$137	\$111	\$97	\$115	\$162	\$158	\$119	\$146	\$187	\$210	\$211	\$203	\$500	\$684	-	\$592
Downtown	\$100	\$106	\$87	\$98	\$130	\$162	\$142	\$145	\$195	\$231	\$217	\$214	\$268	\$344	\$302	\$305
DTES	\$70	\$71	\$65	\$69	\$109	\$110	\$121	\$113	\$133	\$174	\$161	\$156	\$196	\$229	\$223	\$216
Dunbar-South.	\$88	\$86	\$82	\$85	\$100	\$111	\$116	\$109	\$141	\$178	\$182	\$167	\$198	\$215	\$261	\$224
Fairview	\$79	\$84	\$88	\$83	\$110	\$133	\$119	\$121	\$172	\$207	\$170	\$183	\$348	\$300	\$256	\$301
Fraserview	\$41	\$50	\$47	\$46	\$83	\$75	\$77	\$78	\$139	\$134	\$135	\$136	\$129	\$189	\$167	\$162
Gastown	\$80	\$89	\$85	\$85	\$166	\$185	\$162	\$171	\$223	\$280	\$252	\$251	-	-	-	-
GV-Woodland	\$83	\$90	\$77	\$84	\$89	\$103	\$94	\$95	\$128	\$142	\$140	\$137	\$185	\$203	\$215	\$201
Hast-Sunrise	\$58	\$54	\$48	\$54	\$93	\$107	\$93	\$98	\$125	\$152	\$117	\$131	\$172	\$145	\$203	\$173
Kens-CC	\$57	\$64	\$59	\$60	\$93	\$101	\$100	\$98	\$113	\$131	\$139	\$128	\$204	\$189	\$217	\$203
Kerrisdale	\$65	\$75	\$120	\$87	\$113	\$115	\$117	\$115	\$182	\$212	\$130	\$175	\$225	\$318	\$223	\$255
Killarney	\$51	\$65	\$62	\$59	-	-	\$67	\$67	\$90	-	\$120	\$105	-	\$256	\$190	\$223
Kitsilano	\$81	\$83	\$73	\$79	\$107	\$125	\$117	\$116	\$167	\$185	\$185	\$179	\$309	\$324	\$337	\$323

³¹⁰ These totals come from the Airbnb listing data I collected (for November 2014 and July 2015), as well as Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015).

Marpole	\$51	\$56	\$52	\$53	\$116	\$113	\$100	\$110	\$135	\$141	\$119	\$132	-	\$262	\$157	\$210
Mt. Pleasant	\$69	\$72	\$65	\$69	\$107	\$134	\$112	\$118	\$143	\$184	\$156	\$161	\$298	\$365	\$292	\$318
Oakridge	\$58	\$69	\$68	\$65	\$83	\$88	\$94	\$88	\$119	\$139	\$180	\$146	\$250	\$155	\$150	\$185
PG/UBC	\$86	\$85	\$92	\$88	\$98	\$119	\$100	\$106	\$136	\$155	\$177	\$156	\$180	\$344	\$373	\$299
Renfrew-Coll.	\$53	\$56	\$49	\$53	\$88	\$85	\$90	\$87	\$88	\$93	\$104	\$95	\$273	\$183	\$163	\$206
Riley Park	\$68	\$72	\$60	\$66	\$100	\$108	\$102	\$103	\$128	\$147	\$136	\$137	\$224	\$239	\$265	\$243
Shaughnessy	\$118	\$87	\$86	\$97	\$110	\$138	\$140	\$129	\$125	\$149	\$89	\$121	\$399	\$399	\$248	\$349
S. Cambie	\$78	\$75	\$71	\$75	\$101	\$118	\$116	\$112	\$160	\$190	\$135	\$161	\$242	\$240	\$238	\$240
Strathcona	\$67	\$71	\$83	\$74	\$131	\$146	\$115	\$131	\$123	\$138	\$150	\$137	-	\$320	\$344	\$332
West End	\$85	\$89	\$73	\$82	\$115	\$142	\$132	\$130	\$192	\$207	\$188	\$196	\$439	\$368	\$347	\$385
Yaletown	\$77	\$94	\$92	\$87	\$171	\$160	\$183	\$171	\$197	\$246	\$259	\$234	\$229	\$332	\$262	\$274
Average				\$76				\$116				\$163				\$276

Another pattern, and one that was expected, is that Airbnb rates for short-term listings mirror rental rates for long-term housing. The neighbourhoods where the most expensive long-term rental housing is found were generally those with the highest short-term rental rates. Many of these neighbourhoods are closest to the city core, with exceptions for areas where large and expensive single-family homes predominate, such as Shaughnessy.

I also calculated the average price increases and decreases between November 2014 and July 2015 and between November 2014 and December 2015 for one-bedroom entire units.³¹¹ I found that across the 19 (of 26) neighbourhoods where there were average nightly rate increases from November 2014 to July 2015, the average increase was \$19. For the five neighbourhoods where there were decreases over this period, the average was \$6.³¹² When looking at rate changes over the 12-month period from November 2014 to December 2015, I found that for the 18 neighbourhoods where there were rate increases, the average was \$11. In the six neighbourhoods where there were decreases over this period, the average was \$16.³¹³ These averages exclude or camouflage some of the more dramatic increases or decreases in specific neighbourhoods, room types or date ranges, such as the decrease in the average rate of private rooms from November 2014 to December 2015 in Coal Harbour (\$137 to \$97) and Shaughnessy (\$118 to \$86), for example, and the increase in the average rate of one-bedroom entire units in Chinatown from November 2014 to July 2015 (\$100 to \$150). But again, since many of those more dramatic changes took place in areas with low listings, looking at the averages is likely to provide a more accurate picture of the rate changes. My calculations of these changes show that average nightly rates for the most common type and size of listing (one-bedroom entire-units) increased fairly modestly from winter to summer (\$19) and even more modestly when looked at year-over-year (\$11). It is possible that nightly rate increases over the course of my study

³¹¹ I chose one-bedroom entire units to calculate the increases and decreases because those are the most common type of unit.

³¹² For the other two neighbourhoods (Downtown Eastside and Killarney), there was either no rate change or there were no one-bedroom units on those dates.

³¹³ For the other two neighbourhoods (Hastings-Sunrise and Killarney), there was either no rate change or there were no one-bedroom units on one of those dates.

period were held in check by the 63 percent increase in total listings over the same period.

In Table 5.10, I have provided some nightly rate from an Airdna report for Vancouver in April 2016. While this does not provide an exact like-to-like comparison, because of the date and methodological differences, it is useful for perspective.³¹⁴

Table 5.10 Airdna average nightly rates vs. my nightly rate data³¹⁵

	Private room	1-bdm entire unit	2-bdm entire unit	3-bdm entire unit
Airdna, April 2016 average daily rate	\$59	\$103	\$142	\$200
All-date averages from my data ³¹⁶	\$76	\$116	\$163	\$276

The Airdna rates are lower in all cases, even though the date they are based on is four months later than my last data collection (December 2015 vs. April 2016). This could be partly due to the fact that my data includes a date in peak summer, when rates were generally higher, and it may also be because Airdna excludes what it considers to be inactive listings from its reports. This means that units that were consistently priced too high to attract bookings would likely be filtered out of Airdna’s figures.

Taken together, this data provides a more detailed and accurate picture of rates for the various types, sizes and locations of Airbnb listings, as well as their seasonal pattern, at least for this period. This rate data is necessary to gaining a better understanding of the financial incentives that Airbnb provides to list a property as a short-term rental, whether on an occasional or full-time basis. Table 5.11 shows the average rents for private apartments of different sizes (excerpted from Table 4.9) compared to my average nightly rate data for selected neighbourhoods.

³¹⁴ Besides the date differences with my data, Airbnb reports on “active listings” rather than total listings. See Airdna, “Data Methodology.”

³¹⁵ The date of this report is June 2016, but rate data is for April 2016. To access this data, visit the URL and click on sample report. However, Airdna continually updates this data. This data is free from the free version of the report. More is available through paid access. Airdna, “Vancouver, Canada Airbnb Rental Property Data and Analytics.”

³¹⁶ These figures come from Table 5.9.

Table 5.11 Airbnb average nightly rates vs. average rents for private apartments (selected neighbourhoods)³¹⁷

	West End 1bdm 2bdm	Downtown 1bdm 2bdm	Kitsilano 1bdm 2bdm	East Hastings (Grandview- Woodland) 1bdm 2bdm
Airbnb avg. nightly rate	\$130 \$196	\$145 \$214	\$116 \$179	\$95 \$137
CMHC monthly rent	\$1,274 \$1,975	\$1,331 \$1,968	\$1,194 \$1,732	\$971 \$1,268

These geographic comparisons are inexact because the boundaries of the 10 zones that CMHC divides the City of Vancouver into are different than Airbnb's 26 neighbourhoods. What is notable, however, is that in these areas, which all have high concentrations of both Airbnb listings and renters, nightly rates were set at roughly 10 percent of what similar-sized private apartments rented for by the month (as of October 2015). This means that a property owner can potentially earn the same revenue in 10 days by short-term renting a unit to a tourist through Airbnb as can be made in one month of renting a unit to a resident. Because the rates derived from both my data and Airdna's are averages, there will be cases where the financial benefit Airbnb facilitates is far higher (as well as lower). An April 2015 post on the public Facebook page for the "Vancouver Airbnb Hosts Community" tells prospective hosts that "a 1 bed apartment on Airbnb can bring in \$8,000 in each of June, July and August."³¹⁸ If correct, that would work out to \$267 per night for each of 30 nights, which is considerably higher than the average nightly rates I have presented here.

Airbnb therefore provides property owners with a substantial financial incentive to rent units to tourists rather than tenants, who are (based on their reported incomes) unable to afford those rates. These financial incentives, as well as the difficulty of enforcing current zoning rules prohibiting short-term rentals and the city's lack of a policy response (as of June 2016) to the short-term rental phenomenon, pose a serious obstacle to the preservation of the existing rental stock, especially the easily converted

³¹⁷ See Table 5.9 for the Airbnb nightly rates and the Table 4.9 for the CMHC rents.

³¹⁸ The same post also offers new hosts a \$250 incentive for setting up a new listing, which it says will be provided by the hosts forum upon first booking. Vancouver Airbnb Hosts Community, "Rent out Your Room, House or Apartment on Airbnb," *Facebook*, April 15, 2016, <https://www.facebook.com/VancouverAirbnbHosts/?fref=ts>.

secondary market units. If the city hopes to achieve its goals of preserving and increasing the existing rental stock, it will need to develop a policy that acknowledges and addresses how Airbnb's business model encourages the conversion of long-term rental stock to higher-yielding short-term tourist rentals.

5.4. Minimum-night requirements

Data on the length of minimum stay is relevant to understanding the nature of Airbnb listing activity in Vancouver and to determining the likelihood that operators were contravening the applicable sections (10.21.6 and 10.20.5) of Vancouver's zoning bylaw, which prohibits the renting of dwelling units for less than a month. This in turn could inform the approach that the City of Vancouver decides to take to the regulation of short-term rentals.

Operators can set their minimum length of stay according to their preferences. Some may wish to specify longer minimum stays in order to cut down on the work required to vet potential visitors, manage check-ins and outs, and clean the unit between bookings. However newer operators, and those seeking to maximize their revenue, may wish to set the minimum stay at only one night, in order to make their listings available to the widest range of potential customers. Table 5.11 contains data about the length of minimum stays required for Vancouver listings on the three dates. This data does not represent the actual length of stays, but instead the minimum number of nights that operators were willing to allow their units to be booked for. Operators, especially those with popular listings, may choose to accept only longer bookings while still maintaining a short minimum stay.

The data is consistent in that in each case, the mode, average and median minimum stays were 1, 3 and 2 nights, respectively. Other consistencies are in the percentage of one-night minimum stays – all around 40 percent. The only pattern-breaking data point is in the number of 30-night minimums that showed up in December (28) compared to zero for both November 2014 and July 2015. This could indicate that a professional rental agency that was seeking to comply with section 10.21.6 of

Vancouver’s zoning and development bylaw began using Airbnb as platform for advertising its properties sometime between July 1 and December 3, 2015.

Table 5.12 Length of minimum stays, November 2014 to December 2015³¹⁹

	Mode	Avg.	Med.	1	2	3	7	< 30	30	>30	Total	1-night %
Nov. 29, 2014	1	3	2	1,166	654	507	131	2,897	-	1	2,898	40
July 1, 2015	1	3	2	1,427	919	685	163	3,745	-	1	3,746	38
Dec. 3, 2015	1	3	2	1,919	1,167	804	209	4,692	28	6	4,726	41

The extent to which actual booking patterns adhered to the minimum stays set by operators is unknown. However, this data shows that with only a few exceptions, all operators on all dates were at least willing to book lengths of stays that violate Vancouver’s zoning bylaw requirements.

5.5. Airbnb operators (hosts)

This section of my findings moves from discussion of listings – physical units of housing – to discussion of the people (or companies) who have posted those units on Airbnb’s site. Listings and operators cannot be assumed to be equivalent in number because some operators have more than one listing. It is therefore necessary to analyze operator data separately in order to understand the number of people (or companies) who have listed units on Airbnb. Answering that question is part of understanding the nature and extent of Airbnb listings in the City of Vancouver.

5.5.1. Number of Airbnb operators

As Table 5.13 shows, the number of Airbnb operators in the City of Vancouver increased by 1,361 (60 percent) over the 12-month period, ending with 3,634 operators

³¹⁹ These totals come from the Airbnb listing data I collected (for November 2014 and July 2015), as well as Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015).

in December. The number of listings is provided on each date for context. In November, the number of listings was 27 percent higher than the number of operators. In July and December these percentages were 33 and 30, respectively. This shows that the number of operators with more than one listing increased in July, perhaps to take advantage of the peak tourist season, and then declined again in the late fall.

Table 5.13 Number of Airbnb operators, November 2014 to December 2015³²⁰

Date	# of operators	# of listings	Listings per operator
Nov. 29, 2015	2,274	2,898	1.27
July 1, 2015	2,817	3,746	1.33
Dec. 3, 2015	3,634	4,726	1.30

5.5.2. Operators with more than one listing

To better understand the difference between the number of operators and number of listings, I looked at the number of listings each operator had.³²¹ Table 5.14 shows that about 85 percent of all operators had only one Vancouver listing throughout the study period.³²² This does not mean that each operator with only one listing was renting out his or her primary residence, because some of those who had only one listing could have been renting out a space that they did not live in themselves. Also, those that had two (or even three or more listings) were not necessarily renting out completely separate spaces. Some operators rent out both an entire unit (whether house, apartment or condo) as well as a room (or rooms) or smaller space within that larger entire unit. Also, some operators may manage listings on behalf of others, whether informally or through a professional rental agency. Further, as seen in Figure 5.8, there were 43 bed-

³²⁰ These totals come from the Airbnb listing data I collected (for November 2014 and July 2015), as well as Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015).

³²¹ This information can also be viewed on Airbnb's website case by case. The number of listings that each operator has is provided on his or her profile page.

³²² I only looked at listings within the City of Vancouver, so it is possible that some operators had additional listings in other parts of Metro Vancouver (or the world).

and-breakfast units on the site in December 2015 and they likely account for some of the operators with multiple listings.

Table 5.14 Operators with more than one listing, November 2014 to December 2015³²³

Number of listings	# of operators Nov. 2015	% of all operators	# of operators July 2015	% of all operators	# of operators Dec. 2015	% of all operators
1	1,978	87	2,387	85	3,095	85
2	194	9	263	9	341	9
3	54	2	88	3	107	3
4	15	1	25	1	25	1
5	8	0	20	1	21	1
6	14	1	12	0	16	0
7+	11	0	22	1	30	1
Total unique operators	2,274	100	2,817	100	3,634	100

Table 5.14 also shows that although the overall percentage of operators with multiple listings remained small, the absolute number of operators with two listings went up by 75 percent (194 to 341) and those with three listings more than doubled (54 to 107) between November 2014 and December 2015. Those with seven or more listings grew from 11 to 30 over the course of the year. These figures may indicate increasing use of the Airbnb website by professional rental agencies, or that an increasing number of operators were using short-term rentals on Airbnb as a form of part-time or full-time employment.

5.5.3. Percentage of all listings controlled by operators with multiple listings

While the percentage of operators with multiple listings is low, those operators controlled a disproportionate number of listings, as is shown in Table 5.15. This

³²³ These totals come from the Airbnb listing data I collected (for November 2014 and July 2015), as well as Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015).

percentage of listings was at its highest in July, at 36, then decreased to 35 in December, still three percent higher than in November 2014.

Table 5.15 Number of listings controlled by operators with more than one listing³²⁴

	Nov. 2014	July 2015	Dec. 2015
Total number of listings	2,898	3,746	4,726
Number of listings controlled by operators with multiple listings	920	1,359	1,631
Percentage of listings controlled by operators with multiple listings	32	36	35

5.5.4. Turnover in operators

As with the Table 5.2, which illustrates the turnover in listings, Table 5.16 shows that the growth in operators that took place from November 2014 to December 2015 was more complicated than a straight linear increase. Of all the operators on the site in November 2014, only 51 percent (1,149) were still on the site a year later. The other 2,486 operators who had listings on the site over the 12-month period were in addition to those.

Similar to the turnover rate for listings, this data indicates that about half of those who posted a listing on the site left the site within 12 months. They may return again later, but my data does not provide any evidence for that either way. Since my data collection did not include operator interviews, I have no direct evidence of why they would leave the site, but reasons could include dissatisfaction with the number of bookings received, changes in the availability of their unit, bad experiences with short-term visitors, or complaints or enforcement action by neighbours or condominium strata councils. Again, it may be more effective to focus enforcement resources on those operators who have a longer history on the site, rather than those who only use it for a few months.³²⁵

³²⁴ These totals come from the Airbnb listing data I collected (for November 2014 and July 2015), as well as Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015).

³²⁵ I did not delve into how the turnover rate differed for those with only one or two listings versus those who had more.

Table 5.16 Turnover in operators, November 2014 to December 2015³²⁶

	Nov./14	Dec./15
# of operators	2,274	3,634
# of Nov. 2014 operators still on site in Dec. 2015	1,149	
% of Nov. 2014 operators still on site in Dec. 2015	51	

Taken together, the data in the preceding sections provides a detailed picture of how many Airbnb listings there were in Vancouver between November 29, 2014 and December 3, 2015, as well as where they were located, which areas of the city had the most listings, where the different types and sizes of listings were, the nightly rates for different types and locations of units, and the number and turnover rate of Airbnb operators. The data also shows that the most common type of Airbnb listing during this period was an entire, one-bedroom unit in a multi-family building downtown. Cumulatively, this data provides a detailed, though necessarily exploratory, answer to the part of my research question that asks what the nature and extent of Airbnb listings were in Vancouver during my study period. I have also analyzed my data in the context of the state of Vancouver's rental stock and the city's rental housing policy goals, in order to shed light on some implications of my data for the achievement of those goals. In the next and final section of this chapter, I will take a quantitative approach to understanding Airbnb's impact on the city's rental housing policy goals.

5.6. Quantifying Airbnb's impact on Vancouver's rental housing policy goals

One of the ways that the City of Vancouver has expressed its rental housing policy goals is in the number of new units it aimed to create over the course of its 10-year housing and homelessness strategy.³²⁷ We can therefore take those targets and view them in light of the number of entire housing units that are estimated to be used

³²⁶ These totals come from the Airbnb listing data I collected for November 2014 as well as Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015).

³²⁷ City of Vancouver, "Housing and Homelessness Strategy 2012-21: A Home for Everyone."

exclusively as STRs through Airbnb. Estimating this number is challenging, due to a lack of data available from Airbnb. However, because this question is a subject of curiosity and concern in many cities, other researchers have developed methods for arriving at such estimates using the number of reviews as a proxy for the frequency of bookings. Cox has provided criteria to define listings that were both recently and frequently rented and also highly available.³²⁸ After applying all these criteria, the resulting number of entire units is 1,022, as shown in Table 5.17.

Table 5.17 Estimating the number of entire units used exclusively as STRs³²⁹

Total Airbnb listings, December 3, 2015	4,726
Total entire unit listings	3,179
Entire unit listings that were frequently and recently booked	1,248
Entire unit listings that were frequently and recently booked and with calendars that show them as highly available.	1,022

This number is 22 percent of all Airbnb listings in the December 2015 dataset and about one-third of the entire units found at that time. Combining all these criteria seems like a reasonable and conservative approach to estimating the number of entire units that were likely used exclusively for STR purposes. I will therefore use this figure as a basis for further calculations that illustrate the potential impact of Airbnb listings in relation to Vancouver’s rental housing policies and goals.

As of 2015, the city had exceeded the targets for enabling new market rental units that it set in 2011, resulting in 8,666 purpose-built apartments, secondary suites and laneway houses, but only if you count units approved and under construction as well as those already built and capable of being used as housing.³³⁰ Since units that are not actually ready for occupation do not affect the rental vacancy rate or provide a place for tenants to live, I am counting only the one-third of those units that have actually been

³²⁸ Cox, “Inside Airbnb,” December 3, 2015. Cox defines “frequently rented” as rented for at least 90 days per year. He defines a “recently rented” listing that has been reviewed at least once within the last six months (based on a review rate of 50 percent). These criteria are stated and explained on the website. His “highly available” criteria is also 90 days per year.

³²⁹ These totals come from the Airbnb listing data collected by Murray Cox and posted on <http://insideairbnb.com/vancouver> (December 2015). The calculations can be duplicated by selecting the applicable filters on InsideAirbnb.com/Vancouver.

³³⁰ City of Vancouver, “2015 Housing Report Card: Part 1.” 7-8.

completed, which means 2,889. Dividing that total by five years works out to 578 units of these types of housing units potentially (i.e. if they are not diverted to short-term rental use) made available to tenants per year as a result of the city's policies from 2011 to 2015. I have not included the social housing units the city's policies have enabled here, because I do not believe that type of housing is likely to be listed on Airbnb. Based on the city's record for 2011-2015, it would take 1.8 years to replace the 1,022 estimated full-time STR units with actual, occupiable new rental units.

We can also look at how much it would cost to provide an equal amount of long-term rental housing to that we have estimated was devoted to full-time STR use. If 1,022 entire housing units had to be bought as apartments, it would cost about \$251 million to purchase them in Marpole, based on the average per unit selling prices for that area in 2015.³³¹ It would have cost more than \$400 million to replace those units in the West End.³³² If that number of units had to be built from scratch in 2015 (assuming the land was available), it would have cost \$171 million to construct them as basic wood-framed apartment buildings in East Vancouver, counting only the land and construction costs. These dollar amounts dwarf the \$125 million the city set aside for all affordable housing projects in its 2015-18 capital plan, even though that represents 11 percent of the city's total \$1.1 billion in planned spending.³³³ All these figures serve to underline the tremendous financial costs of allowing housing units to be used exclusively for tourist accommodation – a purpose they were never zoned, designed, built, permitted or intended for.

The city does not express its rental policy goals in relation to the vacancy rate, though it does refer to the rate frequently in its reports, and it is clearly an important indicator underlying and motivating the city's housing strategies. It is possible to approximate the impact of the "entire home/apt." listings on the vacancy rate if various

³³¹ The Goodman Report, "2015 Greater Vancouver Rental Apartment Review." 5.

³³² *Ibid.*, 5.

³³³ City of Vancouver, "Capital Plan for 2015-2018."

assumptions are accepted and some data quality problems overlooked.³³⁴ One way to approach this question is to ask what would be the impact on the vacancy rate if all the entire units in the December 2015 dataset that met Cox's frequency, recency and availability criteria (1,022) were added to the secondary rental market, which is primarily made up of rented condominiums, secondary suites and houses. It is these secondary market units where most Airbnb listings are found (not purpose-built rentals) and which are most easily converted to short-term rentals, so it makes sense to consider the estimated number of full-time STR units in that context. The relevant figures (some excerpted from Table 4.4) are provided in Table 5.18

³³⁴ These data quality problems and assumptions are the same ones I raised when discussing the difficulties of quantifying the city's secondary rental market units and the fact that CMHC provides vacancy rate data only for the rented condominium segment of the secondary rental market (and that only at the regional level). Please see the notes in section 4.2 and attached to Table 4.7, where I estimate the number of secondary market units available in 2015, for more details.

Table 5.18 Airbnb units compared to secondary market rental units

	# of units	Vacancy rate ³³⁵	Est. # of units vacant Oct. 2015
Rented condominiums (2015) ³³⁶	26,900	0.9%	242
Secondary suites (2015) ³³⁷	26,001	0.9%	234
Rented houses (2006) ³³⁸	11,470	0.9%	103
Est. total of secondary market rental units	64,371		579
Est. total of all market rental units	120,889		
Est. number of full-time entire Airbnb units	1,022		
Number of full-time entire unit Airbnb listings as percentage of secondary market rental units	1.6		
Number of full-time entire unit Airbnb listings as percentage of all market rental units	0.85		

Based on the estimates and assumptions I have outlined here, the number of entire Airbnb units that were used exclusively as STRs (1,022) is 1.77 times the number of secondary market rental units that were vacant in October 2015 (579) and 1.25 times the total number of market rental units vacant at that time (815, as shown in Table 4.7). The number of full-time entire-unit Airbnb listings in my study period was also 1.6 percent of the total of secondary market rental units in the city and 0.85 percent of all market rental units. While secondary market units are more likely to be converted to STR use than primary market units (purpose-built rentals), renters do not necessarily distinguish between these types of rental housing when searching for a place to live, especially in a climate of scarcity. The two types of housing are part of the same rental

³³⁵ Here I have assumed that the 0.9 percent vacancy rent that was in effect for condominiums across the region in October 2015 (according to CMHC) also applied to these other types of secondary market housing. This is a conservative assumption, since the vacancy rate for purpose-built units was lower, at 0.6 percent.

³³⁶ City of Vancouver, "Housing Characteristics Fact Sheet."

³³⁷ Ibid. Also, Statistics Canada, "Figure 22 Dwelling Universe."

³³⁸ This figure comes from a 2010 report written by Dale McClanaghan & Associates for the city. It cites the 2006 Census as the source. McClanaghan, "City of Vancouver Rental Housing Strategy Research and Policy Development Synthesis Report." 16.

market. It is therefore reasonable to conclude that if all entire-unit Airbnb listings dedicated to STR use (1,022) were instead made available to resident renters and the demand for rental housing remained the same, the additional units would increase the vacancy rate by 0.85 percent. Again, it is useful to consider these unit and vacancy figures in relation to the costs to build or purchase these units, especially given the very real need for more rental housing.

In light of Vancouver's chronically low vacancy rate, the percentage of renters who are currently stretching to afford their housing, the costs and time involved in constructing new rental housing, the financial incentives built-in to short-term rentals and the competition for housing that Airbnb sets up between tenants and tourists, it seems clear that the number of housing units being used for short-term tourist purposes poses an obstacle to city achieving its ambitious goals of ensuring that people of all incomes, ages, abilities and family types can find housing near where they work, or in the areas where they have set down roots and built social connections. In my conclusion, I will point to some policy mechanisms by which the city might be able to control or reverse the growth of Airbnb units that are used as full-time tourist accommodation, thereby making the realization of its rental housing goals more likely.

Chapter 6. Conclusion

In this chapter I will make recommendations about how the city might reduce the number of Vancouver housing spaces that are dedicated exclusively to Airbnb use in order to achieve its rental housing policy goals. Because these goals are also tightly connected to the city's more general housing, social, environmental and economic goals, some of my recommendations will also touch on those areas. I will also suggest directions for future research.

While I am reluctant to endorse the legalization of any use of housing space for tourism purposes in light of the city's critical, multiple and overlapping long-term housing shortages, it seems necessary to recognize and document short-term rental activity as a first step toward better managing and reducing its negative impacts on the city's renters and rental policy goals. In view of this, I do suggest the city implement a registration and permit system for short-term rentals. Such permits should be time-limited with renewal contingent on compliance with the city's regulatory regime. However, given how fast the regulatory landscape around Airbnb is changing, it is challenging to identify specific measures that will have sustained relevance. In light of that, I will follow the lead of the report by the Los Angeles Alliance for a New Economy (LAANE) and identify some guiding principles before making more specific suggestions.³³⁹

6.1. Suggested principles to guide regulation

The following principles and recommendations are meant to address the situation in the City of Vancouver, but they may also apply to cities with similar sets of circumstances, i.e. cities with rental housing shortages that are popular tourist

³³⁹ Roy Samaan, "Airbnb, Rising Rent, and The Housing Crisis in Los Angeles" (Los Angeles Alliance for a New Economy, March 2015), <http://www.laane.org/wp-content/uploads/2015/03/AirBnB-Final.pdf>. 35.

destinations. Since the entire focus of my thesis is on understanding the nature and extent of Airbnb in Vancouver and the implications of that information for the city's rental housing policy goals, I will target my recommendations accordingly, though some may also address the concerns about quality of life and unfair business competition that Airbnb has provoked.

6.1.1. Take a housing-first approach to problem

While there are many aspects to the Airbnb phenomenon and related reasons to be concerned about its impacts, lack of affordable housing has repeatedly been identified as the number one social problem, or problem period, in the City of Vancouver and Metro Vancouver.³⁴⁰ It follows that the city's approach should prioritize minimizing Airbnb's negative housing impacts, and not instead be driven by fear of losing popularity by not catering to current consumer tastes or the local tourism industry's desire to collect a hotel tax on Airbnb bookings.³⁴¹ This housing-focused approach would be consistent with recent statements by the city's mayor, Gregor Robertson, which though responding to the problem of empty homes, can reasonably be assumed to apply to short-term rentals as well: "Vancouver housing is first and foremost for homes, not a commodity to

³⁴⁰ For example, see Kelly Sinoski, "UDI/Vancity Affordability Index: Housing Affordability Stays Top of Mind for Metro Vancouver Mayors," *Vancouver Sun*, November 21, 2014. <http://www.vancouversun.com/business/affordability/Vancity+Affordability+Index+Housing+affordability+stays+mind+Metro+Vancouver/10400270/story.html>. Also, Angus Reid Institute, "Vancouver Housing Market Outlook: Many Vancouverites Experience Housing Pains, Consider Leaving," *Angus Reid Institute Public Interest Research*, June 17, 2015, <http://angusreid.org/vancouver-real-estate/>. And Jen St. Denis, "Report on Vancouver's Economy Highlights Threat of Residential Real Estate Disconnect."

³⁴¹ This is not to say that imposing a tax on Airbnb bookings, as is done for most other tourist accommodation providers, is not a reasonable and good idea and would be fairer in terms of business competition. My point is that this should not be what drives the city's decision to regulate Airbnb, rather than what I see as the more fundamental housing issues. City councillor Geoff Meggs has argued that making short-term rentals subject to the hotel tax could help reduce the number STR listings overall by increasing the legal requirements, which could have a deterrent effect. However, he also acknowledges that such taxes are not intended to be the main mechanism through which the city addresses the negative effects of STRs on the supply of rental housing. See Sunny Dhillon, "Tourism Vancouver Considering Extending Hotel Tax to Airbnb Suites," *The Globe and Mail*, September 2, 2015, <http://www.theglobeandmail.com/news/british-columbia/tourism-vancouver-considering-extending-hotel-tax-to-airbnb-suites/article26201201/>. Also "Vancouver Councillor Wants Airbnb Owners to Pay Hotel Tax," *CBC News* (CBC, June 27, 2016), <http://www.cbc.ca/news/canada/british-columbia/airbnb-tax-vancouver-1.3655343>.

make money with.”³⁴² Articles documenting or advising how STR operators can successfully use Airbnb properties for investment purposes are common, so this is something for the city to be mindful of as it seeks to reform and update its STR regulations.³⁴³ Similarly to what the mayor stated, I suggest that Vancouver housing is, or should be, first and foremost for homes, not for serving non-essential leisure or tourist purposes that it was not designed, zoned, or intended for. To achieve its policy goals, the city will need to intervene and reverse what I refer to as the “leisurification” of housing that Airbnb facilitates.

6.1.2. Analyze the effects of potential policies on those with the least housing security

Airbnb typically responds to criticisms of its negative impacts on affordable housing with statements such as, “Making housing affordable is in the founding of our company” and references to how it helps the “urban middle class” afford their housing and pay other bills.”³⁴⁴ The latter is certainly true for homeowners (as well as property investors) in that, as my discussion of average long-term rents versus Airbnb rates has shown, it can be much more lucrative to rent a property through Airbnb than on a long-term basis. The money earned from renting a bedroom or secondary suite on Airbnb can make it possible for the STR operator to buy or rent a home that is beyond what their employment income, or their combined employment income and the revenue from a legal long-term rental, would otherwise allow. Or it may allow them to afford a second or third bedroom that they might use for a home office or exercise room or family half the time while the other half they rent it out to tourists. It may also facilitate faster repayment

³⁴² Vancouver Mayor’s Office, “Vancouver Takes next Steps on Taxing Empty Homes.”

³⁴³ For example, “The Rise Of The Professional Airbnb Investor,” *Hospitality Net*, February 11, 2016, <http://www.hospitalitynet.org/news/4074259.html>. Also, Scott Shatford, “The Most Profitable Airbnb Cities in America,” *Airdna: Airbnb Data and Analytics*, August 11, 2015, <http://blog.airdna.co/most-profitable-airbnb-cities-in-america/>. And, Mike Kozakowski, “Victoria Condo Fetches Astonishing Resale Premium Thanks to AirBnB,” *Citifed Victoria*, March 15, 2016, <http://victoria.citifed.ca/news/victoria-condo-fetches-astonishing-resale-premium-thanks-to-airbnb/>.

³⁴⁴ Brian Chesky interviewed in *Airbnb’s Chesky Defends Co. against Affordability Critics*, 2015, <http://www.usatoday.com/videos/tech/2015/08/19/31961643/>. Also, Carolyn Said, “Chesky: Airbnb Helps Urban Middle Class Make Ends Meet,” *SFGate*, October 1, 2015, <http://www.sfgate.com/business/article/Chesky-Airbnb-helps-urban-middle-class-make-ends-6543832.php>.

of mortgages. There are many such Airbnb-made-my-dream-possible stories published in the media and related at public hearings when STR regulations are under discussion. But while such use of housing space no doubt improves the quality of life for those STR operators, and may also provide a means for some to enter an overheated housing market, if the City wants to achieve its policy goals it will need to consider and address how that type of activity affects the availability and cost of housing for those who cannot afford to purchase housing and are already stretching their budget to pay rent. In Chapter 5, I discussed how various provisions of the *RTA* mean that only a tiny percentage of tenants are in a position to earn income from Airbnb. Obviously those who are homeless have no housing they can rent out on Airbnb, so it does not make housing more affordable and accessible to them. Airbnb also undermines tenants by providing a mechanism through which their existing and potential landlords can earn residential property revenue without having to fulfill the legal responsibilities of a landlord under the *RTA*, which does not cover short-term rentals.³⁴⁵ It is common, in comments to call-in shows and articles about Airbnb, to hear from landlords that they switched to Airbnb because it provides them with more control over their properties and they prefer to deal with tourists instead of tenants, which they describe as more trouble than they are worth.³⁴⁶ The net effect of Airbnb in Vancouver is therefore to further advantage those who already have secure housing (at least in relation to tenants) at the expense of those who do not. This runs counter to the city's housing and social policy goals, especially given its already high levels of housing and income inequality.³⁴⁷ The noted housing scholar David Hulchanski has argued and demonstrated that at the federal level, Canada has carried out a "dual housing policy" that "assists owners" and "neglects

³⁴⁵ See section 4(e). Province of British Columbia, *Residential Tenancy Act*.

³⁴⁶ For one host's account of the advantages of tourists over tenants, see Kristen Thompson, "Why We Gave up Being Landlords to Be Airbnb Hosts Instead," *The Toronto Star*, April 15, 2016, sec. Life, <https://www.thestar.com/life/2016/04/15/why-we-gave-up-being-landlords-to-be-airbnb-hosts-instead.html>. Also, Gold, "In High-Cost Vancouver, the Trick Is Getting Strangers to Pay the Mortgage." Another such comment can be heard in on an episode of CBC Radio's BC Almanac program, on which I was a guest. "B.C.'s Child Protection System. Airbnb's Impact Of Communities," podcast, *BC Almanac* (CBC, December 14, 2015), <https://player.fm/series/bc-almanac-from-cbc-radio-british-columbia/dec-14-2015-bcs-child-protection-system-airbnbs-impact-of-communities>.

³⁴⁷ Zak, "A Healthy City for All: Innovation Fund Recommendations (Presentation to Council)."

renters.”³⁴⁸ If STR regulation is not handled carefully and with a view to equity, the City of Vancouver could end up perpetuating this dual and discriminatory housing policy at the municipal level. Ignoring the differential effects of Airbnb on renters versus homeowners also runs the risk of triggering hostility towards local Airbnb operators and guests, as has been the case in various cities around the world where Airbnb is particularly contentious, demonstrated, for example, by posters aimed at tourists that accuse them of being directly responsible for displacement of poor and racialized residents.³⁴⁹ Again, this would run counter to the city’s housing and social policy goals, and presumably any tourism goals it has set as well.

6.1.3. Insist on platform accountability and cooperation

Airbnb spokespeople have frequently stated that they want to partner with cities and “make cities stronger.”³⁵⁰ In a “community compact” document the company published in November 2015 (following a successful but contentious battle against a San Francisco ballot initiative that would have imposed stricter regulations) it implicitly acknowledged that it had not previously provided cities with the listing and booking data they have requested.³⁵¹ In fact, I know of no city where Airbnb has voluntarily complied with local government requests to provide contact and booking information for STR

³⁴⁸ David Hulchanski, “Canada’s Dual Housing Policy: Assisting Owners, Neglecting Renters” (Toronto: Centre for Urban and Community Studies, University of Toronto, September 2007), <http://www.urbancentre.utoronto.ca/pdfs/researchbulletins/CUCSRB38Hulchanski.pdf>.

³⁴⁹ Felix Garcia, “Airbnb Is ‘Ravaging’ Black Neighbourhoods in New York City and Trying to Hide It, Officials Say,” *The Independent*, April 25, 2016, <http://www.independent.co.uk/news/world/americas/airbnb-ravaging-black-communities-new-york-city-a7000761.html>. Unknown, “Dear Airbnb Tourist Flyer,” *Twitter*, April 12, 2016, <https://twitter.com/ztsamudzi/status/719965748697763841>. Photo posted by Zoe S (@ztsamudzi) via San Francisco’s Anti-Eviction Mapping Project @antievictionmap. Lauren Laborde, “Anti-Airbnb Signs Pop Up Around New Orleans Over Jazz Fest Weekend - Curbed New Orleans,” *Curbed New Orleans*, April 25, 2016, <http://nola.curbed.com/2016/4/25/11504960/anti-airbnb-signs-pop-up-in-new-orleans-neighborhoods-over-jazz-fest>.

³⁵⁰ Airbnb Inc., “The Airbnb Community Compact.”

³⁵¹ *Ibid.*

operators.³⁵² Without this information, there is no point in including limits on the number of nights that listings can be booked, as various cities have done in hopes of preventing housing from being turned into full-time STR rentals, since compliance with those limits cannot be verified or enforced. Without contact information, there is also no feasible way that the city can monitor or enforce compliance with any permit requirements it might choose to implement.

Additionally, the company has made statements and taken actions that indicate an aggressive, disrespectful stance towards local governments and their regulatory role. These include remarks such as “We can’t possibly keep up with the law in all the cities.”³⁵³ A senior spokesperson has characterized Airbnb’s idea of “home-sharing” as an idea “so big no army could ever really stop it.”³⁵⁴ In October 2015, the company launched a bus shelter advertising campaign in San Francisco that was widely criticized as “passive aggressive” because it carried a series of messages such as

Dear Public Library System, We hope you use some of the \$12 million in hotel taxes to keep the library open later.

Love, Airbnb.³⁵⁵

Most recently, the company filed suit against the City of San Francisco in response to its passage of an amendment to existing regulations (regulations which Airbnb helped draft) aimed at making those rules easier for the city to enforce.³⁵⁶

³⁵² For example, when pressed for address information by Portland commissioner Nick Fish, Airbnb’s David Owen objected to the request for “unfettered access to private user data without formal legal process, which is a fundamental tenant of Internet commerce.” Aaron Mesh, “City Commissioner Nick Fish Berates Airbnb Lobbyist,” *Willamette Week*, December 22, 2014, <http://www.wweek.com/portland/blog-32614-video-city-commissioner-nick-fish-berates-airbnb-lobbyist.html>.

³⁵³ David Hantman (Airbnb’s head of global public policy) quoted in Jason Clampet, “Airbnb’s Growing Pains Mirrored in New York City, Where Half Its Listings Are Illegal Rentals,” *Skift*, January 7, 2013, <https://skift.com/2013/01/07/airbnbs-growing-pains-mirrored-in-new-york-city-where-half-its-listings-are-illegal-rentals/>.

³⁵⁴ Chris Lehane quoted in Jessica Plautz, “Airbnb Executive Brags It’s ‘so Big That No Army Could Ever Stop It,’” *Mashable*, November 12, 2015, <http://mashable.com/2015/11/12/airbnb-open-paris/>.

³⁵⁵ In response to criticism, the company hastily withdrew the campaign and apologized, explaining it was an oversight. Julia Carrie Wong, “Airbnb Apologizes For Passive Aggressive Ads on Muni Shelters (UPDATED),” *SF Weekly*, October 21, 2015, <http://www.sfweekly.com/thesnitch/2015/10/21/passive-aggressive-pro-airbnb-ads-appear-on-muni-shelters>.

Further, the company's decision to purge about 1,000 of its "entire home/apt." New York City listings without disclosing that fact before doing a tightly controlled release of some of that listing data in December 2015 provides ample grounds for skepticism regarding Airbnb's commitment to data transparency and accountability.³⁵⁷ Airbnb initially denied the listings purge, which served to bolster the company's claims about the percentage of operators with only one listing, and it would not have come to light in the first place but for the efforts of researchers Slee and Cox.³⁵⁸

Cumulatively, these examples shed doubt on whether Airbnb is a truly a trustworthy partner for the City of Vancouver or any other local government on the issue of STR regulation. But if local governments feel compelled to work with the company due to its size and dominance, they should at least be aware of its track record in other jurisdictions before doing so. Some cities, such as San Francisco, Los Angeles and Santa Monica, have now passed or proposed regulations that place some of the burden of enforcement and compliance on the platforms themselves, rather than only penalizing individual operators for violations.³⁵⁹ Santa Monica's rules seem to be working well, but how these types of provisions will fare in other cities or in response to court challenges is not yet clear. However, they do provide a precedent that Vancouver could emulate.

³⁵⁶ Eric Newcomer, "Airbnb Sues San Francisco to Prevent New Rules That Enforce a Law Airbnb Wrote," *Skift*, June 27, 2016, <https://skift.com/2016/06/27/airbnb-sues-san-francisco-to-prevent-new-rules-that-enforce-a-law-airbnb-wrote/>.

³⁵⁷ Tom Slee, "How Airbnb's Data Hid the Facts in New York City," *Tom Slee*, February 10, 2016, <http://tomslee.net/2016/02/how-airbnbs-data-hid-the-facts-in-new-york-city.html>.

³⁵⁸ *Ibid.* The story was subsequently widely covered, including by *The New York Times* and *The Guardian*. Jonah Bromwich, "Airbnb Purged New York Listings to Create a Rosier Portrait, Report Says," *The New York Times*, February 11, 2016, <http://www.nytimes.com/2016/02/12/business/airbnb-purged-new-york-listings-to-create-a-rosier-portrait-report-says.html>. Jana Kasperkevic, "Airbnb Purged More than 1,000 New York Listings to Rig Survey – Report," *The Guardian*, February 10, 2016, sec. Technology, <https://www.theguardian.com/technology/2016/feb/10/airbnb-new-york-city-listings-purge-multiple-apartment-listings>.

³⁵⁹ Emily Green, "SF Supes Crack down on Unregistered Short-Term Rentals," *San Francisco Chronicle*, June 7, 2016, <http://www.sfchronicle.com/politics/article/Supervisors-No-unregistered-hosts-on-short-term-7969444.php>. Los Angeles Times, "How to Regulate Airbnb and 'Homesharing,'" *The Los Angeles Times*, June 22, 2016, sec. Editorial, <http://www.latimes.com/opinion/editorials/la-ed-homesharing-law-20160622-snap-story.html>. Niki Cervantes, "Santa Monica Enforcers Crack Down on Short-Term Rentals," *Santa Monica Lookout*, March 22, 2016, http://www.surfsantamonica.com/ssm_site/the_lookout/news/News-2016/March-2016/03_22_2016_Santa_Monica_Enforcers_Crack_Down_on_Short-Term_Rentals.html.

When it comes to Airbnb and accountability, it may also be helpful to make common cause with other cities, as the mayors of several major cities have recently proposed.³⁶⁰

6.1.4. Take a proactive approach

Thus far the city has treated STR violations of its zoning bylaw on a complaint basis, as with most other violations. It has even been reported that the city had directed its inspectors to take a “soft enforcement approach,” in response to complaints, while it establishes a policy in addition to its existing zoning bylaw.³⁶¹ In this environment, STR operators appear to feel comfortable advertising their listings even outside Airbnb’s website, on social media.³⁶² This passive approach, should it continue, is unlikely to assist the city to meet its housing policy goals. Given the enormous time and financial costs of creating new rental housing, it seems justified to do as other cities concerned about the conversion of housing units to tourist use have done and devote staff resources to active enforcement. Within North America, Santa Monica has been most successful at reducing the number of STR units through its regulatory program, where others have not.³⁶³ Reports on that program indicate the number of illegal STRs had fallen from 1,700 to 962 as of February 2016, nine months after the new rules were enacted.³⁶⁴ As of February, Santa Monica had sent about 650 citation notices (at \$500 per violation), with most of those going directly to the platforms.³⁶⁵ Those enforcement

³⁶⁰ Marie Mawad, Helene Fouquet, and Henry Goldman, “City Mayors Worldwide Forge Alliance in Response to Airbnb, Uber - Bloomberg,” *Bloomberg*, June 20, 2016, <http://www.bloomberg.com/news/articles/2016-06-20/city-mayors-worldwide-forge-alliance-in-response-to-airbnb-uber>.

³⁶¹ Frances Bula, “Vancouver Urged to Clamp down on Airbnb as Low-Cost Housing Dwindles,” *The Globe and Mail*, March 30, 2016, <http://www.theglobeandmail.com/news/british-columbia/vancouver-urged-to-clamp-down-on-airbnb-as-low-cost-housing-dwindles/article29466791/>.

³⁶² For example, see Vancouver STR operator Pat Wilkinson’s tweet, *Twitter*, April 12, 2016, <https://twitter.com/atpatwilkinson/status/720066662129541120>.

³⁶³ Cervantes, “Santa Monica Enforcers Crack Down on Short-Term Rentals.”

³⁶⁴ Jacob Margolis, “Santa Monica Slaps Airbnb, VRBO with \$500 Fines,” *Southern California Public Radio*, February 23, 2016, <http://www.scpr.org/news/2016/02/23/57760/santa-monica-trying-to-stop-airbnb-with-500-fines/>. See also Cervantes, “Santa Monica Enforcers Crack Down on Short-Term Rentals.”

³⁶⁵ Margolis, “Santa Monica Slaps Airbnb, VRBO with \$500 Fines.”

efforts were estimated to have cost just under \$200,000 USD.³⁶⁶ Since Santa Monica has been more successful than other cities at reducing the number of illegal STRs, the City of Vancouver could model itself on its approach.

6.2. Specific recommendations

I will now provide a short list of specific recommendations consistent with the principles just discussed.³⁶⁷

6.2.1. Limit STRs to primary residences occupied by the operator for at least a year

As discussed in Chapter 5, people who occasionally rent out their own primary residences when they go away are having little to no impact on the city's supply of housing, since the unit is already occupied by a resident and continues to be so after the booking. This type of listing is arguably beneficial because it makes use of space that would otherwise be vacant. There may still be negative effects (such as noise and security concerns) on neighbours, but those are not my focus. Airbnb often claims that this type of occasional renting of a primary residence represents the "vast majority" of bookings on its site, but those statements are not independently verifiable and it not

³⁶⁶ Ibid.

³⁶⁷ Regulating STRs, even just for the purposes of protecting rental housing stock, is a complex topic and space constraints do not allow for me be comprehensive or detailed. For other ideas on how to regulate STRs in a manner that protects housing for residents, see The Sustainable Economies Law Center, "Regulating Short-Term Rentals: A Guidebook for Equitable Policy," March 2016, http://www.theselc.org/new_selc_report_how_to_equitably_regulate_airbnb_style_short_term_rentals. Also, Larissa Ardiss, "Shared Spaces" (One Earth, 2015), http://www.localgovsharingecon.com/uploads/2/1/3/3/21333498/localgovsharingecon_sharedspaces_oct2015.pdf.

clear how Airbnb defines the terms “primary” or “permanent” residence.”³⁶⁸ I recommend the city require proof of primary residence and further, that it require proof that the prospective STR operator has used the unit for at least a year before obtaining an STR permit in order to discourage the purchase of housing units with the intent of turning them into full-time STRs.³⁶⁹

6.2.2. Preventing the use of housing units created through the city’s affordable housing policies as full-time STRs

Legalized secondary suites, laneway houses and Rental 100 buildings all came about as a result of city policies specifically intended to create more affordable rental housing options. In each of these cases, these initiatives were controversial when they were first proposed (and in some cases still are) and the irrefutable need for more rental supply is part of why they have achieved whatever level of acceptance they now enjoy. It would subvert the intent of these policies, and be a misuse of any public funds devoted to them, to allow these types of housing spaces to be used for full-time tourist purposes. It is especially important to protect the supply of secondary suites, since those provide some of the city’s most affordable rental units (depending on their location and age). This principle would also apply to the city’s SRA (single-room accommodation) units, given that the city has taken specific steps to protect those units for the use of residents who survive on various forms of social assistance.³⁷⁰ Implementing this recommendation would be in keeping with Susan J. Fainstein’s “just city” principle that “housing units

³⁶⁸This question was not asked during the listing process when I experimented with it and Airbnb does not verify that information even if it were. I therefore surmise that such statements are based on surveys of operators conducted either by Airbnb itself or companies it has contracted to do so. This brings up obvious data quality issues. Also, it is not clear how Airbnb defines the terms primary or permanent residence. See Brian Chesky interviewed in *Airbnb’s Chesky Defends Co. against Affordability Critics*. Amanda Connolly, “Airbnb’s New Feature Still Doesn’t Address Its Key Problems,” *The Next Web*, March 30, 2016, <http://thenextweb.com/insider/2016/03/30/airbnb-new-host-feature/>.

³⁶⁹ Two of the reports by non-profit groups also recommend a similar policy. See The Sustainable Economies Law Center, “Regulating Short-Term Rentals: A Guidebook for Equitable Policy.” 12, 16. And Ardiss, “Shared Spaces.” 115-116.

³⁷⁰ City of Vancouver, “Single Room Accommodation (SRA) Bylaw,” *City of Vancouver*, February 11, 2016, <http://vancouver.ca/people-programs/single-room-accommodation-bylaw.aspx>.

developed to be affordable should remain perpetually in the affordable housing pool or be subject to one-for-one replacement.”³⁷¹

6.2.3. Address STR use of private rooms

While much of the concern about Airbnb's housing impacts centres on the use of entire units, and justifiably so, the problem of private rooms should not be overlooked, especially given the costs of Vancouver housing in relation to the provincial minimum wage of \$10.45 (as of June 2016). At those wages, workers cannot afford to rent an entire apartment, so their only option is a private room. This is a trickier question to deal with than entire units, since understandably, many people who seek to offset their housing costs would prefer a temporary guest to a full-time roommate. If the city is to meet its rental housing policy goals, however, it must explore and grapple with this problem.

6.2.4. Require permit numbers to be listed on advertisements

In Chapter 1, I touched on the difficulties of enforcing the rules prohibiting STRs that already exist in Vancouver, due in part to the fact that merely documenting the fact that a listing exists and is advertised does not seem to provide enough evidence for a successful prosecution.³⁷² Other jurisdictions have grappled with this problem too, which is why some have moved to require operators to not only have a permit, but to display that number in the actual listing and make it a lesser offence not to do so. This is intended to make enforcement efforts easier and more efficient. I recommend the city adopt this practice.

³⁷¹ Susan S. Fainstein, *The Just City* (Ithaca, NY: Cornell University Press, 2010). 172.

³⁷² This is my paraphrase of oral information stated by Andreea Toma, the city's director of licensing, property use inspections & animal services at a public meeting of the city's Renters Advisory Committee. I am a member of this committee, but this information was provided in a public forum and the agenda, including this presentation, was posted online in advance. Toma, "Short-Term Rental Update."

6.2.5. Require STR platforms to verify registration before new listings are published, remove non-registered listings, and provide booking data.

As mentioned earlier in this section, cities such as San Francisco and Los Angeles are now attempting to compel platforms, rather than just individual operators, to share the burden of compliance, such as by requiring platforms to ensure that a listing is actually registered before publishing it, removing illegal or unregistered listings promptly in response to city requests, and regularly sharing booking data so that limits on annual stays can be monitored and enforced.³⁷³ Similar efforts are underway at the state level in New York.³⁷⁴ In late June 2016 Airbnb filed suit against the City of San Francisco over its new rules and the City of Los Angeles has yet to enact them.³⁷⁵ The outcome of the San Francisco lawsuit is likely to affect the type of rules and expectations other local governments attempt to impose on STR platforms, so developments in that city and in Los Angeles are worth watching.

6.2.6. Obtain third-party data

New services are now emerging that could help the city independently monitor and proactively enforce the existing zoning rules or any permit scheme it chooses to adopt, which would free the city from dependence on getting listing address information

³⁷³ Proposed platform requirements in Los Angeles are found in section F of the draft ordinance. See David Graham-Caso, "Bonin and Wesson Applaud Draft Short-Term Rental Ordinance," *11th District - Mike Bonin*, April 15, 2016, https://www.scribd.com/embeds/308914157/content?start_page=1&view_mode=scroll&show_recommendations=true. For San Francisco, see Green, "SF Supes Crack down on Unregistered Short-Term Rentals."

³⁷⁴ In this case, the additional enforcement mechanisms are directed at operators, but the bill still represents an attempt to increase accountability on those who benefit from STRs. Rosa Goldensohn, "Albany Passes an Anti-Airbnb Bill That Stops Listings for Illegal Sublets | Crain's New York Business," *Crain's New York Business*, June 17, 2016, <http://www.craigslist.com/article/20160617/BLOGS04/160619868/in-last-minute-move-albany-whacks-airbnb>.

³⁷⁵ Carolyn Said, "Airbnb Sues to Block New SF Law," *San Francisco Chronicle*, June 27, 2016, <http://www.sfchronicle.com/business/article/Airbnb-seeks-to-block-new-SF-law-8328045.php>.

from Airbnb.³⁷⁶ Use of such services could also improve the very poor compliance rates that many cities with permit systems have been experiencing so far.³⁷⁷ The District of Tofino has already hired such a service to collect listing data, in preparation for taking a stricter approach to STR enforcement than it has implemented in the past.³⁷⁸ The City of Vancouver has very recently followed suit and reported on that data, which is commendable.³⁷⁹ Use of these types of services may not be necessary, or less crucial, if local governments are successful in implementing the enforcement mechanisms mentioned in 6.2.4 and 6.25.

6.3. Other policies to consider

Other policies aimed at protecting rental housing stock have been suggested or enacted elsewhere, and while intriguing, I have too many qualms to recommend them. One such policy is imposing an extra tax or a portion of lodging taxes on Airbnb bookings in order to fund affordable housing.³⁸⁰ While this could have positive results, my concern is that taking this approach would imply that such a tax would completely offset the financial and social costs of allowing housing units to be converted to full-time tourist use. As I have discussed, the costs of replacing lost rental units (especially when

³⁷⁶ Host Compliance, “Host Compliance: The Short-Term Rental Regulation Enforcement Experts,” *Host Compliance*, accessed June 27, 2016, <http://hostcompliance.com/>. Also Sublet Spy, “SubletSpy: Find Illegal Sublets & Airbnb,” *Sublet Spy*, accessed June 27, 2016, <https://subletspy.com/>.

³⁷⁷ In San Francisco, the host non-compliance rate was estimated to be up to 80 percent as of April 2016, about a year and half after the registration system came into effect. Office of the Budget and Legislative Analyst, “Policy Analysis Report: Short-Term Rental 2016 Update.” 2. In Portland, the compliance rate was estimated at 10 percent at the time of a February 2015 deadline set by the city. See, Dan Peltier, “Airbnb Faces Big Fines in Portland If Hosts Don’t Get City Permits,” *Skift*, February 23, 2015, <https://skift.com/2015/02/23/airbnb-faces-big-fines-in-portland-if-hosts-dont-get-city-permits/>. Ongoing low compliance, despite proactive enforcement efforts by the City of New York is part of why regulatory efforts have recently been taken up at the state level in New York. Goldensohn, “Albany Passes an Anti-Airbnb Bill That Stops Listings for Illegal Sublets | Crain’s New York Business.”

³⁷⁸ This was discussed at a town hall meeting on STRs in Tofino on May 2016, where I was an invited speaker.

³⁷⁹ City of Vancouver, “Short-Term Rentals.”

³⁸⁰ The City of Portland has done this and it is expected to generate \$1.2 million for the city’s Housing Investment Fund. Dan Saltzman, “Affordable Housing Updates,” *Commissioner Dan Saltzman*, accessed July 6, 2016, <https://www.portlandoregon.gov/saltzman/68966?>

those units are at the most affordable end of the spectrum, such as with secondary suites) is considerable and it can also be a lengthy process. Also, new units that are added as a product of such a tax would not necessarily be in the same communities that housing units have been lost from. Another common recommendation is to establish a limit of the number of nights that can be booked for a given listing on annual basis. While this suggestion has merit, it can only be enforced if cities are able to obtain booking data on a regular basis (as Los Angeles has proposed).³⁸¹ Limiting the overall number of listings may also be worthy of consideration, but it brings up questions of equitable access, since newcomers' access to permits may be limited by those who were in the pool first. In terms of more drastic options, the city could also consider a ban, such as was recently enacted in Anaheim, California in response to two years of frustration over the city's ability to control the negative impacts of STRs.³⁸² Anaheim's circumstances are quite different than Vancouver's however, in that the city is home to Disneyland, one of the most-visited tourist attractions in the world.

6.4. Future research and final remarks

This research project has necessarily been exploratory (as well as descriptive) because the subject matter itself is new and access to data is restricted. However, despite the challenges and limitations, I contend that it is important for urbanist academics to examine the impacts of new digital technologies and what have been called the “sharing” or “platform” economy companies, since they are having a transformative effect on our cities. Airbnb co-founder Brian Chesky has suggested that

³⁸¹ Graham-Caso, “Bonin and Wesson Applaud Draft Short-Term Rental Ordinance.”

³⁸² Joseph Pimentel, “Anaheim the Latest O.C. City to Decide the Fate of Short-Term Rentals,” *The Orange County Register*, June 28, 2016, <http://www.ocregister.com/articles/term-720756-city-short.html>. Joseph Pimentel, “All Short-Term Rentals Banned in Anaheim by City Council,” *The Orange County Register*, June 29, 2016, <http://www.ocregister.com/articles/city-721046-term-short.html>. The city had hired two extra part-time code enforcement officers at a cost \$200,000 to help respond to after-hours issues. It had also collected transient occupancy taxes totalling \$3 million from June 2015 to June 2016. It may introduce a program to allow for hosted rentals in portions of primary residences. City of Anaheim, “Anaheim Short-Term Rental Policy,” June 28, 2016, <http://www.anaheim.net/documentcenter/view/12281>.

“The more that cities get to know us, the more they love us,” but it is not clear the feeling is mutual.³⁸³

In terms of directions for future research, I refer back to Flyvbjerg and suggest that the four questions he has posed for planning research - Where are we going? Who gains and who loses and by which mechanisms of power? Is this development desirable? What, if anything, should we do about it? - are all in need of more attention in relation to Airbnb.³⁸⁴ Research that would contribute to better understanding of the demographics and economic status of STR operators seems particularly pertinent to policy decisions. It would also be useful to look at individual neighbourhoods more closely and to examine and analyze the listings of all STR platforms as a whole, rather than just Airbnb.

All these questions will be important to bear in mind because, despite its \$24-billion valuation, financial and industry journalists report that Airbnb is not yet profitable and is not expected to be so until 2020.³⁸⁵ Those profit projections are contingent on continued rapid growth, which means local governments, particularly in urban centres, will continue to be challenged to answer Flyvbjerg’s questions.

It is worth remembering that the challenges Airbnb poses for Vancouver do not represent the first time the city and Vancouver tenants have been forced to grapple with questions of housing equity and potential displacement triggered by tourism. Thirty years ago as I write, the city was in the midst of a major economic turning point as it “welcomed the world” to the Expo 86 World’s Fair - on land where dozens of condominium towers now attest to the success of those efforts, at least on their own terms. However, the demand for nearby tourism accommodation that Expo ‘86 triggered led to the eviction of 500 to 850 tenants - most of them elderly, disabled and subsisting on government assistance payments - from low-rent single-room occupancy hotels and

³⁸³ Brian Chesky interviewed in *Airbnb’s Chesky Defends Co. against Affordability Critics*.

³⁸⁴ Flyvbjerg, “Phronetic Planning Research.” 289-90.

³⁸⁵ Winkler and MacMillan, “The Secret Math of Airbnb’s \$24 Billion Valuation.”

rooming houses in the DTES.³⁸⁶ One hopes the City of Vancouver's efforts to respond to Airbnb will have better results for tenants than what transpired then.

³⁸⁶ Olds, "Liquid Assets: Producing the Pacific Rim Consumptionscape in Vancouver, Canada." 105-106.

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Appendix A. Design features of Airbnb's website that made manual data collection impractical.

The search function of Airbnb's website is designed to limit the maximum number of listings returned in response to any given search, regardless of how many listings actually match the query. While I was collecting data, this maximum was set to 1,000 but I have more recently observed it to be 300.³⁸⁷ This feature, along with Airbnb's popularity, makes it impossible to know the total number of listings in most urban centres by using the search mechanism built into Airbnb's website. It would be hypothetically possible to arrive at an estimated total by performing repeated specific searches, such as for only one room type or listings in a particular neighbourhood, and then adding those separate results together. How well this would work in any given city would depend on the size of the city and the density of its Airbnb listings, because each total would still have to be less than whatever results limit Airbnb had set at the time.

Another obstacle to obtaining an accurate overall listings total through use of Airbnb's search function is that Airbnb has set up that search so that requests for listings in a particular neighbourhood will sometimes return results from other nearby neighbourhoods.³⁸⁸ This design decision is understandable from a customer-service perspective because, given a sufficiently attractive combination of price, amenities and location, customers looking for listings in one neighbourhood may be willing to stay in an adjacent one. However, this design feature does make it harder for researchers to obtain accurate and discrete neighbourhood listings totals based on website searches alone.

Another feature of Airbnb's website design that hinders its use by researchers is the absence of a feature that allows users to export search results. This makes it more difficult to keep track of multiple specific listings over time.

³⁸⁷ I observed this limit in effect for a search of Vancouver listings on April 22, 2016.

³⁸⁸ Airbnb states that, "If your listing's neighbourhood is a subset of a larger neighbourhood, or if two neighbourhoods overlap, your listing will show in search results for both neighbourhoods." Airbnb Inc., "How Do I Edit My Neighbourhood?" *Airbnb.ca*, n.d., <https://www.airbnb.ca/help/article/422/how-do-i-edit-my-neighborhood>.

Appendix B. Discussion of neighbourhood issues

Table B1 shows Airbnb’s neighbourhoods and the City of Vancouver’s local planning areas, as mentioned in the “Accuracy” section of this chapter (and also referred to in Figure 4.3. Because of these differences, Airbnb and the City of Vancouver, or its residents, will sometimes differ as to the location of a listing. Table B1 shows the approximate correspondence between the city boundaries and Airbnb’s boundaries. Unfortunately, Airbnb does not provide an entire map of the city with its neighbourhood boundaries. Airbnb does now show the boundaries of the applicable neighbourhood when one views an individual listing page.

Table B1: City of Vancouver local planning areas and Airbnb neighbourhoods

City Local Planning Areas	Airbnb Neighbourhoods
Arbutus Ridge	Arbutus Ridge
Downtown	Downtown
	Coal Harbour
	Yaletown
	Chinatown
	Gastown
Downtown Eastside	Downtown Eastside
Dunbar-Southlands	Dunbar-Southlands
Fairview	Fairview
Victoria-Fraserview	Fraserview
Grandview-Woodland	Grandview-Woodland
	Commercial Drive
Hastings-Sunrise	Hastings-Sunrise
Kensington-Cedar Cottage	Kensington-Cedar Cottage
Kerrisdale	Kerrisdale
Killarney	Killarney
Kitsilano	Kitsilano
Marpole	Marpole
Mount Pleasant	Mount Pleasant
Oakridge	Oakridge
West Point Grey	Point Grey-UBC
Renfrew-Collingwood	Renfrew-Collingwood

Riley Park	Riley Park
Shaughnessy	Shaughnessy
South Cambie	South Cambie
Strathcona	Strathcona
Sunset	Fraserview
West End	West End

Here are some key points about how the city's boundaries and Airbnb's neighbourhoods differ:

- Airbnb breaks what the city considers "downtown" into sub-areas, such as Yaletown and Coal Harbour. While the city also uses these names and plans for these areas, they are not included in its "local planning areas."
- Airbnb's totals for Point Grey-UBC include listings in the University Endowment Lands, which are outside the city's jurisdiction.
- Airbnb has both a Commercial Drive neighbourhood and a Grandview-Woodland neighbourhood. In my calculations, I have combined the totals for those two areas because residents tend to use the terms somewhat interchangeably.
- Sunset is one of the city's local planning areas, but it is not an Airbnb neighbourhood. Airbnb seems to designate most of the listings in this area as Fraserview. Other Airbnb Fraserview listings are in the local area the city calls Victoria-Fraserview.
- Airbnb seems to define "Strathcona" as a mainly industrial area between Prior Street, Great Northern Way, Main Street and Clark Avenue. The City of Vancouver refers to this area as False Creek Flats. Since there are few residential properties in this area, the number of Airbnb "Strathcona" listings is most likely under-reported. On Airbnb, listings in the area bounded by Campbell and Gore avenues to the east and west and by Prior Street and East Hastings Street to the north and south, which most residents of that area would call Strathcona, are identified as being in the Downtown Eastside. Some residents consider Strathcona to be part of the Downtown Eastside, while others consider it a separate neighbourhood. There has been some local contention over this question.
- Although the city does not always consider the Downtown Eastside to be one of its "local planning areas," the area does have a recent plan (2013). The boundaries of that area as shown on city maps are larger than the area Airbnb considers the Downtown Eastside, which is bounded by Clark Drive and Main Street to the east and west and Burrard Inlet and Prior Street to the north and south.

Both Strathcona and the Downtown Eastside are areas with household incomes much lower than the city average. Both areas are also subject to pressures from gentrification. It is unfortunate that Airbnb has given incorrect boundaries to the Strathcona area, as this makes it harder to understand the number of Airbnb units there, as well as the number in the Downtown Eastside, for those who consider it a separate area. However, this error may stem from data provided in the city's open data catalogue, where there is a downloadable local area boundary shapefile (SHP) that contains this incorrect Strathcona boundary.³⁸⁹ Airbnb states on its website that it determines its neighbourhood boundaries "based on research with locals and city experts," and it may have incorporated information from SHP file into its Strathcona boundary definitions.³⁹⁰

³⁸⁹ City of Vancouver, "Local Area Boundary," *Open Data Catalogue*, accessed December 9, 2015, <http://data.vancouver.ca/datacatalogue/localAreaBoundary.htm>.

³⁹⁰ Airbnb Inc., "How Do I Edit My Neighbourhood?"

Appendix C. Data files

Description:

The accompanying .csv spreadsheets are the raw data files on which I based my quantitative analysis of listing data collected on November 29, 2014 and July 1, 2015. The December 3, 2015, listing data that I used is available from <http://insideairbnb.com/get-the-data.html>.

Filenames:

Vancouver--bc--Canada-11-29-2014.csv

Vancouver--bc--Canada-7-1-2015.csv.