

# **Differences in Urban Residential Property Maintenance by Tenure Type**

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## **Abstract**

One of the key determinants of the “quality” of a neighbourhood is the extent to which owners maintain their properties. Much has been written about the impact of neighbourhood blight, or the physically rejuvenating impact of gentrification. To better understand why some neighbourhoods are thriving, and others not, a critical variable that has seen little exploration is the type of tenure. This thesis, focused mostly on data from the City of Rochester NY, comparing absentee landlords, resident landlords and owner-occupiers, looking for differences in the level of maintenance of residential properties. Using a procedure developed by the author, every house in Rochester, Buffalo, and Syracuse containing 1-6 units was assessed, creating a quantitative analysis that is both more current, and on a much larger scale than previous work. Findings mostly confirmed observations and theories in the literature, but there were a number of significant differences. The key observation within Rochester was that, regardless of geographic scale, absentee owners consistently took the worst care of their properties, followed by resident landlords and then owner-occupiers. Further, size and type of absentee landlord mattered. Tenure was found to be the driving force in predicting maintenance outcomes, compounded by variables such as property values and race. Evidence from Buffalo and Syracuse indicated that findings may be generalizable, at least for declining industrial cities.

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### Table of Key Terms and Acronyms

<b>Term</b>	<b>Definition</b>
Absentee Landlord	Owner, but not resident of a residential building
Landlord Size	Size refers to number of units owned by a landlord. 0-10 is small, 11-40, medium, 41+, large
Landlord Type	Any of a number of ways of categorizing absentee landlords, including by distance, by size, by legal status of ownership, i.e. corporate or private, and a further category called property managers.
LLC	Limited liability corporation. A category of absentee landlord . Grouped in with these are all non-private types of absentee ownership.
Owner-Occupier	Owner and resident of a single-family residential building
Property Manager	A category of absentee landlord that contains businesses that manage rental building for others, and often also for themselves.
Resident Landlord	Owner and resident of a multifamily residential building
Resident Owner	Owner and resident of a residential building, i.e. an owner-occupier or a resident landlord.
Vacancy	This term is being used exclusively to refer to empty buildings (incidents of vacant dwellings), not simply buildings or units that are between tenants.

## Introduction

*“The sparse empirical evidence that does exist is derived largely from several small sample case study analyses... It should be apparent that empirical support for the proposition of the superiority of landlord residency is rather weak” (Porell, 1985, p. 106-107).*

Neighbourhoods in cities matter. Though their significance ranges, depending on the type of resident, everyone lives somewhere and the quality and cost of their neighbourhood impact their lives. For this reason, we are interested in observing neighbourhood conditions and anticipating change. One factor impacting neighbourhood change is the form of residential<sup>1</sup> property ownership, or housing tenure. Some researchers suggest that the quality and trajectory of a neighbourhood is affected by the mix of residential tenure. In particular, absentee landlords have been shown to care less about the physical condition of their properties, which affects both the appearance of the neighbourhood and the type of tenant. Beyond this, much ink has been spilt talking about how critically a neighbourhood is affected by blight, which can negatively affect property values and thus city revenues, thereby depressing optimism and creating a negative spiral in the neighbourhood and beyond. If we can observe and understand differences in the behaviour of the various types of property owners towards their properties, especially how well they maintain them, we have a significant tool with which to further our comprehension of neighbourhood dynamics.

Before launching into an introduction of the expectations in the literature on this subject and how this thesis intends to explore them, it is important to define the ownership categories used. Commonly, and in this study, residential property owners are broken into three broad categories. Owner-occupiers are the owners who live in a single-family home, often seen as the ideal in America, and they are usually the largest group of owners, in terms of the number of properties. The next largest group are absentee owners who own residential buildings other than their personal residence. This group will be further subdivided by the scale of holdings, type of owner (private vs various corporate), and distance from the rental property. The third group are

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<sup>1</sup> The term ‘residential’ will be assumed throughout this thesis, such that ‘owner’ means ‘residential owner’, and ‘property’ or ‘buildings’ will imply ‘residential property’ or ‘residential buildings’.

resident landlords. Their residence contains at least two units, the one they live in and the remainder occupied by their tenants.

The following expectations were found in the literature. By the broadest assessment, it has been suggested that owner-occupiers and resident landlords take the best care of their properties, followed by absentee landlords. This is reflected in the quality of overall maintenance, the speed with which they deal with problems, and in relative per-unit property values. This ranking also usually reproduces relative concern for, and defence of, the neighbourhood. However, according to some literature, factors such as social cohesion in the neighbourhood, length of tenure of owner residents, owner income, and size of absentee owner's rental holdings might be expected to complicate this picture. Additionally, different types of absentee owners are expected to behave differently from each other, and there is some suggestion that limited liability ownership produces some of the most problematic outcomes.

Unfortunately, research to date is inadequate. The biggest issue is that the methodology used to measure behaviour towards residential property maintenance has relied on small scale, small samples, and/or has been qualitative in nature, based on interviews of stakeholders, or the opinions and impressions of the authors. Most of the research that is available explores the impact of ownership without comparing the outcomes by tenure type. Another major problem is that most of the best information on this subject is several decades old. Further, there are few academic works that give more than a brief consideration or exploration of small scale residential absentee landlords as a separate category, and fewer still that focus on their impact on variables such as home values and maintenance in comparison with resident owners<sup>2</sup>.

There are two broad angles this research could take; understanding property owner motivations, and measuring behaviours by tenure. This thesis follows the latter approach, identifying the tenure type of every property containing six units or less and then comparing the relative care of property in order to determine whether, and to what extent, tenure is an important variable in understanding property maintenance and hence neighbourhood quality. By using variables such as city code violations, police reports, distance between landlord and rental property, and assessed property values, a determination was made of the differences by tenure

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<sup>2</sup> This is a composite term useful in combining owner-occupiers with resident landlords. When it is useful to combine resident and absentee landlords the generic term 'landlords' will be used.

types. These findings were compared, where possible, with expected outcomes from the literature. Though in many cases the results support existing claims, the magnitudes were often quite surprising, with dramatically strong support for some expectations, and unexpectedly inconclusive observations with others. An exploration of owner motivations was limited to the literature review, where it provided some perspective and allow for speculation in the discussion.

Beyond providing up to date evidence, a major purpose of this thesis was to develop and demonstrate a rigorous and substantial method to quantify property maintenance differences into three distinct tenure types. Thanks to recent open data access available freely online from some cities, it was possible to obtain and analyze specific information from nearly every residential property in three Western New York cities: Rochester, Syracuse and Buffalo. This allowed almost 100% knowledge of tenure type and other data relevant to this study on a property by property basis. No sampling was necessary. Precise aggregations of this data, to compare with census information, were also possible. Additional data acquired from the City of Rochester allowed for a longitudinal study looking at change between 2011 and 2017.

In a number of ways, this thesis appears to be unique. Perhaps due to the recent introduction of opensource city data, no previous paper was found that looked quantitatively at property maintenance outcomes for all residential properties in a city or even a large section of a city. Additionally, none were found that studied property owner maintenance behaviours based on all three tenure types.

Chapter one contains a literature review. Here, there will be an examination of what previous researchers have found about the behaviour of different types of property owners towards maintenance, the motivations driving these behaviours, and their impact on the character of neighbourhoods. Chapter two presents the methodology, where there will be a brief explanation of the approaches and methods taken in the analysis, along with a description of the chosen variables and their sources. Many of the details related to explaining how data was extracted and categorized are placed in appendixes A - F. Chapter three briefly introduces the study area both geographically and with some historical and economic details. Chapter four contains results for Rochester in 2017, composed of maps, tables and observations comparing outcomes by tenure. Chapter five explores changes in Rochester between 2011 and 2017. Chapter six presents a comparison between Rochester and two other western New York cities, Syracuse and Buffalo. The

discussion occurs in chapter seven. Here all major outcomes from the results section are reviewed to look for broader patterns. Some effort is made to explore the similarities and differences from expectations in the literature and the various local situations and historical experiences that might have impacted results. Chapter eight will contain conclusions summing up observation in the discussion and possible further research.

## **Chapter 1: Literature Review**

This review will be broken into four sections. Section one establishes ideas and facts found in the literature that speak to maintenance behaviours of different types of residential property owners and any attempt to describe differences by tenure type. Section two will elaborate and add claims found in the literature exploring the motivations for particular maintenance behaviours of the different tenure types. Section three will cover some of the consequences. Here the key issue is the medium and long term impact on the character of the neighbourhood. Section four will summarize some of the gaps in the literature, including those that the present research is attempting to address.

### **Housing tenure and property maintenance**

According to many researchers, resident homeowners (owner-occupiers and resident landlords) maintain their homes better, are more likely to do repairs on their homes, and to spend more on these repairs than absentee landlords (Rohe & Stewart, 1996 & Mallach, 2007). Rohe & Stewart (1996) came to this conclusion solely by using a conceptual model based on current literature (p. 40). Mallach (2007) used U.S. census data from 2000 as well as specific details from the 1995 Property Owners and Managers Survey (POMS) and The 2001 Residential Finance Survey (RFS). He supplemented these with a “series” (no count given) of interviews “with property owners, brokers, lenders and governmental officials in urban areas in New Jersey... and other informal sources of information” (p. 19). Mallach acknowledges the limitation of these sources: “In view of the limitations of the information relied upon, it must be stressed that this profile is very much a provisional one. The author hopes that it will be refined, and perhaps substantially revised, through further research” (p. 19). Similarly, Mayer (1981) found that resident owners in Berkeley CA were more likely to do renovations. He also found that absentee owners were less likely, or spent less (p. 350). This conclusion was based on analysis of loan data of 1000 randomly chosen rental buildings in 28 neighbourhoods from Venton Reports, a private publication of residential sales between 1973-1975 in Berkeley California (p. 353 & 356).

Most of the literature describes absentee landlords as the tenure type that take the poorest care of their property. Galster (1987) found in Wooster, Ohio, that absentee owners were over “five times more likely to own dwellings having exterior defects” and “more than twice as likely to

forego maintenance and repairs during a year” (p.296). However, this study of Galster’s focused almost exclusively on owner-occupiers. He also was only looking at single-family homes (p. 295). In total, his research results were based on surveys collected from about 1000 residents in Wooster OH and 650 from three areas of Minneapolis. His only comments on absentee ownership behaviours were in chapter 13, p. 286-297. Here, he hypothesized that owner-occupiers would spend more on maintenance because they know their tenant, themselves, the best, and thus could predict needs and extend the payback period. He also expected that owner-occupiers would use more sweat equity, in addition to spending for maintenance. He predicted that pride of home would produce a further positive impact (p. 288-289). He found “nontrivial” results that supported these theories. Galster gave no indication of the number of owners or properties for each tenure. He also provided a number of cautions when interpreting his results. These included possible missing information because only occupants were interviewed. Thus, in the case of an absentee landlord, the owner might have been able to provide contradicting information. Galster also provided cautions about previous studies that offered a similar conclusion. He said that they did not control for many other potential explanatory factors such as age, the type of construction of buildings, and demographic details of the household such as the age or education of the owner (p.287).

Not all papers agreed with the idea that absentee landlords take the poorest care of their property. A study by Helms (2012) in central Chicago showed no statistical difference in renovation spending between absentee and resident owners. His exact statement, seemingly a comment made in passing because it was not part of the conclusions, was “improvement behaviour is unaffected by property ownership (at least at the block level)” (p. 309). This was the only study found that used a large amount of non-aggregated data. However, it is not comparable to this thesis as its focus was on spatial neighbourhood effects, such as the distance to a transit stop, on renovation activity and it only looked at this from an aggregated perspective. 435,000 properties in Chicago 1995-2000 were examined taking the dollar values of renovations from building permits (p. 304). This data was aggregated to the block level and integrated with census data from 1990. Stegman (1972) expressed concern about the oversimplification often applied to absentee landlord maintenance behaviours. As an example, he quoted what he felt were exaggerations offered by Robert Wagner, mayor of New York in 1964, where Wagner was blaming landlords for “squeez(ing)

every last dollar out of their property...regardless of consequence" (p. 27). Based on his research, contrary to stereotypes, absentee, and even slum landlords generally are not getting rich off their properties. In many cases, cash flow is negative after including mortgage payments (Stegman, 1972, p 85). Of course, they might be squeezing out every last dollar in order to break even.

Stegman's (1972) study involved physical surveys as well as interviews of the owners of 625 buildings in Baltimore in 1970. The physical inspection was undertaken in two stages, where less experienced staff did the first survey, and if they spotted deficiencies they sent in an expert who used a standardized procedure to assess deficiency values. Unfortunately, property quality was not correlated to tenure type (p. 24-25). Interviews of the owners had many issues. The response rate in the inner-city was 67%, a good rate, but still subject to self-selection issues. There was a high turnover of interviewers which Stegman acknowledged put doubts on their competency. Survey estimates of the household population collected by the interviewers were out by 10%, where statistical likelihood suggested this should have been within 3.8%. Even bigger issues were found in housing unit counts. Many households with an employed resident were missed, as no-one was home. Still, the author believed the reported results were reasonable due to efforts to select subsets of data that proved accurate (p. 18-19), though this made for an even smaller sample size.

Some researchers have noted that absentee landlords do not all behave the same, with the scale of their holdings (number of units or buildings) making a difference in their maintenance behaviour. In a study of Newark NJ in 1964, Sternlieb (1966) found that, on average, those with many properties (over twelve) took the poorest care. Their properties invariably had "at least minimal degrees of maintenance" but were rarely the best maintained buildings in the area (p.137). He claimed that the "worst housing areas have the highest concentrations of major owners" (xviii). He also noted that unit vacancy rates, which he explained were typically connected to poor maintenance, were higher among larger landlords, and lowest for resident landlords (Sternlieb, 1966, p. 89). This study by Sternlieb consisted of a survey of owners of 566 buildings. Ultimately, 70% of the sample participated (p. 59). This is a good participation rate, but it means that self-selection by the owners may have biased the results. The study was limited to buildings containing three or more units, thus not owner-occupied buildings, taken roughly equally from three areas of the city by random selection (38-39).



In Stegman's (1972) study of Baltimore in 1970, maintenance behaviour did not vary significantly by size of the landlord (p. 45). He did, however, give good grades to a particular kind of large landlord, "investor managers," who are owners that manage properties for others, and often also their own properties, saying they were more likely to be responsive to tenant needs. This last point introduces the idea that perhaps absentee landlords could usefully be subcategorized by distinctions other than, or in addition to, size, an idea which will be explored in this thesis.

Another way to differentiate types of absentee landlords is to consider how far they reside away from their rental properties. There is some suggestion in the literature that the greater the distance between a landlord and their rental property, the poorer maintenance becomes. Mallach (2007) quoted one experienced property manager who claimed: "The condition of a property varies inversely with its distance from the owner's home" (p.35). Galster (1987) found that more than half of the impact of distance related to landlords living beyond the immediate neighbourhood. (p. 296). Mallach (2007) also noted that sweat equity is often the major investment of smaller absentee owners, and thus distance can further discourage maintenance (Mallach, 2007). Sternlieb (1966) found examples suggesting that great distance, such as living out of state, increased the likelihood of property neglect. He wrote: "noninvolvement is often accentuated by geographical gap" (140). In contrast, Mayer (1981), based on loan data in Berkeley CA, found that the distance from the property did not make a statistical difference in maintenance behaviour (p.369).

Yet a further way to differentiate absentee landlords is by legal status. Other than private ownership, there are a number of corporate versions, including incorporated (inc.), trusts, non-profits, etc. One version very common in real estate is called a limited liability corporation (LLC). Corporate status, in a study of Milwaukee, not only shielded landlords from liabilities but also helped obscure their identity (Badger, 2018). Desmond (2016) quoted a landlord who deliberately held rental properties within an LLC so that when buildings were no longer worth maintaining they could safely abandon them to the city because they were personally shielded from any responsibility (p. 354). LLCs are a relatively recent U.S. option. They were first introduced in Wyoming in 1977, and by the mid-1990s existed across the U.S. (Badger, 2018). In 1991, 92% of rental properties across the U.S. were owned by private individuals. By 2015, however, mostly because of a growth in LLC's, only 74% of rental properties were still owned privately. LLC's held 15% of all rental buildings and 33% of all rental units (Badger, 2018). According to ATTOM Data

Solutions, a real estate data company, 9% of single-family homes sold in the U.S. in 2017 were purchased by LLCs (Badger, 2018). The growth of LLCs has introduced a major change in public access to information about a building’s owner. One study by Dan Immergluck, professor at The Georgia Institute of Technology, quoted by Badger (2018), observed: “because one unidentified buyer could be behind many L.L.C.s, it’s hard to know who is acquiring the most property, or which property owners are behind the most code violations or the most evictions.” (This problem may have been solved in this thesis, by using a common mailing address in place of the company name.) Badger (2018) noted that a parcel survey of Memphis found that most blighted properties were LLC-owned.

As difficult as it was to find literature comparing absentee landlords maintenance practices to those of owner-occupiers, comparisons to resident landlords were sparser yet and even then were only compared with absentee landlords. Sternlieb (1966) found that resident landlords took better care of their properties, with 33% of their buildings being well kept, compared to 18%, or less, for absentee landlords. Similarly, he found that only 10% of the resident landlord properties were poorly kept, compared to at least 21% for absentee-owned properties (Table 1). Porell (1985) came to a similar conclusion, saying that there are “large percentage reductions in deficiencies due to residency...(however,) the empirical results were not supportive of landlord or manager superiority for larger multifamily buildings of five or more units” (p. 116). His study was based on a “pooled cross-section” of 50 standard metropolitan statistical areas (SMSA) from the Annual Housing Survey (p. 111). It looked at "28 indicators of physical housing quality that were used in the construction of composite quality indices" (p. 109). Unfortunately, neither Porell nor any other author has differentiated between resident landlords and owner-occupiers.

Table 1: Property Maintenance by Size of Landlord

Quality of Maintenance	Size of Owner (number of buildings)				Total
	Resident Landlord	2 -3	4 - 12	over 12	
Number of buildings	169	83	73	61	386
Well kept	33%	18%	11%	7%	22%
Reasonably kept	57%	57%	63%	72%	61%
Poorly kept	10%	25%	26%	21%	18%

(Sternlieb, 1966, p.175)

Mallach (2007) gives a country wide comparison of resident to absentee landlords (Table 2). Here, in 2-4 unit buildings, the value of annual capital improvements were 47% higher for resident landlords.

Table 2: Characteristics of 2-4 unit Buildings

Category	resident landlord	absentee-owned
Median year property built	1944	1953
Median market value	\$145,738	\$119,022
Median value of capital improvements made per unit <sup>3</sup>	\$3,541	\$2,414

(Mallach, 2007, p. 22 Source: 2001 Residential Finance Survey)

To summarize, the literature suggests that resident-owners maintained their homes better than absentee owners: they are more likely to do repairs, more likely to spend more on repairs, are less likely to have external defects on their properties, and are less likely to delay making repairs. However, some researchers found or believed these differences may not hold, or that the situation is not nearly as extreme as popular opinion suggests. Further, there is some suggestion that absentee landlord's maintenance behaviours vary, depending on their size (number of buildings/units). One source found that large landlords took the worst care and were much more likely to abandon property. Others suggested that more "professional" absentee owners take better care of their properties than small, part-time absentee owners. Some recent work suggests that incorporated ownership, in particular LLCs, has led to more problematic maintenance behaviour. A few studies comment on the impact of distance between landlord's rental properties and their home/office, with some suggestion that the greater the distance, the worse the outcome, or at least that those landlords very far from their property take the poorest care. Finally, there seems to be at least some evidence suggesting that resident landlords take better care of their properties than do absentee owners, but no comparison was found looking at resident landlords vs owner-occupiers.

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<sup>3</sup> Mallach does not give the time period for these investments, but this is still useful in terms of a proportionate comparison.

## The Motives of Property Owners

### *Financial Motives*

Residential property owners have a range of attitudes towards maintenance. These can usefully be divided into financial and non-financial reasons. Most residential property owners are motivated to maintain their property because of their belief in housing as a good and reliable investment. In 2011, a review of the literature by Rohe & Lindblad (2013) found that most Americans, over 80% in one study, believed this to be one of the key benefits of property ownership. Even the great recession in 2009 brought only a temporary reversal in attitudes. However, in poor neighbourhoods this logic might be faulty. For example, in Newark NJ in the 1960-70s property values were dropping, with white flight being most of the reason. (Sternlieb & Bruchell, 1973, p. xxvi). The Sternlieb & Bruchell (1973) paper on Newark NJ used a survey of the owners of 392 parcels in 1964 and 313 parcels in 1971 (p. 372). Evidence for the earlier date appears (but is not confirmed) to be based on the same surveys as Sternlieb (1966). Owners' response rate to both surveys was approximately 70% (Sternlieb & Bruchell, 1973 p. 370).

Resident owners have a number of financial reasons encouraging them to spend on property maintenance. One possible influence is that improvements can be tailored to their tastes, regardless of financial considerations. They also may feel safer making expensive improvements because they know their key tenant (themselves), and they have the ability to vet other tenants and supervise their behaviour more closely than an absentee landlord could (Mayer, 1981, p. 85). Mayer also suggested that as they have more control over their residential circumstances, they can look at longer timelines for payback of their investment.

According to Allen (1983), landlords, both resident and absentee, are known to practice a number of speculative actions in the pursuit of capital gains that can impact their maintenance behaviours. These include taking advantage of market fluctuations and using practices such as flipping. Allen's paper offers no new empirical evidence to support his statements, and instead relies on logical suppositions supported, to some extent, by previous literature. He refers to this approach as "conceptual analysis, based upon the principles of a realist philosophy of science" (p.191). Stegman (1972) found that small landlords often overpay for property, frequently because they are more focused on rental income than capital gains, sometimes leaving them without

enough money to properly take care of their building, a mistake large landlords are much less likely to make because they are more experienced. (p. 42 & 46).

In addition to capital gains, a landlord's maintenance decisions are based on what is generally assumed to be their main focus, the collection of rent and the maximizing of profit from this endeavour (Allen, 1983). However, the picture is much more complicated. Fear of having unrented housing units can drive increased maintenance expenditures. Turnover is one of the biggest problems in lower income neighbourhoods, and not only because of rent loss while vacant (Stegman, 1972, p. 59). Issues such as the cost to repair an apartment damaged by a vacating tenant and the concern that new tenants might be worse can lead many landlords to charge less than the going rates and keep the current tenant happy through timely repairs, in an attempt to keep them from moving (Sternlieb & Bruchell, 1973, p. 26 & 70). Similarly, Mallach (2007) found that preserving the value of the building through good maintenance was seen by many landlords as critical to retaining good and higher paying tenants.

Offering a rather different perspective, Sternlieb (1966) described a type of landlord in Newark he referred to as "slum specialists." These landlords owned more than 12 buildings in poor areas, had typically been in the business for more than 15 years, and employed full-time maintenance people. He claimed that they tended to take care not to "over improve" a property, as this would be unhelpful to their bottom line (p. 174). He also found that their treatment of properties was "impersonal" – simply a business transaction with no concern for the occupants. He quoted one such landlord: "As soon as I bought the parcel...I looked around to try to get rid of it. It was in lousy condition and simply wasn't worthwhile keeping. It took me the better part of four years to sell...it wasn't worth my while to improve..." (Sternlieb, 1966, p.139).

Mallach (2007) , argued with this perception, at least in terms of the expected maintenance outcomes, stating that larger landlord's experiences gave them better decision-making skills related to maintenance expenditures, compared to small property owners who are less likely to have economic or real estate training. He found that many small absentee owners admitted to not having enough time to properly supervise their property and of postponing significant repair work, such as roofing, which can lead to further building deterioration (Mallach, 2007). Stegman (1972), also looking at poor neighbourhoods, claiming that larger landlords were often more skilled at maintaining properties, having good bookkeeping to know profitability, a good network of suppliers

and trades to keep maintenance costs down, and better tenant screening skills to keep the troublemakers out (p. 117-124). However, he did not find much difference in maintenance quality between large and small landlords.

Small landlords have many challenges. Based on some interviews, Stegman (1972) suggested that things are generally tougher for the small guys who, proportionately, are more likely to be gouged by the trades. They are less experienced in solving housing problems, often resulted in overspending because they are less aware of market value justifications. He also concluded that they are more susceptible to making rental decisions based on racism because they are less likely to consider the negative economic consequences of this behaviour (p.39-41). However, the same logic means that larger landlords often want market justification before they are willing to do needed maintenance (p. 45). Small landlords are often what Andrews (2018) calls “accidental landlords,” whereby they stumbled into this activity through inheritance, or by deciding not to sell their home when they move. Anderson (2018) claims, unfortunately without offering a source, that half of all landlords only own one property, an indication of how significant this group is, though he gives no indication as to what proportion of these are ‘accidental.’

As noted earlier, the category of large owners that Stegman (1972) called investor managers seem to get pretty good grades. They own properties and/or managed for others. They charge others 8% on rent and 10% on upkeep, which Stegman said gave them an incentive to keep up with repairs. Stegman claimed they are the most responsive to tenant needs, due to the financial incentive of their earning a profit from the upkeep work, and could be part of the solution to improving housing (p. 47).

### *Non-Financial Motives*

Non-financial motivations for property maintenance relate mostly to the impact on the owner as a resident and thus, for the most part, excludes absentee landlords, especially those living outside of their tenants’ neighbourhood(s). Absentee landlords living beyond the neighbourhood often forgo maintenance because they do not have to deal with neighbourhood social pressures (Galster, 1987).

A neighbourhood is much more than a logical or profitable clustering of residential buildings. It is an arena of social interaction. The people who live in a neighbourhood influence each other to varying extents, based on friendships and expectations/influences towards collective

norms (Galster, 1987). Social interaction with neighbours has a significant influence on homeowners, who can feel obligated to take care of their property, if only because it can affect the value of their neighbours' homes (Rohe & Lindblad, 2013). Further, a resident's emotional connections to their neighbourhood may be conflated with home, family, and identity, adding to this pressure (Martin, 2003). Interestingly, Galster (1987) found that favourable opinions of neighbours were more important than actual interaction/relationships (p. 118). Similarly, Rohe & Lindblad (2013) wrote that homeowners perception of maintenance quality in a neighbourhood is more potent, in determining maintenance behaviours, than objective conditions.

Resident owners, as opposed to renters, are more active in defending their neighbourhood. They are "parochial and conservative," and will exaggerate their needs out of self-interest, and typically prefer the status quo over unpredictable change (Downs, 1981, p. 172). Not only is their home likely their largest investment, making the protection of its value dear to them, but they are generally quite aware of how their quality of life is impacted by changes in their neighbourhood. This potent combination produces NIMBYism to protect against external threats, and social pressures to try to get locals to conform to visual expectations (Harris, 2014).

Neighbourhood satisfaction and its most logical outcome, length of ownership, has a potent impact on resident owners' motivation towards property maintenance (Galster, 1987). Upgrade expenditure is highest with people who plan to stay a long time. Curiously, however, Galster (1987) found that when homeowners are satisfied with the neighbourhood and plan to stay, they typically spend less on exterior home maintenance. He also found that the higher their neighbourhood satisfaction, the more likely resident owners were to spend more on home maintenance. Additionally, he found that residents in the most cohesive neighbourhoods<sup>4</sup>, a related concept, spend 28 – 45% more on maintenance (p. 227). Supporting this, Lindbald, Manturuk & Quercia (2013) observed significant correlations between social cohesion and resident ownership.

Resident landlords can have a more complex mix of motives beyond the financial, ranging from the desire for company or security, to helping provide living space to family or others. There is an element of sharing of personal space that impacts their relationship with tenants, and can

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<sup>4</sup> The literature connected cohesiveness with tenure, the logic being that renters are less invested and less active socially. The argument is that although a neighbourhood made up of resident owners is not automatically cohesive, one that contains mostly renters would be much less likely to be cohesive.

encourage a residential landlord to make maintenance decisions contrary to the goal of maximizing financial returns (Allen, 1983). Resident landlords would be especially keen to attract, and keep, 'good' tenants. Sternlieb (1966) found that resident landlords took better care of their properties than absentee landlords, concluded that "the prime generator of good maintenance is owner-residence...(that) produces the degree of close supervision" (p. xvii).

Racism may be a factor impacting the maintenance behaviour of some landlords although the evidence is contradictory. In spite of the fact that absentee landlords are often quite willing to rent in higher crime neighbourhoods, and neighbourhoods which are visibly in poor shape, Mayer (1985) found that they spend less on maintenance if their tenant is black, regardless of whether this makes economic sense. Stegman (1972) found this to be an issue with small landlords, but that many large absentee landlords were essentially colour-blind, more focused on other issues such as family size or ability to pay. Contradicting these, Galster's (1987) findings indicated that "(n)either race of the home-owner nor racial composition of the area has any significant impact on home upkeep" (p. 301). Mayer (1985) found this behaviour was less common with resident landlords, perhaps, to some extent, because they were often also African-American.

Summarizing, the literature observes financial and non-financial motivations driving the level of maintenance taken by various types of residential property owners. Resident owners are most likely to spend on maintenance and upgrades because they are the key tenant, and thus have extra incentives and confidence motivating this decision. Absentee landlords, especially those that live outside the neighbourhood of their rental property, are more likely to be driven solely by their financial bottom line, using tactics like flipping, or minimizing repairs to try and improve their profits. However, the absentee landlords' motivations and behaviours vary, with some larger landlords who have more experience and resources being more likely to behave in economically rational ways, and smaller less experienced landlords being swayed by personal bias such as racism, or by a lack of market savvy. This last point is further compounded because small landlords often lack scale and experience when it comes to spending on maintenance, meaning their repair budget will be further taxed. However, there is also the argument that larger landlords are more Machiavellian in their approach to maintenance, and thus often taking less care of their properties if that turns out to be the most financially rewarding approach.



Resident owners, and perhaps landlords that live very near to their rental property, were also found to be motivated to take good care of their properties for a number of non-financial reasons. Social pressure, emotional connection to the neighbourhood, and personal satisfaction related to the property and the neighbourhood all can positively impact their level of maintenance. Though a few researchers made observations specifically about resident landlords, the only suggestion was that they were affected by non-financial motivations and thus might be willing to spend more on maintenance than absentee landlords, but there was no comparison to owner-occupiers.

### **The Effects of Maintenance on Neighbourhoods**

The maintenance behaviour of residential property owners is often in reaction to changes in the neighbourhood and conversely, what they do with their properties creates changes to the neighbourhood. Often it is a case of cumulative causation, and in many situations, perception is more critical than objective reality. All tenure types are affected, though reactions to change vary.

According to Grigsby (1987), once a negative opinion takes hold in a neighbourhood, the effect extends to all types of property owners. He suggested there is often a threshold. Once the number of blighted properties crosses a tipping point, there tends to be a flurry of decay. This chain reaction has been described in terms of game theory. It is a preemptive conclusion that the neighbourhood is going to get quite a bit worse and that it would not pay owners to maintain their property (Grigsby, 1987, Davis & Whinston, 1961). Galster (1987) found that the owners who were most pessimistic about neighbourhood change spent 61% less on maintenance than those who were most optimistic owners (p. 229). He also found that neighbourhood succession related to dissatisfaction, quickly becoming a self-fulfilling prophecy (p. 237). Similarly, Dubin (1996), who created a theoretical model to predict landlord maintenance behaviour in the context of neighbourhood change, projected that "If neighborhood quality depends on property maintenance as hypothesized (but not proven) in this paper, then landlords' pessimism regarding neighborhood decline will become a self-fulfilling prophecy" (p. 158).

Neighbourhoods often do not sift downward in quality and value on their own. A process of stigmatization can occur, known as residualization, that involves neglect by authorities. The understanding by all the neighbourhood stakeholders is that these declining neighbourhoods will

receive little attention or funding, becoming the home of poor people in poor quality residences (Suttor, 2015). At the extreme, this encourages the flight of middle-class homeowners leaving a situation where most housing is rented or abandoned.

Residualization can particularly impact the behaviours of small landlords' behaviour. A 2001 study by the Canada Mortgage and Housing Corporation (CMHC, 2001) found that small landlords were quite worried about the lowering of tenants' average income. Seventeen percent said they would not rent to welfare recipients. In general, they were worried about higher-risk tenants and the greater difficulty of finding good tenants. Many expressed concern that they would not be able to afford maintenance costs (CMHC, 2001). According to Suttor (2015), in a review of the literature, filtering<sup>5</sup>, accentuated by residualization tends to attract absentee landlords whose focus is on profitability over esthetics. With fewer affluent renters and a growth in demand for cheaper quarters, the landlord can service their market by scrimping on maintenance. Lowering costs is more effective at maintaining profit than trying to raise the rent to lower income tenants (Suttor, 2015 p. 16-17). The decline in property quality and value has sometimes been paralleled by a decline in landlord quality, from more to less reliable landlords, and then to more questionable landlords who might supplement their income by illegal means, or simply by tolerating disorder and an increase in unsavory tenants (Ham et al, 2013, p. 75). These claims of Ham et al (2013) are based solely on previous literature and speak to situations of declining neighbourhoods across the western world.

According to Elorza (2007), absentee landlords are typically focused on the level of profitability of their buildings, and thus less concerned with the 'quality' of an area, in both the buildings and things like crime levels. This gives them a financial advantage over resident landlords, as absentee landlords are often willing to pay more for property in blighted neighbourhoods if it can otherwise be cost justified. This can have a spiralling nature to it because the poorer the neighbourhood quality becomes, the greater the absentee landlords' advantage (Elorza, 2007 p. 21). Elorza comes to these conclusions without any empirical research of his own, relying on intuition supported by what he gleaned from existing literature. His focus is on negative

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<sup>5</sup> Filtering is a neighbourhood process where buildings deteriorate and become physically less desirable as they age. To the extent this is visible, it affects not only how pleasing the home is to its owner/occupant, but how valuable it is in the housing market, relative to newer housing (Baer & Williamson, 1988, Galster, 1987, Skaburskis, 2006, Helms, 2012).

externalities caused by the existence and growth of absentee landlords in a challenged neighbourhood. Property Owners and Managers Survey (POMS) data showed absentee owners' average spending on maintenance was less than 10% of rental income, making disrepair especially problematic in poorer, low rent neighbourhoods (Mallach, 2007, p. 37). Based on an interview with a landlord, Desmond (2016) suggested that properties where tenants fall behind on their rent will receive compensatory poorer maintenance (p. 76). Mallach (2018) observes that although overt redlining might not be the problem it was in the 1960s, banks are reluctant to issue mortgages for values below \$50,000 which means that only investors with other means, or other collateral, can finance purchases in many neighbourhoods (Mallach, 2018, p. 39). This is made worse because people wanting to own and live in a low-value home are mostly low income, another strike against qualifying for a mortgage. There are some government programs that attempt to mitigate this situation, such as the Home Investments Partnership Program, but these have recently been receiving cuts to funding and other limitations. (Mallach, 2018, p. 40).

An increase in the proportion of absentee landlords, and the subsequent increase in the proportion of rental tenancy in a neighbourhood can combine to produce a less defended neighbourhood, as resident owners are the most effective guardians. As owners move out and are replaced by renters, there are "dramatically less maintenance expenditures" with much more external disrepair, even where the renters are of similar socioeconomic status (Galster, 1987, p. 295). In fact, Galster (1987) found that the change from owner to renter had a much larger impact than a change in the socio-economic nature of residents or changes in neighbourhood cohesiveness. However, changes in cohesiveness can multiply these impacts. Ironically, newcomers to neighbourhoods are often blamed for deteriorating conditions, but it is more likely to be the current residents who are at fault, due to a drop in optimism (Galster, 1987 p. 240). Sternlieb (1973) found census data showing the owner-occupancy rates in central Newark had dropped at least 10% between 1960 and 1970. This, he believed, would lead to far greater deterioration of the housing stock (p. 32). He could not speak with certainty, as his study time frame, 1964-1971 did not exactly match the census time range, and he only had a small sample of properties from within the census tracts assessed.

Though vacancy is not a focus of this study, it is one logical outcome following extended periods of poor maintenance. Sternlieb (1973) saw it as a slippery slope: low profitability combined

with building deterioration leading first to tax delinquency (landlords using meagre income to pay for repairs instead of taxes), and then to abandonment when the city finally pushed for foreclosure (p. 224).<sup>6</sup> Mallach (2018). found a positive correlation between absentee ownership and vacancies, though he could not determine the direction of influence. Either way, he suggested that a growing proportion of absentee-owned units did not bode well for the future of a neighbourhood. According to his calculations, additional vacant buildings on a block have a logarithmic impact on property values (p. 19). The worst examples occur in areas experiencing hypervacancy.<sup>7</sup> “Many houses will never find a buyer; for many that do, the buyers will be investors, often speculators milking their properties for short-term gain, which destabilizes entire neighborhoods” (Mallach & Brachman, 2013 p. 9). Mallach (2018) and Mallach & Brachman (2013) are policy reports using citywide data from the U.S. census and community survey.

In summary, according to the literature, change in a neighbourhood is partially due to the maintenance behaviour of its property owners. For all tenure types, the expected trajectory of a neighbourhood can become a self-fulfilling prophecy, where positive expectations lead to more care, and the opposite leads to growing blight. Thresholds often exist, such that when the general perception is that they have been crossed, deterioration accelerates. Further deterioration of a neighbourhood can lead to residualization and flight of resident owners. Absentee owners, often those looking to milk the property with little concern for esthetics or tenant happiness, can become more predominant continuing the negative spiral with the worst case scenario being a proliferation of property abandonment. It also appears that at least some landlords, the slumlords and the vultures, looking to squeeze the last dollars out of a property at the end of the filtering process, are particularly interested in low-cost buildings, and will present very problematic maintenance behaviours. A common theme in the literature is that a significant increase in the proportion of absentee ownership bodes badly for a neighbourhood, and that absentee owners are both a sign of problems and a cause.

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<sup>6</sup> Sternlieb (1973) found that cities would often take four or more years before really pursuing the collection of delinquent taxes, and even then were reluctant to repossess (p. 218).

<sup>7</sup> Hypervacancy occurs when a census tract has more than 20% vacant properties (Mallach 2018, p. 11) This is a problem most common to legacy cities and it reflects situations of poverty and population loss (p. 28).

## What's missing in the literature?

This thesis is attempting to fill gaps in our understanding of how the differing types of property ownership impact building maintenance. As was mentioned in the introduction, the most relevant literature is quite old, no paper was found that made a comparison across all three types of owners and support for conclusions were based on suppositions, reviews of previous literature and aggregated data (typically census) or small scale surveys which limited their reliability.

The age of existing literature impacts its relevance when looking at current motivations of property owners. One major change is the declining extent of government involvement in housing. Public housing, though still in existence today, was a much larger factor in U.S. cities in the past. For example, between 1950-1956, 57% of new housing starts in Newark were public housing (Sternlieb, 1966, p.13). Some urban renewal programs involved major government investments in the wholesale rebuilding of neighbourhoods. Anticipating this, many landlords, in those days, might have avoided maintenance expenditures, even at the cost of partial vacancy, in the hope of profiting by selling their buildings to the government (Sternlieb, 1966, p.102 & 167-168). Today's more neoliberal approach by governments creates a very different environment.

An issue with all of the studies quoted in this review is the limited character of the evidence. According to a review of the literature by Porell (1985), "(t)he sparse empirical evidence that does exist is derived largely from several small sample case study analyses... It should be apparent that empirical support for the proposition of the superiority of landlord residency is rather weak" (p.106-107). Dietz & Haurin (2003) review of the literature opines that various econometric studies have tried to explain the consequences of specific tenures. Invariably they focus on particular explanatory variables, to the exclusion of others, often because the data is lacking (p. 405).

Finally, the literature often comes to contradictory conclusions and seems to overlook some significant questions. In some cases, it suggests that smaller landlords will, on average, do a better job of maintaining property, but other authors conclude the exact opposite. The same is true when considering the impact of distance between a landlord's home or office, and their rental property. On other subjects, there seems to be very little offered. This is especially true when looking at resident landlords. Are their maintenance behaviours any different from owner-occupiers? There are other variables that could provide further clarity. For example, do the age or value of a property, or the race or income of its residents affect the behaviours of the tenure types

differently? There is very little in the literature to shed light on these important questions. These are all matters that the present study addresses.

## Chapter 2: Methodology

The methods used to assemble and organize the data in this study, as far as this author can find, were original. This applies particularly to the system used to identify tenure for each residential property. Additionally, it appears that no-one has done a detailed study of tenure distribution across a whole city and its relationship to property maintenance. Given that this data is compiled for almost every North American municipality, the method used here may be of general interest. Given access to data with the same variables, one should be able to reproduce this study in any city. This methodology section gives a brief explanation of procedures. For greater detail on some issues, please consult the appendices.

With the goal of comparing property maintenance by tenure type, two major elements were explored. The first, non-geographic in nature, was defining the tenure type of each property and thus producing a table linking owner type to data available on that property. This (point data) produced information on almost every residential property of 1-6 units across the study area, allowing for many useful comparisons. The second element explored in this study involved locating every residential property geographically, as well as most of the home addresses of landlords, where these were different. This offered the ability to analyze the geographic dimensions of the data across the study area, displaying point and/or aggregated data in map form. Additionally, once the point data was aggregated, this allowed for statistical and visual comparison with census data, which is only available in aggregated form.

In addition to collecting and organizing tenure and maintenance data, some general demographic data was gathered to help set the stage, and to assist in exploring explanations for various outcomes. For example, it is useful to locate concentrations of high or low-income households, or the racial concentrations of neighbourhoods to help explain differences in maintenance behaviour that are either unrelated to tenure type, or where these differences appear to be compounded by concentrations of particular types of homeowners/residents.

As the focus of this thesis is to observe differences in property maintenance by tenure type, certain variables deserve special attention. The most important was “current code violations,” which was only available for Rochester, and only for 2017. Its availability made Rochester the centrepiece of this study. This data was accessible in two formats. It was supplied in binary form: the building, as a whole, either had violations, or it did not. Alternatively, this data was supplied as

the number of current violations assessed to a building. The former was used in this study. There are issues with either approach (see Appendix B). This variable was helpful as it spoke directly to the care shown by the owner. It seems reasonable to assume that, with rare exception, properties that are cared for will not register code violations, and, when these occur, they would be attended to promptly, thus removing them from the “current” list.

Another important variable, also only found for Rochester in 2017, was police activity directly related to the property.<sup>8</sup> As with code violations the supplied data pertained to buildings, not units. Crime does not speak directly to property maintenance. However, as landlords have significant control both in vetting and in permitting ongoing occupancy by particular tenants, it can be argued that those intent on good property maintenance will make choices that would minimize police attention (for details see Appendix E).

## Data Creation

Geolocated data was assembled from the raw information gathered from the three cities in this study: Rochester 2017, Syracuse 2017, and Buffalo 2017. First, point data was created for all residential buildings containing 1-6 units in the form of Excel spreadsheet files. These contained all available information about the building, including property address, the owner’s address, type of owner, assessed value of the property, number of units and, where available, quality data connected to the property, such as current code violations and police calls. The second set of data was created by aggregating the point data into census block groups (CBs) and merging it with census data, such as population, family income, and race. A third set of data was created from the home addresses of absentee owners (see Appendix D).

The geolocation of each property was determined as follows. For the point data, it was provided from the online city data that was acquired.<sup>9</sup> Census block geolocation was downloaded from the U.S. census website (United States Census Bureau, 2018b) and a spatial join (ArcGIS, 2018) was applied to the point data to merge it with census data. For landlord home property data,

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<sup>8</sup> As with code violations, this variable had various options, from a basic count of number of police calls, to details of the type of calls and a seven-year history that could be selectively applied. The former was used. See notes in Appendix B.

<sup>9</sup> Cities have a number of ways to determine where each home is located, typically more accurate than geocoding. As all cities supplied GIS maps of building locations, these were considered the best option.



landlord addresses from the point data were geocoded using the N.Y. State Geocoding Web Service (GIS.NY, 2018). This is a process that compares the street address in the file to a mapped database to approximate the building location. It involves finding the street block in the database that contains the street number and estimating its exact location along that block and back from the street edge.

### *Point Data*

The initial procedure used to identify tenure type was: if the mailing address of a building did not match the physical address, then the property was assumed to be absentee-owned. Thus, in principal, by comparing the two addresses one could determine if the owner lived in the building.

In practice, however, the determination of absentee status was often challenging. The biggest issue was confirming that the addresses were indeed different. Microsoft Excel is very good at finding differences, but not in determining if they are meaningful. Thus, for example, an additional comma within one of the addresses would result in an incorrect designation. Even after confirming that they are truly different addresses, there are other issues. If the mailing address is a P.O. box, this introduces doubt, as the resident owner of a property can choose to have a P.O. box as their mailing address. A house on a corner could be listed under two different addresses that in fact refer to the same property. Solutions for both these issues and many other related details are described in Appendix A. More problematic, the two addresses could match if the absentee landlord chose to have tax information mailed to the rental property. The working assumption (see, also, limitations) was that this was very rare.

The process of separating absentee from resident-owned properties was mostly one of winnowing, removing resident-owned properties bit by bit until hopefully, all that was left are the truly absentee-owned properties. The process itself was instructive. The literature suggests that absentee-owned properties consistently have more problems (such as vacancies, city code violations, police calls etc.). This was shown to be the case while in the process of creating the point data. Each time more resident-owned properties were removed from the absentee list, the statistics for the remaining absentee properties looked grimmer and the resident-owned properties looked better.

Separating resident-owned property into resident landlords and owner-occupiers was straightforward. It was simply a matter of the number of units, where the owner-occupier, by definition, lives in a single-family home, thus one unit. This procedure had one weakness, in that it relied on the accuracy of the unit count from the city data, and thus a property that has unreported secondary suites would be incorrectly labelled. Such suites have been shown to be quite common in other cities. If they were common in Rochester, Syracuse and Buffalo, then the results presented here will understate the true difference between properties owned by owner-occupiers and those of resident landlords.

Beyond identifying three major tenure categories, efforts were made to subcategorize absentee landlords by the size of holdings and by other criteria. To do this, absentee-owned properties were initially grouped both by owner name and owner address. The latter proved to be more reliable. The actual procedures used to divide by type are discussed in Appendix B. This procedure yielded categories that proved to be meaningful. Defining and comparing absentee landlords by size and type seems to be original. Although the literature does discuss some different types of absentee landlords (e.g. Sternlieb, 1966, Stegman, 1972), there does not appear to be much quantitative analysis of the differences.

One of the fortunate results of having chosen to study three cities, and two time periods within one of them, was that the repetition of the above procedures helped reveal many technical issues and solutions. For example, the literature indicated there might be a difference in absentee owners' maintenance behaviour depending on how far they lived from their rental property. To test this, the distance between landlord home and property was measured and added as a variable to the property point data. Later, while working on the Syracuse data, long after Rochester had been processed, the idea occurred that this measurement could be used to assist in confirming if a property was indeed absentee owned. Where the distance was very small, it was discovered that in some situations, the two addresses were, in fact, one location, leading to some useful revisions (see Appendix B for details).

Confidence in the methodology grew with each iteration. In some cases, the difference between the original and revised results provided additional interesting information and suggested further methods/refinements of the investigation. As an example of this, the original assessment of absentee landlords divided them by scale of holdings. A new category, property managers,

emerged because certain groups of properties stood out as having multiple owner names, sometimes with multiple properties for each name, yet all having the same mailing address. However, it was later discovered that some properties labelled as belonging to property managers might really have belonged to large owners who chose to assign multiple owner names to their properties, for reasons unknown. To fix this issue, the only properties labelled as having a property manager as the owner were where a Google search confirmed that the mailing address belonged to an actual property management company. Of the remaining buildings labelled as controlled by property managers, it was quickly noted that they generally scored very poorly in terms of code violations. This led to further explorations of other categories of absentee-owned property, notably the division of small owners into subcategories. Differences between small-scale privately owned properties and those owned under a corporate name proved to be interesting.

One variable, vacancy, that was assumed to be quite useful for this study and was even available at the point data level for both Rochester and Syracuse proved to be problematic. According to our interpretation of Rochester city statistics, absentee-owned properties were three times more likely to be vacant than residential landlord properties and eight times more than owner-occupied units. However, as a truly vacant building has no occupants, it seems more likely that close to 100% of vacant buildings are absentee-owned. The fact that a few buildings in this study were labelled as other than absentee-owned is due to the mailing address of the property matches the street address. This simply means the owner collects (or ignores) mail from the city directed to their property. However, one has to allow that the city workers assigning the label of vacancy to particular properties could be wrong, or out of date. In other words, some proportion of the approximately 1% of resident-owned buildings labelled as vacant might actually be occupied by the owner, even unofficially. For the above reasons, it was decided that vacancy proportions by tenure would not be reported. All that was reported was the location of vacant properties (Figure 10), and correlations between vacancy and variables other than tenure.

### *Aggregated data*

The next step, once point data was assembled, was to aggregate it into census blocks (CBs) using the spatial join function in ArcGIS. CBs are the smallest available U.S. census spatial unit and thus the most precise option. They contained populations in the range of 500-3000 people. As this

thesis had access to nearly 100% of residential properties, the use of the smallest spatial units would provide the greatest analytical value. This aggregated data was then integrated with census data and explored and displayed using spatial and non-spatial analysis. Counts, averages, and median values were used and in some cases, new categories were created (such as blocks of distances) to try and retain as much information as possible in the aggregated version. Though aggregated data degrades the information somewhat by applying averaging, it proved particularly useful as it allowed for the integration of important census data such as income and race. Aggregated results are also the most meaningful for analysis of neighbourhood change.

### *Landlord home addresses data*

This was used to determine the distance between the absentee owner and the tenanted property, the goal being to explore the hypothesis that greater distance might be associated with a reduction in quality of maintenance. After geolocating, ArcGIS’s XY to line function (Esri, 2018) was used to calculate these distances. The distance data was attached to the point data, and then the aggregated data, and much work was performed with this information. All point data was also copied to this new landlord file. This would allow for a comparison between the care landlords took of their home and that of their rental property. However, this latter option was not pursued as it would be a major project in its own right. Appendix C details some challenges in creating this landlord file.

## **Variables**

Table 3: Variables Used in This Study (For sources, see Appendix G)

<b>Variable*</b>	<b>Definition</b>
Building	This was nearly 100% of all residential buildings containing 1-6 dwelling units in the cities of Buffalo, Rochester, and Syracuse. Sources were the online opensource assessment data for each city.
Units	This was the apartment count, ranging from 1 – 6 per building. In most cases, this was the base unit for statistical and first-order mapping analysis. Sources were the various cities online opensource assessment data. For Buffalo, only 1-3 unit data was available.

Unit value	This was the assessed value per unit. This was determined by assessors consistently across the three cities. For 1-3 unit buildings, the cities use the “Homestead Rate,” which is based on sales comparisons to properties deemed to be similar, with minor adjustments for specific features or issues with the property (City of Rochester, 2018). For larger buildings, an “Income Approach” was used by the city, considering estimated potential net income including rent and capital gains, in addition to sales of similar properties. In both cases, these figures are revised every four years with the most recent being 2015 for all three cities. The city data provides assessment per building and in this study, this was divided by the number of units. Sources were the online opensource assessment data for each city.
Unit size	This was a square foot statistic representing the living area in each building that was then divided by the number of units. This data was only available from the online opensource assessment data of Rochester and Buffalo.
Vacancy	In this study, vacancy refers to buildings that are not in use, and in many, perhaps most, cases destined for abandonment and/or demolition. It is not to be confused with “normal” vacancy: a period where a unit lies empty between vacating and new tenant occupation. Rochester acquired this data for each building from their code enforcement department. They deemed this the most reliable source as they have officers continuously in the streets reviewing property activity and condition (Delaney, 2018). It is unclear how Syracuse acquired its statistics. Sources were the Rochester and Syracuse online opensource assessment data.
Tenure	This is a calculated variable with three possible outcomes: absentee, meaning the owner lives elsewhere, resident landlord, meaning the owner live in one of the units in a multi-unit building, or owner-occupied, where the owner is the sole occupant of a single unit building. Tenure was determined using the address of the property, the mailing address, and the unit count. Sources were the online opensource assessment data for each city.
Absentee type	Absentee-owned properties were categorized by both scale of landlord: Large (41+ units), medium (11-40 units), and small (1-10 units), as well as by characteristics (for Rochester): property manager, private, and limited liability corporation (LLC) (which includes other corporate designations).
Distance	Absentee-owned properties were categorized by straight line distance between the property and the owner’s residence. Within New York State, GIS was used to determine the distance between all complete addresses. Where the owner’s residence was a P.O. Box, a generic estimate was applied. Out-of-state owner’s residence was also given a generic value. Thus every absentee-owned property had a non-zero value for this variable. Sources were the online opensource assessment data for each city.

Age	Year of construction was supplied for over 99% of buildings. Where this variable was used, buildings that did not have an assigned age were removed from the analysis. Sources were the online opensource assessment data for each city.
Police Reports Rate	This was available in Rochester as annual statistics on the number of police recorded incidents, by type of incident, for each building beginning in 2011. For this study, the total number of incidents (regardless of type) for the seven-year period was divided by seven to give an annual incident count for each building. This was further divided by the unit count and then converted into a rate per 100 units. Source was the Rochester online opensource assessment data.
Current code violation	This was a binary statistic provided by Rochester and only for 2017. Homes that had current code violations were scored "1" and those with no current violations were scored "0." This was then converted to a rate per 100 homes. Source was the Rochester online opensource assessment data.
Percent white	This is the main variable used as a proxy for race in this study. It is the proportion of the population, by census block, that self-identify as white, and thus not Black, Latino, etc. Source was the U.S. decennial census, 2010.
% Black or % Latino	These variables were only presented in a brief demographic overview of all three cities, along with the variable "percent white," and were created in the same way as the latter.
Median family income	This variable was only presented in a brief demographic overview of all three cities, along with the variable "percent white," and were created in the same way as the latter. This value was the average of family income for all households by census block. It was expressed in 2016 dollars and drawn from an inflation-adjusted averaging of incomes during 2011-2016 by the ACS for all three cities.

\* All data used was from 2017 for Buffalo and Syracuse, and from 2011 and 2017 for Rochester, except as noted.

Table 4: Types of Absentee Owners

Absentee Type	Definition
small private <500	Owner owns 1-10 residential units, and lives within 500m of the rental property in question, i.e., is a neighbour. The owner is a person, not a corporation.
small private >500	These are properties where the owner lives more than 500m away from the rental property
small LLC	Owner owns 1-10 residential units. The owner designation is not a person, most commonly a Limited Liability Corporation, but also "inc." and similar.
medium	owner owns 11-40 units
large	owner owns 41 or more units
property manager	These are properties where a company manages the units on behalf of other owners, and sometimes also includes units owned by the property manager.

## Limitations

Assignment of tenure was imperfect. Much effort was taken to separate the three tenure types: absentee-owned, resident landlord, and owner-occupied. However it seems likely that a few resident-owned properties were labelled absentee-owned because of P.O. box designations, or because they were close (<15m) and yet had different addresses<sup>10</sup>. This would result in the resident-owned list being relatively pure, and the absentee-owned properties being slightly “infected” by the better quality outcomes associated with resident-owned properties. As a result, the difference in the maintenance behaviour of resident and absentee landlords is being slightly understated. Additionally, any owner-occupied properties that had unrecorded secondary suites would cause a similar leakage, meaning that the resident landlord category is likely slightly larger, and the owner-occupied category might have even somewhat better outcomes if this issue could be resolved. Results showed that each tenure was distinctly different in terms of maintenance outcomes. These limitations only accentuate this fact.

Assigning scale and type of landlord holdings was also imperfect. Though great effort was taken to consolidate addresses that were recorded as having minor differences, some would have been mislabelled. In a few cases, it might have been more accurate to consolidate based on the owner’s name. When dividing small landlords into corporate vs private ownership, groups as disparate as churches and small corporations were lumped together, which likely obscured some quality differences. However the vast majority in this corporate grouping were LLCs, and the main goal of the research was to isolate the truly private owners. In all likelihood, some property manager-run homes were overlooked and mis-assigned as large landlords, as only confirmed property managers were included under this designation. This seemed the best option as it was deemed important to be able to obtain “clean” data on the latter group. Thus, one can trust the statistics for the property managers, which turned out to be the most troubling of all absentee landlord categories. However, it might mean that large landlords statistics are at least slightly skewed to appear worse than deserving.

U.S. census data have a number of reliability issues that impact the trustworthiness of variables taken from this source, which for this study were primarily race and income. The last time

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<sup>10</sup> Greater detail explaining these issues and attempted resolutions are in Appendix B.

that a full and reliable census was taken was 2000. In 2010 a reliable census was taken but was much more limited in scope as there was no long-form version. Population and race data was available from 2010, and this, though seven years old, is what was used for this study. As reliable census income data was only available from the 2000 census, this was deemed too old to be usable. Instead, The American Community Survey (ACS) was used.

The ACS is more current, being conducted every year, but it is only a relatively small sampling of the population. In 2011 just over three million Americans were surveyed, and only 65% of these provided the needed responses (Spielman, Folch & Nagle, 2014 p. 149). These numbers are sufficiently large to provide reasonably reliable data for large cities or states, but woefully unreliable at the tract or block scale. The ACS does provide a rolling five-year average, which improves the reliability somewhat, but at the cost of making the data more dated (Pew Research, 2018). This problem is ongoing. “At current funding levels, the sample size is simply insufficient for one to ‘know precisely’ the characteristics of America’s census tracts” (Spielman, Folch & Nagle, 2014, pg. 149). The ASC helpfully provides a margin of error for all its data. In this study, its five-year average was the source of income statistics, using the most recently available 2011-2016 numbers. In Buffalo, Rochester and Syracuse the average error values from this source were about 10%, but ranged from almost zero to over 100% in some census blocks. This does not mean the data was invariably inaccurate, but it does suggest great caution is needed in relying on the resulting correlations or the first order interpretations of some maps<sup>11</sup>. What this issue means is that maps and statistics on income, and to a lesser extent race, must be considered supplementary to the key data, that which was received from the cities connected directly to their residential housing.

Although this study was intended to include all residential buildings with fewer than seven units, this was not an option in Buffalo, as its data only contained unit counts up to three units. Although this is imperfect, it still provided over 90% of the unit info on 1-6 unit buildings, assuming similar proportions to Rochester. The following statistics were used to approximate the quantity missing:

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<sup>11</sup> See Appendix B under “other adjustments” for further discussion of the use of census blocks, used in spite of this issue.



Rochester: Residential **buildings**: 53600 with 1-6 units. 1 - 3 unit res. buildings: 51940 which is 97% of all buildings. Residential **units**: 68600 (1-6 units). In 1-3 units there were 63690, 92.8% of units.

Buffalo: Residential buildings: 69600. 1 - 3 unit res. buildings: 65940, 94.7% of all buildings (pretty close to Rochester's figure of 92.8%).

Table 5: Statistics Used to Approximate Building and Unit counts for Buffalo

	1-6 unit buildings		1-3 unit buildings		units in 1-3 unit buildings	
			# of buildings	Percent	units	Percent
Rochester	53600	51940	97.0	68600.0	63690	92.8
Buffalo		69600			65940	

The estimates of the missing 4-6 unit structures in Buffalo were imputed based on the difference found in Rochester (Table 5).

All aggregated results in any study, including this one, suffer from some form of the modifiable areal unit problem (MAUP). Census blocks, the areal unit chosen in this study, are based on somewhat arbitrary boundaries. Ideally, they represent neighbourhoods, even sub-neighbourhoods. However, issues such as gerrymandering make them suspect.<sup>12</sup> A review of the maps shows particularly suspicious examples, with some census blocks having rather amoeba-like shapes, while others contain little more than a single long street.

Distance calculations between landlord and property were imprecise in several ways. For short distances, especially <30m, distances could be quite inaccurate. The location of residential buildings was originally supplied as polygons of property boundaries, taken from open data sites. When this was converted into point data using GIS software, the locational centre of the building was approximated. Even more inaccurately, landlord locations were assigned using geocoding, which placed homes along street blocks proportionately, using the street number range on each block to approximate the position. Additionally, a set-back from the street was set at 10m. It was found that beyond 15m apart, most references were to actually different buildings, and beyond 30m this seemed always to be the case. Inspecting every building within 30m was deemed too onerous, and thus rules were set that occasionally would produce a mislabelled tenure (see

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<sup>12</sup> Gerrymandering is a term used to describe boundaries that are usually politically motivated, often with very peculiar shapes, rather than ones that capture a relatively homogeneous neighbourhood often enclosed by natural boundaries such as rivers, major roads etc.

Appendix B). Longer distance issues occurred when the landlord location could not be precisely positioned. This included where the landlord address was a P.O. box, and thus only the city was known. About 9% of all absentee buildings had Rochester P.O. boxes. They were given a generic distance of 11km. A further 2.6% of buildings had New York State P.O. boxes outside of Rochester and were assigned a distance of 100km. Overall it was found that neither of these issues were a major impediment in the assessment of the impact of distance on the quality characteristics of the residences. In the case of very short distances, which proved to be noticeably different (in maintenance outcomes) from the rest, final distance statistics were quite accurate and complete. Longer distances mostly proved to show limited maintenance differences, except for very great (i.e. out of state) distances, and for these, precision was not important.

## **Justifications for the parameters of this study.**

### **Limited to 1-6 units**

As this study was focused on comparing home maintenance behaviour across three tenure types, the establishment of a threshold in building size was an attempt to isolate types of properties where there would be a diversity of ownership as well as to narrow the scope of motivations related to care of the property. It was confirmed, in this study, that properties over six units were almost entirely absentee-owned with the balance shifting closer to 100% absentee-owned, the larger the building (Table 6). Allen (1983) claimed that larger buildings are run wholly as a business. Additionally, though this could not be documented, it seems reasonable to assume that the larger the building, the more likely that a superintendent would be located in the building or campus, which would affect maintenance behaviour. Further, most larger buildings are owned by corporations that have multiple shareholders, or by governments or other institutions (Mallach, 2007). These situations would introduce other motivations and dynamics of care for these properties. One weakness in the above argument is that an owner of many small buildings might behave similarly to one who owned only large buildings.

Table 6: Proportion of Units in Rochester 2017 by Tenure

# units	total units	% own. occ.	% absentee	% res. LL
1	41300	68%	32%	0%
2	19060		72%	28%
3	3579		80%	20%
4	2680		90%	10%
5	1075		96%	4%
6	912		95%	5%
7	602		98%	2%

There is some support for reducing the scope to properties with a smaller number of units. New York State property tax assessment provides unit number codes for buildings up to three units (New York State, 2018), and this is all that was available in Buffalo’s open source data, unlike Rochester and Syracuse, who supplemented their data with an extra column providing a unit count for all residential buildings. Mallach (2007) chose four units as the cutoff. However, Engels (1999) uses roughly the same limit as this study. This study received the richest data from Rochester and it was not limited to these smaller numbers. As can be seen in the above statistics, at least 5% of properties in the 4-6 unit range were resident landlords, a large enough proportion justifying their inclusion. In either case, it turned out that retaining 4-6 unit buildings had little impact on overall results, which also is the justification for using Buffalo’s data, with its limitations.

### Chapter 3: The three study areas

Rochester, and then Syracuse and Buffalo, were selected for study, above all else, because of the availability of data rich enough to address the questions of interest. The original intention was to use Hamilton, ON as the study area, as the author and his supervisor both had extensive knowledge of the history, economic and social situation of Hamilton, which could enrich the interpretation of results. However, even after extensive attempts to retrieve sufficiently detailed data, this plan had to be abandoned. In fact, it seems that no city in Ontario, and likely Canada, will be willing and able to provide sufficient data at present. By contrast, many cities in the U.S. have open data sites that provide far more extensive data on housing, as well as police and other statistics of interest to the housing researcher. The cities chosen were picked because they were somewhat familiar to the author and had some similar experiences to Hamilton, such as deindustrialization, although more severe than Hamilton. Most importantly, all three cities had sufficient data to permit a rigorous review, especially Rochester, for which the best data was available.

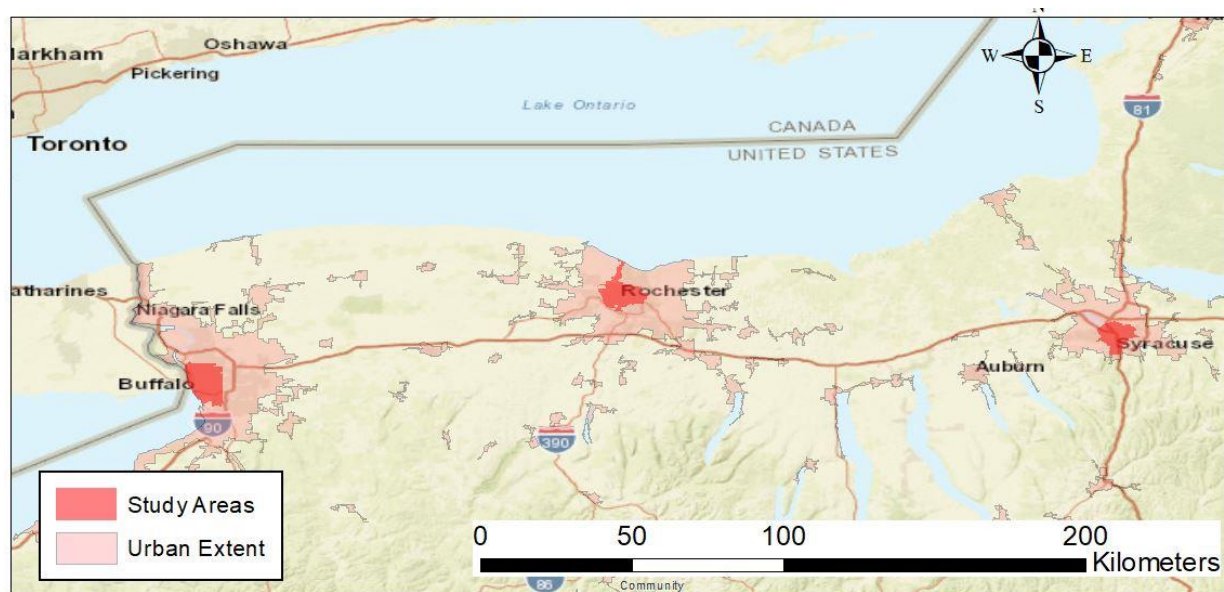


Figure 1: Region Containing the Three Study Areas

Perhaps a further question could be, why not limit the study to Rochester, as it had so much to offer in terms of detailed data<sup>13</sup>. More time could have been spent exploring longitudinal trends. However, what would have been lost is any sense of how unique Rochester’s tenure experience is.

<sup>13</sup> Syracuse had some additional variables but unfortunately they proved less useful – see Appendix F.

One of the key goals in this thesis is to create the beginnings of a template looking for a broader application of the relationships discovered in Rochester. By including two other cities it could be possible to see how realistic this might be.

Buffalo and Syracuse, specifically, were chosen to provide comparisons for several reasons. The key reason was the availability of sufficient data to make the study of each city meaningful. The next concern was to find cities that could be considered reasonably similar, so as not to introduce obviously problematic additional variables. All three cities can be classified as medium-sized American cities, though Buffalo is rather larger, and Syracuse a fair bit smaller. All three cities lie in the same region and share much in their historical development, demographics, age, the character of housing stock, and current economic challenges. All three cities were among the poorest in America in 2015 (Table 7). In terms of poverty, they ranked: (15th) Rochester, (16th) Buffalo and (29th) Syracuse of the nation’s 539 largest metropolitan areas, all with poverty rates north of 30% (Weiner, 2016). By comparison, the average poverty rate for all 539 metros was 13.5%. All three cities are in an area often referred to as the rust belt. Mallach (2018) calls them legacy cities, places where industry was once a major employer, but which have experienced hard times since the recession of the 1970’s when many jobs disappeared, creating enormous challenges.

Physically, all three cities have a relatively small footprint, surround by extensive suburban areas (Figure 1 & Figure 32). In each case, the city accounts for between a fifth and a quarter of the metro population, and it is important to note that the data in this thesis only covers the central city (Table 7).

Table 7: Demographic Comparison of Buffalo, Rochester, and Syracuse (Data USA, 2018)

	City Pop.	Metro Pop.	City Pop. %	% Black	% Latino	Poverty Rate	Med. Household Income
Buffalo	257000	1135000	23	36	11	31	33000
Rochester	210000	1080000	19	39	18	33	32000
Syracuse	144000	656000	22	28	9	34	33000
U.S.A.				12	18	14	58000

2016 data – statistics for three cities based on city population (Data USA, 2018)

## Rochester

Rochester was less affected by the construction of the Erie canal than the other cities in this study because it was somewhat off the main route, but this period, around 1825, did mark its first major growth spurt (United States History, 2018). Its connection with photography was the first and main significant defining activity with the establishment of Eastman Kodak in 1888 (Stelfox, 2014).

The biggest challenge to Rochester has been the decline and demise of Kodak. So large was this company's impact on the city that Rochester was once labelled the "ultimate company town." In the 1980s, the company employed over 60,000 (Applebomejan, 2012). By 2012 this had declined to 7,000. Additional impact has come from similar reductions at Xerox and Bausch & Lomb, with the combined employment of these three companies dropping, between 1980 and today, from 60% to 6% of city jobs. Some of the infrastructure has been repurposed, and many spin-offs have taken advantage of the skilled labour force. Additionally, universities and hospitals have grown to become the largest employers. Although there has recently been a net growth in employment in the metropolitan area, the city's population has shrunk from 332,000 in 1950 to its current size of 210,000. The loss of good factory jobs was the major culprit (Applebomejan, 2012).

These changes have had a major impact on the housing market. Research by McDermott (2015) introduces a concept she refers to as Zombie housing. These are vacant homes that are in a limbo where foreclosure or repossession has not yet been finalized (McDermott, 2016). The length of time these homes can sit empty and be a blight on the neighbourhood is substantial. According to RealtyTrac, Rochester led the country, in the third quarter of 2015, in the proportion of vacant homes that were "zombies," at 14.3%, compared to the next highest, Trenton NJ with 7.9%, (McDermott, 2016). A report by the Senate Independent Democratic Conference claimed that the majority of negative impact on neighbouring housing values in Monroe County (including Rochester), \$9.4 million of \$11 million, came from these zombie homes (McDermott, 2016).

According to the U.S. Department of Housing and Urban Development (HUD), the housing market in the Rochester Housing Market Area (HMA) is "slightly soft" (Shinn, 2016, p. 3). It has been seeing steady improvements since the 2009 recession. Between 2015-2016 the metropolitan area experienced a drop from 5.4 to 4.2 months of inventory. Lack of new home construction has increased demand for existing homes, even with a slow drop in the overall population and little

economic growth. New home permits have dropped from 2500 in 2006 to 1200 in 2016. Home loan delinquencies were down to 3.3%, in 2016, from a peak of 5.5% in 2014 (Shinn, 2016, p. 3). HUD blames economic uncertainty for driving increased demand for apartment rentals. When including all rental property in the Rochester HMA, the rental market is considered balanced, with a vacancy rate of 7.3% (HUD, 2017a, p. 10). Apartment vacancy rates in metropolitan Rochester have dropped from 5.1% in 2010 to 2.6% in 2016. In the city, the rates have eased somewhat, growing to 3.1% from 1.9% the previous year, due to some new construction (Shinn, 2016, p. 5). As can be seen in Table 8, the percentage of renters has risen steadily from 31.9% in 2000 to 33.8% in 2016.

Table 8: Rochester HMA Data Profile 2000-2016

	2000	2010	2016
Total resident employment	523,393	501,995	498,800
Unemployment rate	3.70%	8.10%	4.70%
Nonfarm payroll jobs	535,900	509,300	525,600
Total population	1,062,452	1,079,671	1,081,000
Total households	406,332	430,071	437,200
Owner households	276,839	289,865	289,600
Percent owner	68.10%	67.40%	66.20%
Renter households	129,493	140,206	147,600
Percent renter	31.90%	32.60%	33.80%
Total housing units	439,236	468,888	480,700
Owner vacancy rate	1.50%	1.40%	2.00%
Rental vacancy rate	7.70%	7.90%	7.30%

Source: HUD, 2017a, p. 13

## Buffalo

Buffalo became a significant place beginning in 1825, with the opening of the Erie Canal. It was the terminus and began as a transit hub (Renn, 2015). It quickly grew into a processor of products shipped through the canal and, soon after, by rail. Inexpensive hydro electricity from Niagara Falls gave it a further boost. When the St. Lawrence Seaway provided a more efficient shipping alternative in 1959, decline began, and to some extent has been continuous since. The once inexpensive immigrant workforce became a costly unionized one. Factories became old and outdated, and Buffalo became one of the centrepieces of Rust Belt woes. Between 1969 and 2003 the Buffalo region lost half of its manufacturing jobs. Even compared to many other Rust Belt cities,

it was very challenged. It is not the centre of any major industry and contains no Fortune 500 company headquarters. The City of Buffalo and its entire region began experiencing a major drop in population in 1970, and according to one Cornell University study, this could continue through 2040. Poverty is a major issue, with over 33% percent of city residents receiving food stamps (Renn, 2015).

If one accepts the views of Edward Glaeser(2007), this gloom (within which he includes Rochester and Syracuse) will likely continue indefinitely. He points out that along with the loss of high-paying jobs, and their associated middle-class populations leaving the city, the low cost of housing has attracted many poorer residents, effectively increasing public costs on a shrinking tax base. Governments have not given up on Buffalo, but their solutions have mostly amounted to cronyism and corporate welfare. The latest has been labelled the “Buffalo Billion,” a promise of state aid that is creating some construction in the downtown, even as the tallest building sits empty. Three-quarters of this money is a subsidy for a yet-to-be-built solar panel factory by Elon Musk’s SolarCity. Unfortunately, all this does not appear to be dealing with core issues such as the need to restructure and refocus the city (Renn, 2015).

For all the gloom Renn (2015) sees a number of silver linings. The city has made some smart expenditures on downtown upgrades giving it millennial appeal which has attracted some gentrification. With lower cost housing, this makes an appealing combination. Renn also claims that Buffalo has retained a distinct local culture, from its famous Buffalo wings to the U.S.’s largest Dyngus Day Celebration. Other advantages Buffalo has over smaller cities like Rochester and Syracuse include its role as the home of professional hockey and football teams. This, combined with its adjacency to the Canadian border and to Niagara Falls, ensures some tourism opportunities.

There has been a very slow increase in the number of households, even as the population has dropped slightly, in the Buffalo HMA since 2010, driven by shrinking family size and a growth in renter households. The latter is partially explained by the recent tightening of lending standards (HUD, 2017b). Currently, house sales are considered to be balanced, due to several factors. Increasingly tight job markets have meant that although there are somewhat fewer families, more can afford to purchase. Additionally, few new homes are being built, with single-family home construction peaking in 2002 at a modest 2500 new permits, and has dropped steadily to about



850 in 2016 (HUD, 2017b, p. 8). The rental housing vacancy rate is at 7.3%, a modest drop from 8.6% in 2010, which is considered a balanced market. Apartment vacancies are at 3.2%, down from 5.7% in 2010, making this segment of the market somewhat tight (HUD 2017b, p. 10). Demolition of some older buildings provides some additional explanation for this situation. There has been a number of new apartment units created by converting industrial buildings in or near the city since 2008, encouraged by government tax credits. As was the case in Rochester, the percentage of renters has risen steadily from 33.8% in 2000 to 35.2% in 2016 (Table 9).

Table 9: Buffalo HMA data profile 2000-2016

	2000	2010	2016
Total resident employment	550,189	524,430	516,700
Unemployment rate	4.30%	8.60%	5.10%
Nonfarm payroll jobs	557,300	536,200	562,900
Total population	1,170,111	1,135,509	1,131,000
Total households	468,719	473,720	479,700
Owner households	310,164	310,915	310,900
Percent owner	66.20%	65.60%	64.80%
Renter households	158,555	162,805	168,800
Percent renter	33.80%	34.40%	35.20%
Total housing units	511,583	519,094	521,500
Owner vacancy rate	1.80%	1.30%	1.00%
Rental vacancy rate	9.20%	8.60%	7.30%

Source: HUD, 2017b, p. 12

## Syracuse

Syracuse began as a village near salt wells. This remained a major industry until the end of the civil war and was then supplanted with manufacturing, beginning with the equipment connected to the production of salt. Through the addition of retail and post-secondary education, it became a regional centre (Schramm, 2018). It was once a relatively much more significant centre. From 1850-1930 it was one of America's thirty largest cities. Family incomes were above average. It was once known as the candle city, with four major factories supplying most of the country's candles. It was also known for making railway dining cars and gears for automobiles. Carrier began in Syracuse, where it was the largest maker in the U.S. of air conditioners. G.E. once had 17,000 employees in the city (Schramm, 2013).

Today the picture is very different. Now the 170<sup>th</sup> largest city in the U.S., both its Hispanic and black populations have the highest concentrations of poverty of any American city. From 2000 to 2013 the number of census tracts in Syracuse with more than 40% of residents living below the federal poverty threshold grew from 12 to 30 (Semuels, 2015). Carrier closed down in 2003, moving to China, contributing to a loss of almost 10,000 factory jobs within three years (Semuels, 2015). The population has shrunk steadily, going from 164,000 in 1990 to 147,000 in 2000 to 140,000 in 2010 (Syracuse, 2010, p. 6). The city is experiencing continual white flight. The proportion dropped from 65% white in 2000, to 57% in 2011. Not all views of the city are gloomy. Gratz(2010) describes Syracuse as a city being rediscovered. He suggests that although it is still not statistically significant, more and more people are returning to the city to take advantage of the affordable housing, often of high quality but in need of much repair.

Housing data for Syracuse, unfortunately, is not available from HUD. A 2010 report from the City of Syracuse (Syracuse, 2010) was the best and most recent found for this study. According to this report, there has been little housing construction in the region since 1980, and most of that has been in Onondaga County, surrounding of the city. In 2006, 50% of housing in the city was rented, 33% owner-occupied, and 17% unoccupied. According to the NYSAR (New York State Association of Realtors, 2017), Syracuse was tied with one other city as the most affordable major housing market in the United States (NYSAR, 2018).

In sum, then, it is clear that all three cities have been struggling with industrial decline. The inner cities, especially, have experienced a decline in populations together with a concentration of poor, minority households. The housing markets have reflected this trend, with a high and rising proportion of rental units, vacancies, and other signs of distress. They can be understood as plausible members of a single type of city.

## **Chapter 4: Results – Rochester in 2017**

The focus of this research is on the impact of tenure type on property maintenance. The available variables in this study that comes closest to directly capturing the latter are current code violations and police reports, both of which are attributable to individual buildings. As this data was only available in Rochester, that is the city that will get the most attention. Additional variables were considered either because they might contribute to measuring property maintenance, or because they might offer alternate or additional explanations, beyond tenure, for the dynamics that are observed. Vacancy (incidents of vacant dwellings) is an example of the former, while race and income of the latter. Additional information has been included that provides some general understanding of the various urban contexts, and that could stimulate further research of a similar or tangential nature.

The first section is an overview of Rochester in 2017. This will be followed by a more in-depth look at the maintenance outcomes across the three tenure types. The third section will assess maintenance outcomes for three neighbourhoods of the city, in an attempt to see if patterns hold and how areas that differ demographically compare in terms of maintenance behaviours. Chapter 5 will contain an exploration of change over time in Rochester between 2011 and 2017 and in Chapter 6, some of the general features of Rochester will be compared with to Syracuse and Buffalo in order to suggest whether the findings for Rochester may be generalized to other industrial cities.

**4.1: Overview of property characteristics**

As can be seen in Table 10, there is a sufficient quantity of each tenure type to allow for meaningful comparisons. Absentee units make up 51% of all units, with owner-occupied homes making up most of the remainder (see also Figure 2). Resident landlord units account for only 9% of the total, and only 6% of all residential buildings in this study. As we might expect, unit value is sharply different by tenure, with owner-occupied the most valuable, followed by resident landlord properties and then absentee properties. Indeed, there is a close relationship between property values and tenure type, especially the association between absentee ownership and lower cost housing. This pattern is consistent across the spectrum of unit values in Rochester.

Table 10: Ownership and Characteristics of Residential Properties in Rochester, 2017

Tenure	buildings	units	% units	unit value
2-6 units, residential landlord	3000	6300	9%	47200
2-6 units, absentee landlord	8800	20900	31%	34700
1 unit, absentee-owned	13400	13400	20%	51300
1 unit, owner-occupied	27900	27900	41%	84600
All Rochester	53000	68500	100%	65800

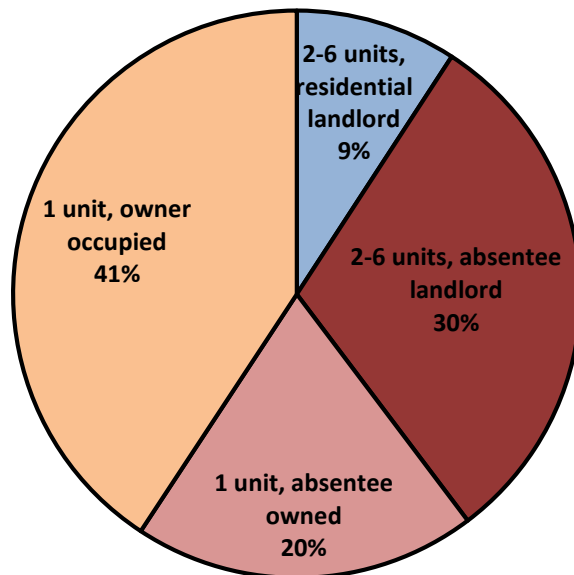


Figure 2: Tenure Composition in Rochester, 2017

Both Table 11 and Table 12 show a steady decline in the proportion of housing that is absentee-owned as assessed value (in quintiles) grows, and the exact inverse relationship for owner-occupied housing. Absentee-owned units made up one-quarter of those units valued at less than \$27,000 but only fourteen percent of those worth over \$71,000. The proportion for owner-occupied units were 13% and 27% respectively. Viewed in terms of the housing stock, 60% of the cheapest rental units were absentee-owned but only 32% at the top end of the market. Unlike absentee-owned and owner-occupied units, resident landlord owned units are distributed evenly at all values though there are slightly fewer at the highest value.

Table 11: Distribution of Unit Value by Tenure, Rochester, 2017

	7.7-27*	28-40*	41-57*	58-70*	71 up*	
Absentee	26%	21%	21%	18%	14%	100%
Resident LL	22%	18%	20%	22%	18%	100%
Owner-occupied	13%	15%	23%	22%	27%	100%

\*assessed value in 1000's, columns are quintiles

Table 12: Distribution of Tenure by Unit Value, Rochester, 2017

	7.7-27*	28-40*	41-57*	58-70*	71 up*
Absentee	60%	53%	45%	41%	32%
Resident LL	13%	12%	11%	13%	10%
Owner-occupied	28%	36%	44%	46%	58%
total units	100%	100%	100%	100%	100%

Unit values and the proportion of single-family properties vary within the category of absentee owners. The properties of small absentee owners properties have higher average unit values (Table 13). This is true for both single-family buildings and multi-unit buildings. However, there is little difference between medium and large landlords on this measure. Small absentee owners own the largest proportion of single-family units, at 42%. Medium sized landlords have the fewest single-family units, at 31%, with large landlords at 38%, much closer to the proportion owned by small landlords. Of the three size categories of absentee landlords, small owners are dominant, owning almost 60% of all absentee-owned units (Figure 3). Medium and large landlords each accounted for approximately 20% of the residential units in the city.

Table 13: Dwelling Units Owned by Different Sizes of Absentee Landlords For Rochester, 2017

Type of absentee landlord	Type of property				
	single family	average unit value	multi- unit	average unit value	% single family
Small (1-10 units)	8570	54700	11820	37900	42%
Medium (11-40 units)	2200	45200	4800	30600	31%
Large (41+ units)	2590	46600	4300	29200	38%
Totals	13360	51300	20920	34700	39%

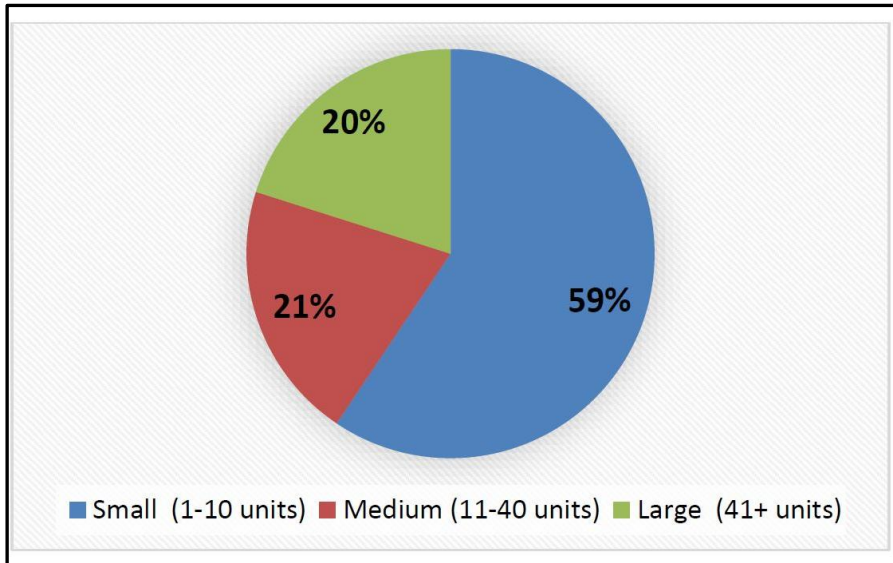


Figure 3: Residential Units Owned by Different Sizes of Absentee Landlords, Rochester, 2017

In terms of geographical patterns, absentee-owned property appears concentrated in the central parts of the city, surrounding the downtown, while owner-occupied properties appear concentrated in the outer parts of the city, and likely beyond into the suburbs (Figure 4). This map shows the proportionate distribution of absentee-owned units, where red indicates high proportions, and green shows low levels. Much of the downtown area is non-residential, which is why those census blocks are shaded white. As there are very few resident landlords, and their distribution is evenly dispersed. It is possible to also use Figure 4 to indicate the proportionate distribution of owner-occupiers. They are effectively the inverse of absentee concentrations; thus green indicates a high proportion and red, a low level.

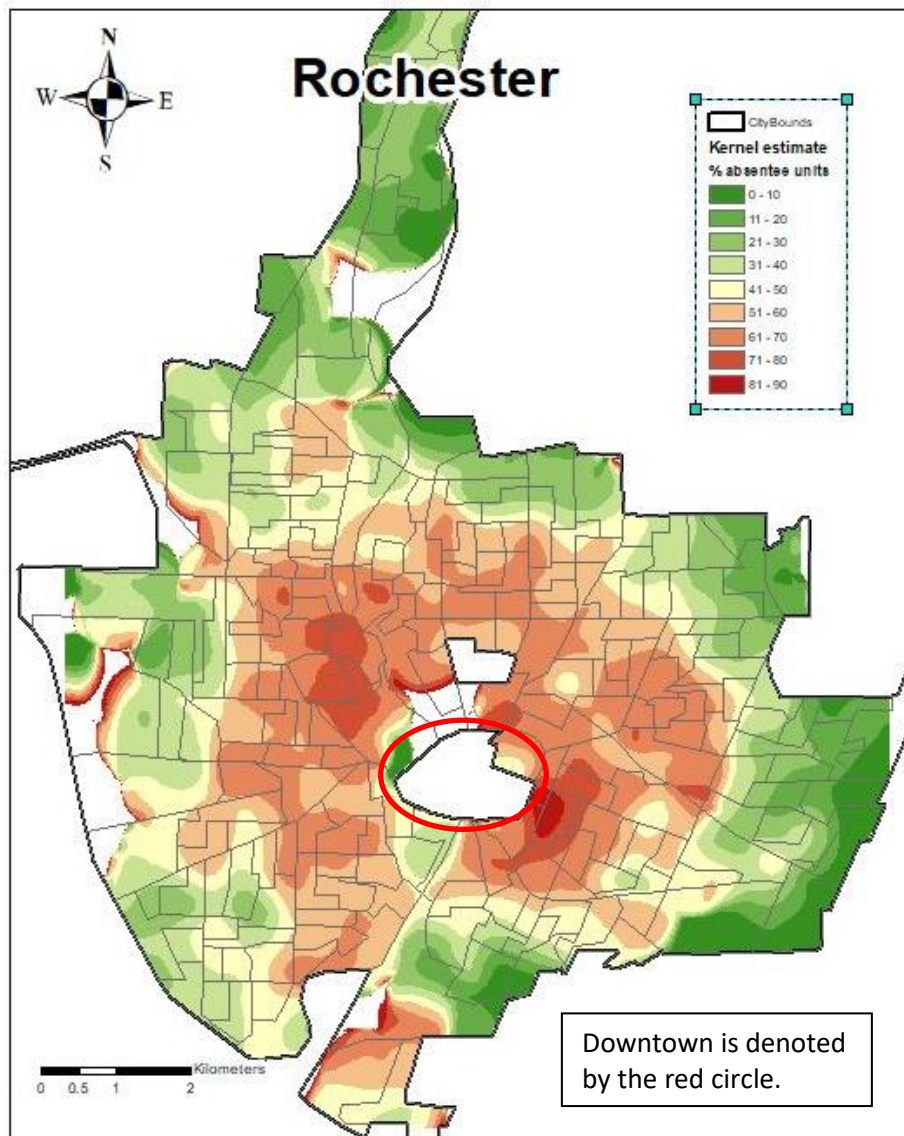


Figure 4: Geography of Absentee-owned Property in Rochester, 2017

Given the association between tenure and assessed value, it is not surprising that the geography of income closely matches that of tenure in most parts of the city, with absentee locations associated with lower income (Figure 5). Concentrations of racialized minorities are quite dramatic, even ghetto-like for some areas. Race and income also can be seen to correlate closely with lower income aligned to non-white concentrations.

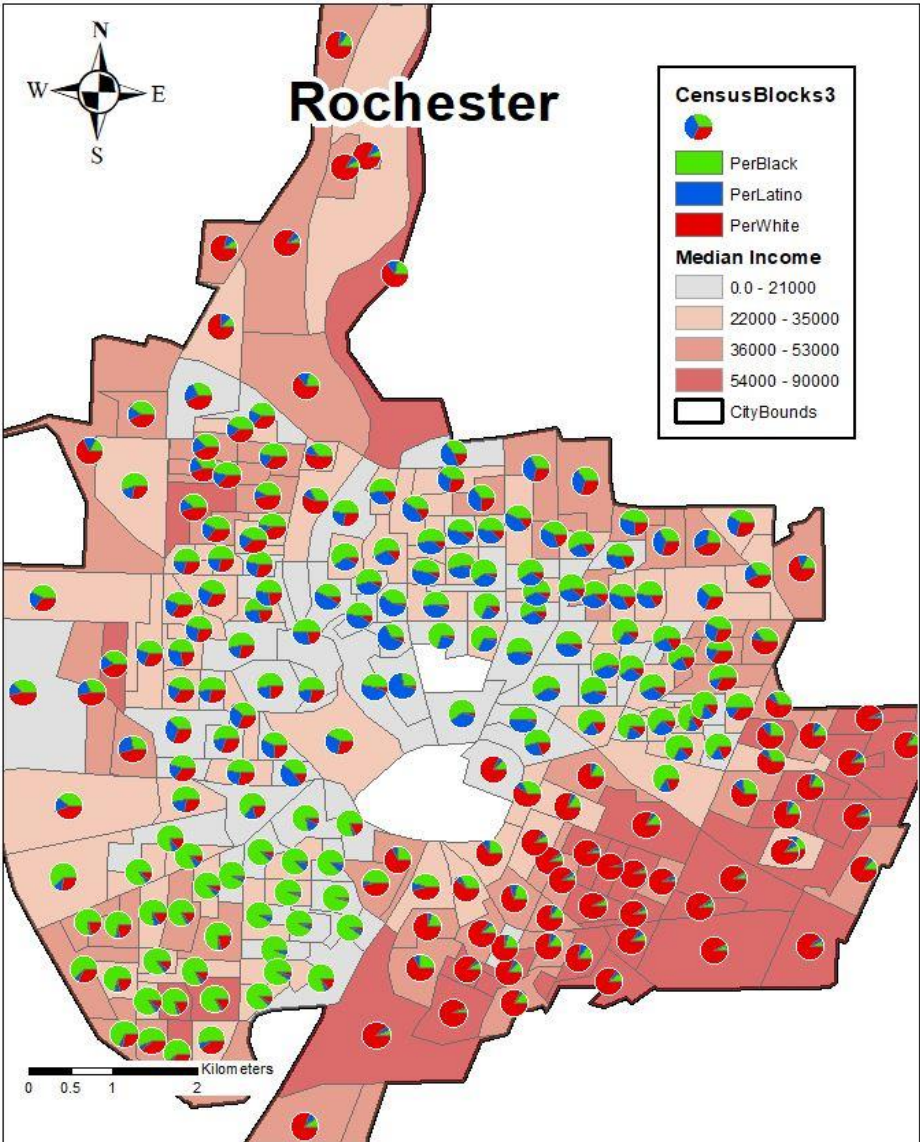


Figure 5: Race and Income in Rochester, 2017



## - **4.2: Maintenance experience by tenure type**

This section focuses on comparing maintenance outcomes by tenure types in Rochester. Table 14 shows the variation in code violations and police reports across the three main tenures. Absentee landlords are further broken down to allow absentee-owned single-family homes to be compared with owner-occupied homes, and multi-unit absentee-owned properties to be compared with resident landlord properties. Code violations are lowest (4.0) for owner-occupiers, followed by resident landlord properties (13.5) and then much higher for absentee-owned properties (25.2 – 27.1). These are very marked differences, suggesting that maintenance varies substantially by tenure. Supporting this, almost 50% more police cases were reported at absentee-owned locations. Interestingly, police incidents were slightly higher among owner-occupied properties than residential landlords'. Whereas resident landlord properties, overall, had much lower code violations than absentee-owned properties, this was only true of duplexes. Properties owned by larger resident landlords(i.e. those that owned many units) scored progressively worse up to four units, and beyond that, the number of properties was too small to be meaningful. In fact, other than in duplexes, admittedly by far the most common form, resident landlords scored slightly worse than similar sized absentee-owned properties. It was found that police incidents correlated better to the numbers of absentee-owned units (than absentee-owned building), which is why this route was taken. The problem still remains that larger buildings received unexpectedly lower (better) police scores using this approach. There is a further discussion of this issue in the “other adjustments” section of Appendix B.

Table 14: Tenure and Property Characteristics, Rochester, 2017

Rochester - Whole City	Buildings	Units	unit value	unit size	\$/ sq.ft.	police calls	code violations
2-6 units, residential landlord	3000	6300	47200	1120	42	5.24	13.5
2-6 units, absentee landlord	8800	20900	34700	1030	34	8.7	27.1
1 unit, absentee-owned	13400	13400	51300	1390	37	10.9	25.2
1 unit, owner-occupied	27900	27900	84600	1510	56	5.8	4
<b>All Rochester</b>	<b>53100</b>	<b>68500</b>	<b>65800</b>	<b>1380</b>	<b>46.4</b>	<b>7.63</b>	<b>13.8</b>
absentee 2 unit	6900	13800	34400	1070	32	9.14	26.7
resident 2 unit	2630	5260	46600	1130	41	5.16	11.5
absentee 3 unit	950	2850	40500	950	43	8.3	29.7
resident 3 unit	243	729	58100	1070	54	4.14	31.3
absentee 4 unit	600	2420	29600	860	34	8.36	29.5
resident 4 unit	65	260	33200	930	36	6.04	36.9
absentee 5 unit	207	1035	34900	840	42	6.64	27.5
resident 5 unit	8	40	41700	980	43	3.21	25
absentee 6 unit	145	870	30800	790	39	5.86	21.4
resident 6 unit	7	42	27800	700	40	1.7	0

As already seen in Table 11 and Table 12, property values follow a clear pattern, with absentee-owned being the lowest, followed by resident landlords and owner-occupied. Code violations are the inverse. It is possible that the low property value is the reason for the higher code rates. Table 15 shows one test of this hypothesis. A low value range (\$35-40/sq.ft. compared to \$56.00/sq.ft., the average value of owner-occupied homes) was used to capture properties which might be more likely to have defective care. As can be seen, code violations and police incidents are far higher for absentee-owned properties, even though they are in the same range of unit values.

Table 15: Maintenance Outcomes for Single-family Homes assessed at \$35-\$40/sq. ft., Rochester, 2017

	# properties	code violations	police calls
Absentee-owned	1322	24	10.4
Owner-occupied	2553	4.5	6.6

## Point Data

In order to find out which variables were most closely related, correlations were run, beginning with the point data. First, correlations between tenure and all other available variables were run to allow for a comparison of the level of association of these variables to each tenure. Issues mentioned earlier prevented the use of vacancy in this table. Second, correlations were run of all non-tenure variables to assess overlap. This would show other relationships that might be interesting and where they are strong, could indicate overlap in their relationship to tenure.

Though, in the aggregate, there is a clear ranking of maintenance by tenure, point data correlations values for the three tenure types is quite low, at 0.27 for code violations of absentee properties, and -0.28 for owner-occupiers, with police the pattern results being similar (Table 16). The same pattern is apparent with unit values, though the correlations are a bit stronger, especially 0.34 for owner-occupied properties. Correlations were much lower for resident landlord properties, almost zero for code violations and police, and only 0.11 for unit values. Although year built also had low correlation values, it did show an unexpected relationship. Older buildings are slightly more like to be owner-occupied while absentee and resident landlord properties slightly correlate to younger buildings. No doubt this has something to do with the particular dynamics of the housing market in the city, an issue which is beyond this paper. All correlations showed absentee-owned buildings had inverse values compared to owner-occupied buildings, with resident landlord buildings roughly in the middle.

Table 16: Correlations of Code and Police Violations with Tenure Type, Rochester 2017 (disaggregated)

	police calls	code violations	assessed \$/sq.ft.	unit size	year built
absentee LL	0.23	0.27	-0.29	-0.2	0.06
resident LL	0.01	0.03	-0.11	-0.15	0.07
Owner-occupied	-0.26	-0.28	0.34	0.27	-0.05

As with Table 16, Table 17 displays few strong correlations between the non-tenure variables. Unsurprisingly, code violations, at .48, had a relatively strong relationship to vacancy. The next strongest correlations, at -.22 or -.23, were value-per-square-foot to code violations or police calls. Thus, the lower the value of the rental unit, the more likely there would be maintenance issues. Year built did not correlate meaningfully to any of the other variables. In other words,

maintenance levels, using either code violations or police calls, did not relate to the age of the property. Likewise, there did not seem to be a connection between the age of the property and the likelihood of it being vacant. We can see that the more recent the building, the larger the unit size, with a .10 correlation.

Table 17: Correlation of Property Variables, Rochester, 2017 (disaggregated)<sup>14</sup>

	code violations	police calls	vacant	assessed \$/sq.ft.	unit size	Year built
code violations	1.00	0.14	0.48	-0.22	-0.07	0.02
police calls	0.14	1.00	0.04	-0.23	-0.09	0.03
vacant	0.48	0.04	1.00	-0.14	-0.03	0.00
assessed \$/sq.ft.	-0.22	-0.23	-0.14	1.00	0.15	-0.03
unit size	-0.07	-0.09	-0.03	0.15	1.00	0.10
year built	0.02	0.03	0.00	-0.03	0.10	1.00

### Aggregated Data:

The averaging that occurs when aggregating the point data into census blocks produced higher and in some cases very large correlations, especially for the police incidents and code violations, both over .70 for absentee-owned property, compared to .27 in the point data correlations (Table 18). This reinforces how valuable these two variables are to this study. These aggregated correlation values followed the same tenure ranking as the point data. Correlations with “percent white” were 0.1 higher than with “percent black” for both absentee and owner-occupied buildings indicating that the former is the stronger variable in correlation to tenure, which is why going forward this was the proxy variable for race. As with previous observations, correlations for resident landlords were low. Correlations with income were relatively high (above .50) for both absentee and owner-occupied buildings, though some of this must overlap with race.

Table 18: Correlations of Code and Police Violations with Tenure Type, Rochester 2017. (aggregated)

	% black	% white	police %	code %	income
absentee %	0.39	-0.49	0.72	0.76	-0.59
resident %	-0.04	0.07	0.14	0.18	-0.07
Owner-occupied %	-0.31	0.38	-0.64	-0.68	0.51

<sup>14</sup> This table excluded data from 1040 properties (2% of all buildings) that lacked data on age built

Table 19 shows correlations between aggregated variables, other than tenure. All correlations are quite strong, suggesting that these variables are interrelated. Correlation between code violations and police calls was the strongest value, at 0.84, which supports the argument that both generally provide a similar result, as a proxy for maintenance. As with the disaggregated comparisons, vacancy, at 0.84, is strongly correlated with code violations. Significantly, race (% white) had a closer correlation to code violations, at 0.72, than either income, at -0.65, or 0.53 for assessed value.

Table 19: Correlations of Property Variables, Rochester, 2017 (aggregated)

	% white	police calls	code violations	vacant %	Income	assessed \$/sq.ft.
% white	1.00	-0.75	-0.72	-0.71	0.68	0.61
police calls	-0.75	1.00	0.84	0.72	-0.66	-0.57
code violations	-0.72	0.84	1.00	0.84	-0.65	-0.53
vacant %	-0.71	0.72	0.84	1.00	-0.62	-0.49
Income	0.68	-0.66	-0.65	-0.62	1.00	0.46
assessed \$/sq.ft.	0.61	-0.57	-0.53	-0.49	0.46	1.00

The following five maps give some geographic perspective and comparison of the key variables: absentee-owned (and owner-occupied as they are the inverse), code violations, race (% white), family income, police incidents, and vacant dwellings. For the most part, these maps are consistent with aspatial relationships revealed by Table 19. However, they provide additional information in that they highlight one area of the city, the south-east of downtown, which has quite different outcomes.

Figure 6 maps the relationship between proportion absentee and code violations. The area highlighted in yellow shows differing correlations, out of sync with the rest. The expected relationship is an association of high absentee concentration (large blue dots) with high levels of code violations (shaded red). In this anomalous area, there is a cluster of census blocks where code violations are far fewer (greener) than what is otherwise found in regions with high proportions of absentee ownership. Figure 7 shows race in comparison to absentee-owned units. As with the previous map, the south-east inner city (the area highlighted in yellow) showed an unexpected relationship. In general, correlations suggested that areas with high concentrations of absentee properties would have lower numbers of white residents, but in this area, the opposite is the case.

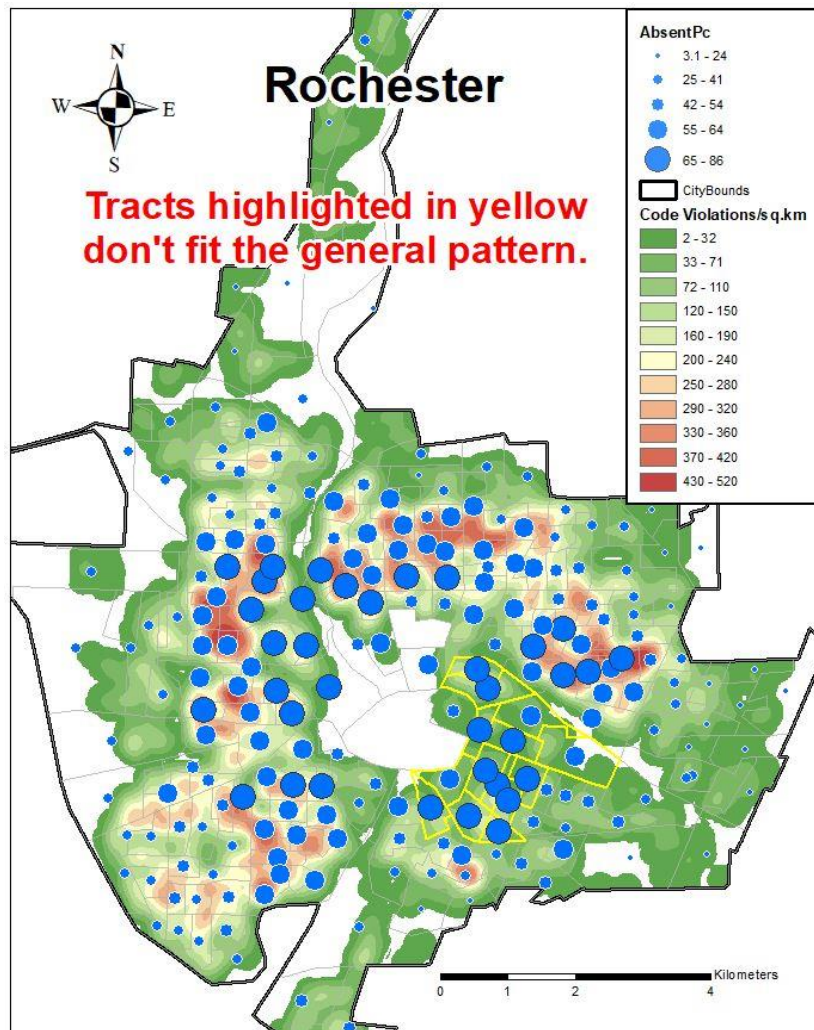


Figure 6: The Geography of Absentee-Owned Units and Code Violations, Rochester, 2017

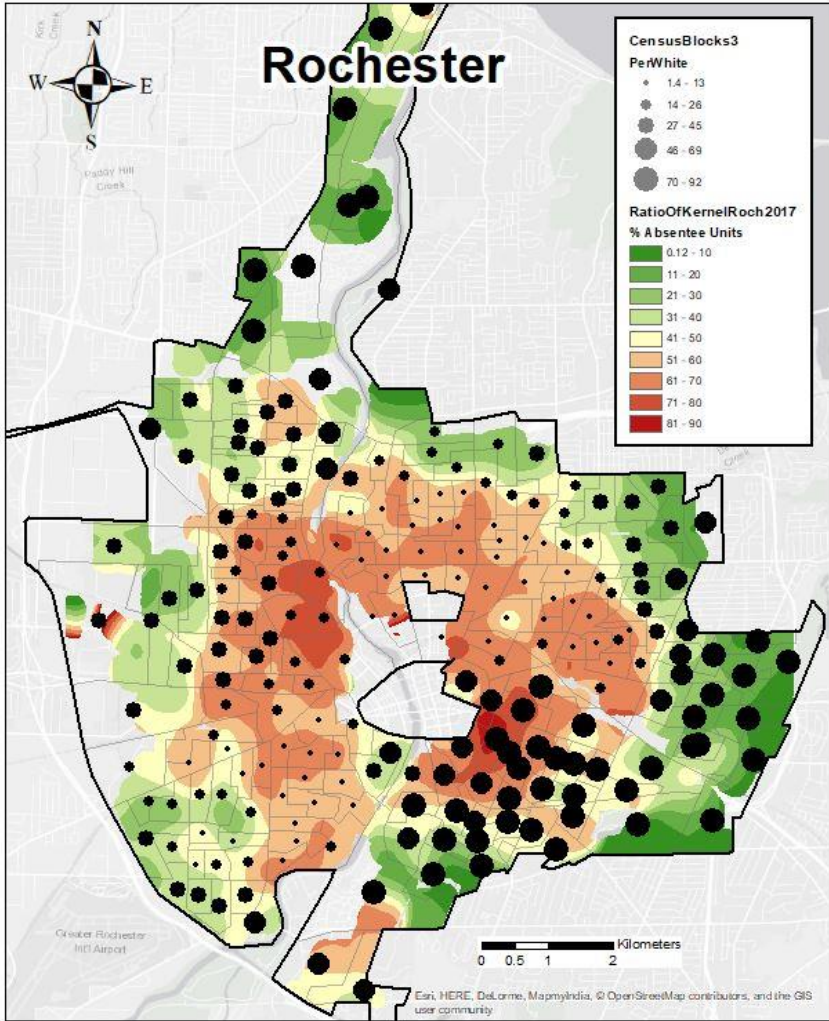


Figure 7: The Geography of Absentee-Owned Units and Race, Rochester, 2017

To some extent Figure 8, which compares income with tenure, might explain the previously noted anomaly, as it shows that this area is also one of low income, though not the lowest in the city. This fits the expected correlation between low income and greater proportions of absentee ownership. Thus we see that this anomalous area contains the largest concentration of lower income white residents, many of whom also, presumably, live in absentee-owned units. As the race data was only available in aggregate form, there was no way to further corroborate this supposition. Additionally, it can be observed from this map that the geography of income correlates the best, of all the key variables, to the proportion of absentee units in the housing stock. As almost all rentals in Rochester are absentee-owned, it makes sense to find them mostly occupied by lower income families.

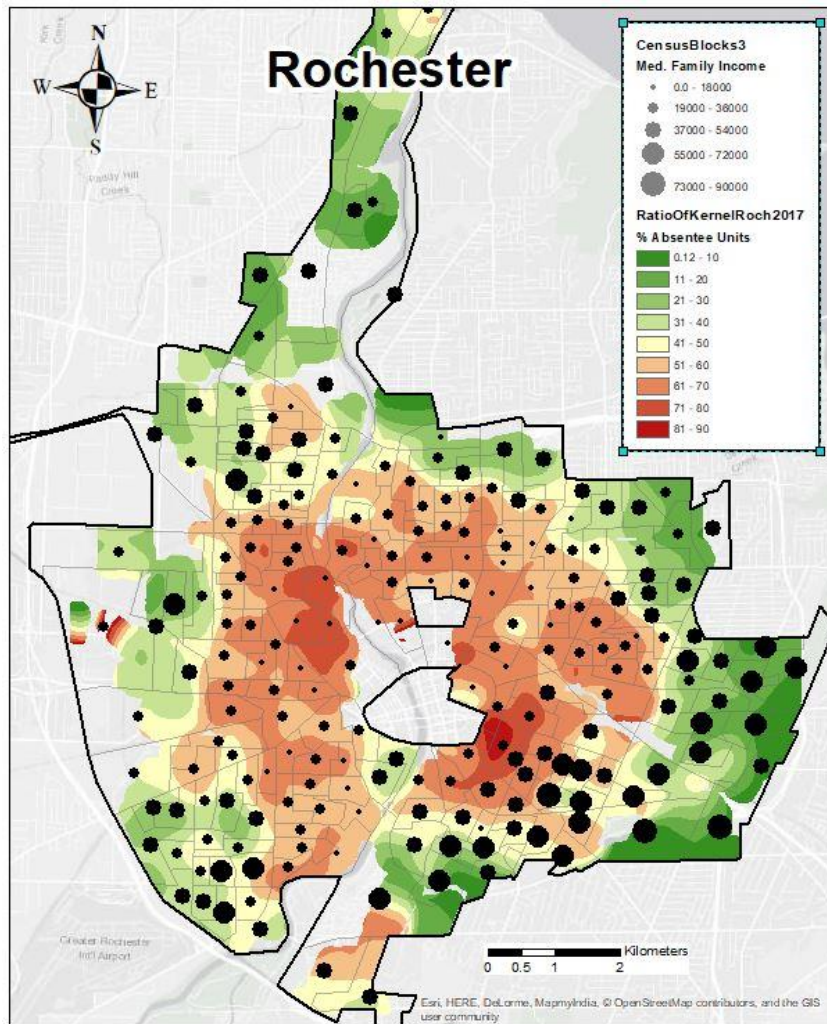


Figure 8: The Geography of Absentee-owned Units and Median Family Income, Rochester, 2017

Though it is a rather subtle difference, it can be seen that police incidents do not completely follow code violations, but are somewhat more in line with income (Figure 9). In particular, the inner city south-east section has some elevated police activity, though not as dramatic as the poorer and more non-white areas in the northeast and northwest inner city areas. The fact that police reports seem to offer a better correlation here might be a better indicator of real maintenance levels. One could speculate that this neighbourhood, with high concentrations of white residents, received less diligence from code inspectors, and that it does, in fact, have a higher amount of maintenance issues than the code violations indicate. Alternatively (or additionally), it could mean that landlords tend to take better care of properties with white tenants.



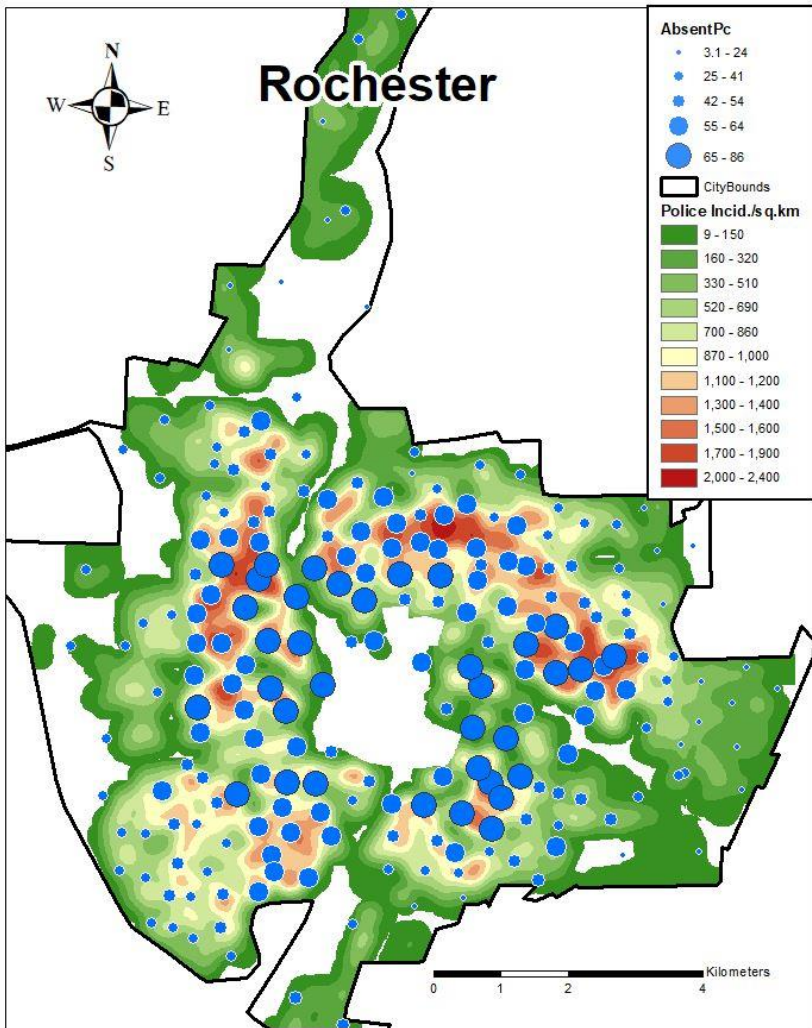


Figure 9: The Geography of Absentee-owned Units and Police Incidents, Rochester, 2017

Visually, there is a substantial correlation between incidents of vacant dwellings and the proportion of properties that are absentee-owned (Figure 10). However, as with many of the other variables, this does not hold up in the south-east inner city area, where the population is mostly poorer white. In this area, incidents of vacant dwellings are very low, similar to wealthier and whiter areas on the outer parts of the city.

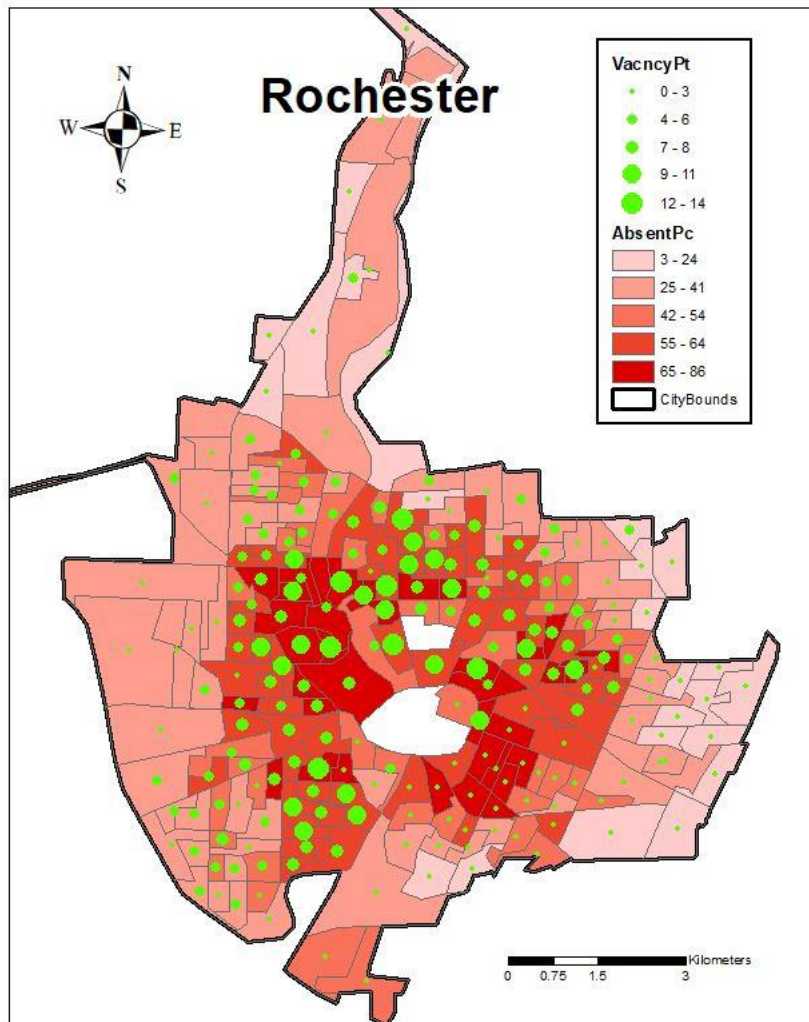


Figure 10: Proportion Vacancy Compared to Proportion Absentee, Rochester, 2017

### Types of absentee property owners

Up to now, the only differentiation offered for absentee owners has been size. The literature suggests that in addition, location (relative to their rental property), and ownership structure can also have an impact on maintenance outcomes (Table 4).

The size of a landlord seems to only have a minor impact on maintenance outcomes (Table 20). The properties of medium and large owners had very similar experiences with both code and police violation, which is why they were merged for the following comparison. Taken together this group also has similar code violation results to that of small landlords, but they have significantly poorer police call results, at a rate of 17.3 per 100, especially in comparison to small private landlords whose rate was only 12.6, a difference of 27%.

Maintenance outcomes varied, sometimes significantly, when subdividing landlords on the basis of criteria other than size. Among small private owners living within 500m of their property, code violations were 23.7 vs. 25.5 for those living further away, a 7% difference. This demonstrates a modest advantage in maintenance quality from small private landlords when they live nearby. Their police incidents were 9.3 compared to 12.9, about 28% less, which more strongly indicates the same conclusion.

Table 20: Building Maintenance by Type of Property Owner, Rochester, 2017

<b>absentee landlords</b>	buildings	units	police	code v.
small private <500m	960	1320	9.3	23.7
small private >500m	10240	14910	12.9	25.5
<b>total small private</b>	<b>11200</b>	<b>16240</b>	<b>12.6</b>	<b>25.3</b>
small LLC	2410	3950	15.3	24.9
medium and large	7430	12430	17.3	25.4
property manager	1220	1840	18.1	38.2
P.O. box addressed	3220	4930	15.5	27.5
<b>total absentee</b>	<b>22200</b>	<b>34300</b>	<b>14.8</b>	<b>26.0</b>
resident landlord	3000	6300	5.2	13.5
owner-occupied	27900	27900	5.8	4.0
<b>total - all property owners</b>	<b>53100</b>	<b>68500</b>	<b>7.63</b>	<b>13.8</b>

The group that stands out the most are the property managers. At a code violation rate of 38.2, they had 32% more code violations than absentee owners in general, and police rates were 18.1, 18% higher. Landlords, of all sizes, that used a P.O. box instead of a street address had meaningfully worse maintenance outcomes. Their code violation rate, at 27.5 was 8% higher than those with an address. However, their police rates were lower than the medium and large landlords, and only slightly higher than small landlords. It might have been better to only look at small owners for this comparison, as the largest number of P.O. box users were for smaller owners. Small LLC had, perhaps surprisingly, a very similar code violation rate to small private owners. They did have a noticeably worse police rate, 15.3 compared to 12.6, a difference of 18%. Figure 11 provides a graphic representation of all of the above observations. It can be clearly seen in this chart that there is a pattern between maintenance, especially for police calls, and absentee owner type, at least at the city-wide scale.

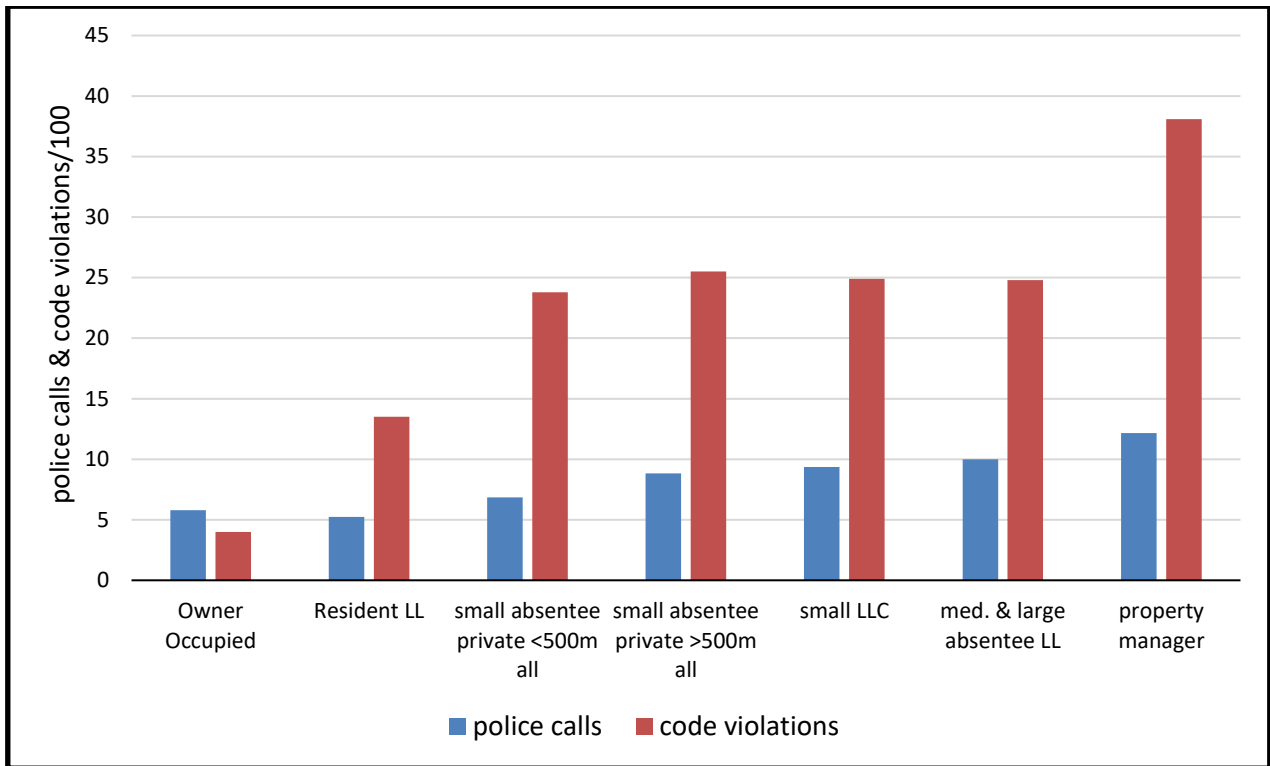


Figure 11: Building Maintenance by Type of Property Owner, Rochester 2017

Even within the category of property managers, there are at least two significant sub-groups that are substantially different in their property maintenance behaviour. As Figure 12 shows, property managers can be very selective of the areas they cover. In 2017, Light House Management was the second largest property manager found in Rochester, with 285 units under its management. As is shown by the map, the agency focused on areas with a very high proportion of non-white residents, which also means the areas are low-income. The first and fourth largest property managers followed an almost identical pattern. By contrast, Tickle Real Estate property managers, the third largest agency, focused on the low-to-middle-class white neighbourhoods, and were the largest (164 units) of three property managers found to specialize in this part of the city. There was only one large property manager that straddled these two racialised solitudes. Although a full investigation of the differences between these two types of property manager was beyond the scope of the present study, the code violation rate of the three white neighbourhood property managers averaged 15.4, while 7.9 was the police call rate. These are far better rates than for property managers in general. In fact, of absentee-owned properties, only small private landlords living within 500m had a better police rate, and one would have to look at the code violation rates of resident landlords to find a better average code rate.

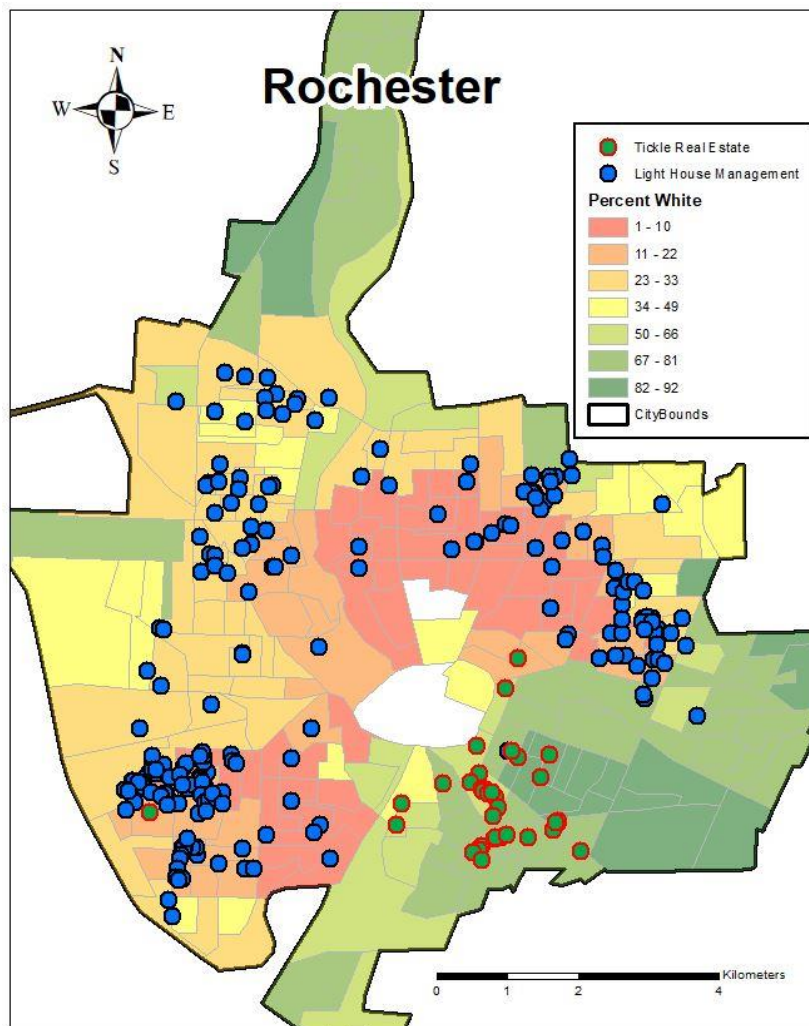


Figure 12: Properties Managed by Two Major Management Companies, Rochester, 2017

Some researchers have suggested that distance between a landlord and their property should affect maintenance behaviour. This was explored in a number of ways in this study but produced few clear indications<sup>15</sup>. It has already been shown that small private landlords had somewhat better maintenance records if they lived within 500m of the rental property. Figure 13 shows a steady growth in impact up to about 3.5km, but then the pattern falls apart. The only meaningful observation is that the shortest (<500m) and furthest (out of state) distances have the lowest and highest rates, respectively.

<sup>15</sup> See Appendix B for some examples, including a discussion of some of the challenges.

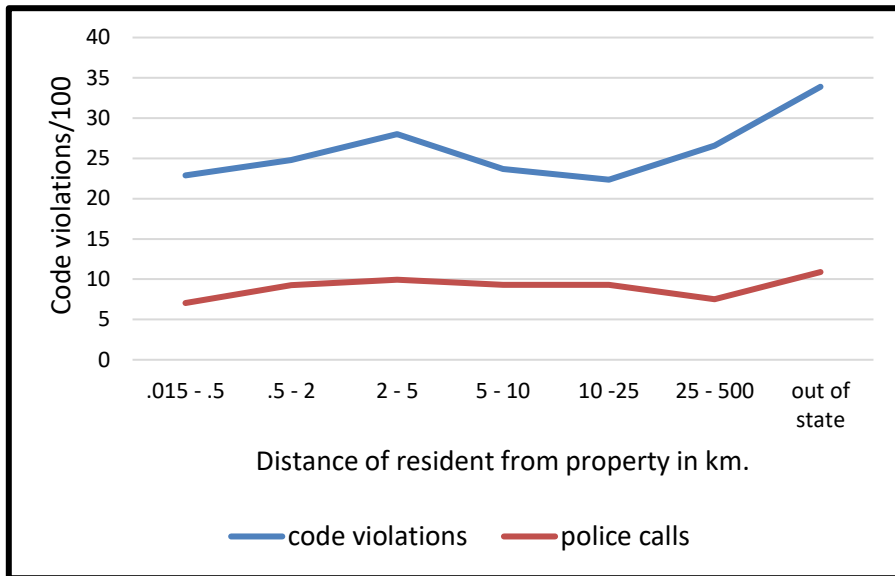


Figure 13: The Impact on Maintenance of Distance from Landlord’s Home/Office, Rochester, 2017

Given the association between tenure and both poor maintenance and lower unit values, it is not surprising that police incidents and code violations are equally in lock-step with assessed values in the city when these data are reported by unit values (Figure 14 - see also Table 11 and Table 12). The differences are quite dramatic. The incidence of code violations is 22/100 for the lowest quintile, compared to 7/100 for the highest. That of police calls shows a similar if slightly less striking pattern.

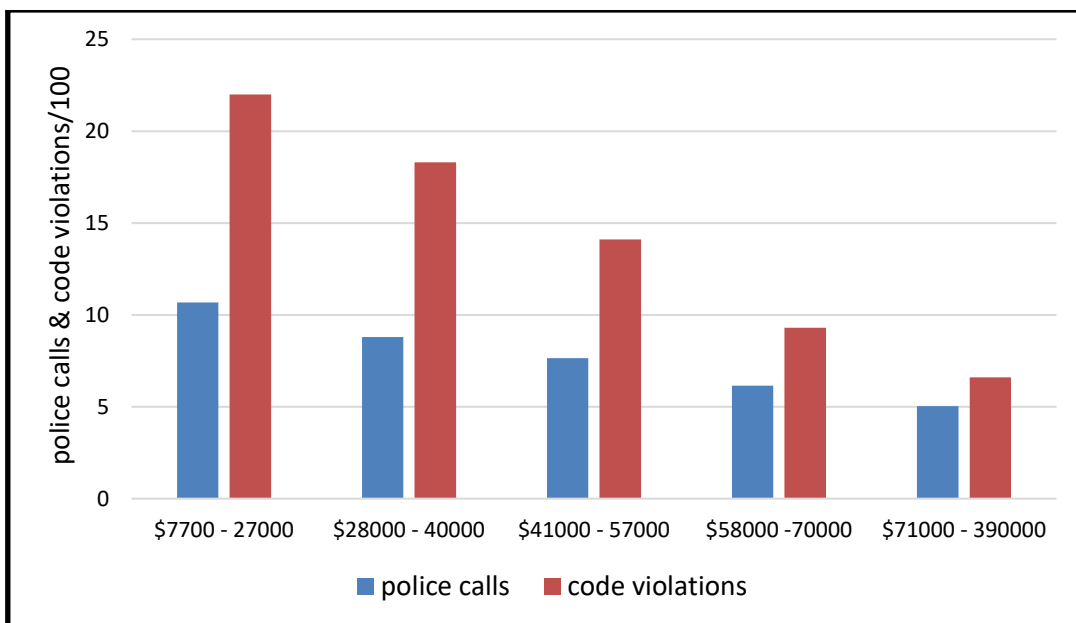


Figure 14: Code Violations and Police Calls by Value/unit Quintile, Rochester, 2017

**4.3: Comparison of three subareas**

In addition to a detailed look at property maintenance behaviour of the various tenure types across Rochester, it was important to explore whether the observed relationships between tenure and property maintenance held across the city. Three relatively homogeneous areas were chosen. Area 1 has very high non-white ethnicity, over 80%, and very low family incomes, with an average of \$11,800 (Table 21). Area 2 has a high proportion of white residents and modest family incomes. Area 3 has an even higher proportion of white populations and income. Areas 2 is within the anomalous region highlighted earlier. All three areas have relatively high proportions of absentee-owned property, ranging from 45 – 77%, compared to the city average of 50%.

Table 21: Demographic Information for Three Subareas in Rochester, 2017

subarea	% white	income	% absentee units
Area 1: Poor Black	20	11800	77
Area 2: Modest White	77	44200	72
Area 3: Affluent White	88	71000	45
All Rochester	38	33400	50

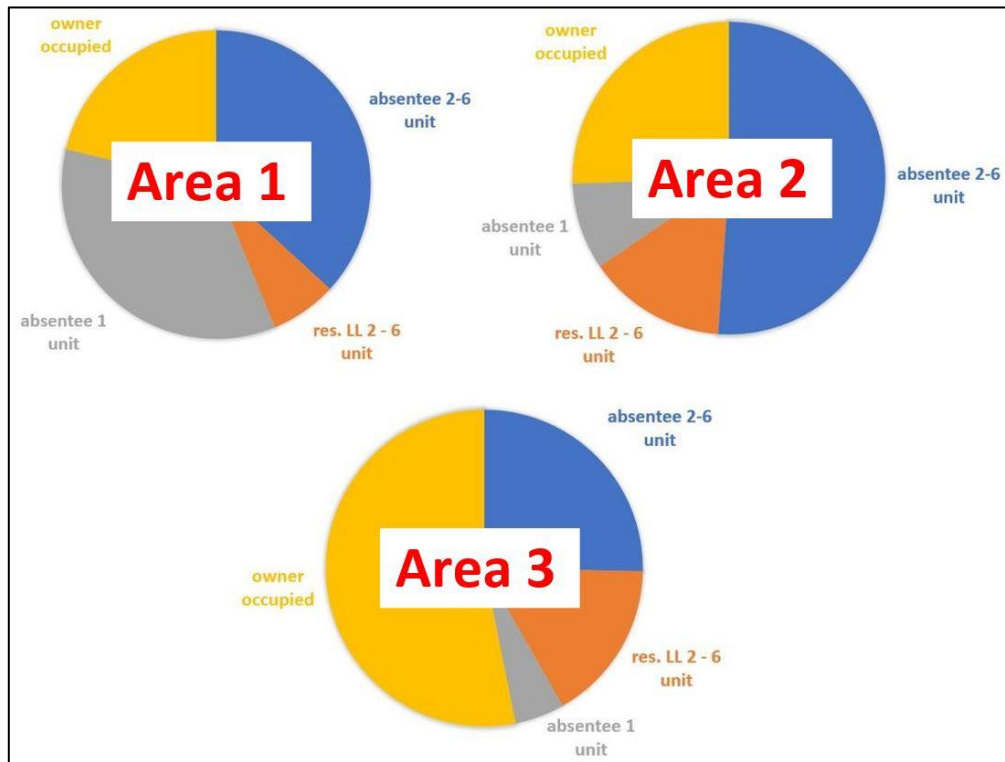


Figure 15: Tenure Composition of the Three Subareas, Rochester, 2017

The proportions of units by tenure in the three areas are quite different (Figure 15). Area 1 has the highest proportion of absentee-owned buildings, but far more are single-family dwellings. It also has the smallest proportion of resident landlords. These two points likely reflect the type of housing structures in the area. Area 3 has the highest proportion of owner-occupiers, as might be expected of an affluent neighbourhood outside of the downtown. Figure 16 maps the areas which are contiguous and relatively homogenous in both income and race, while having the highest possible proportion of absentee housing.

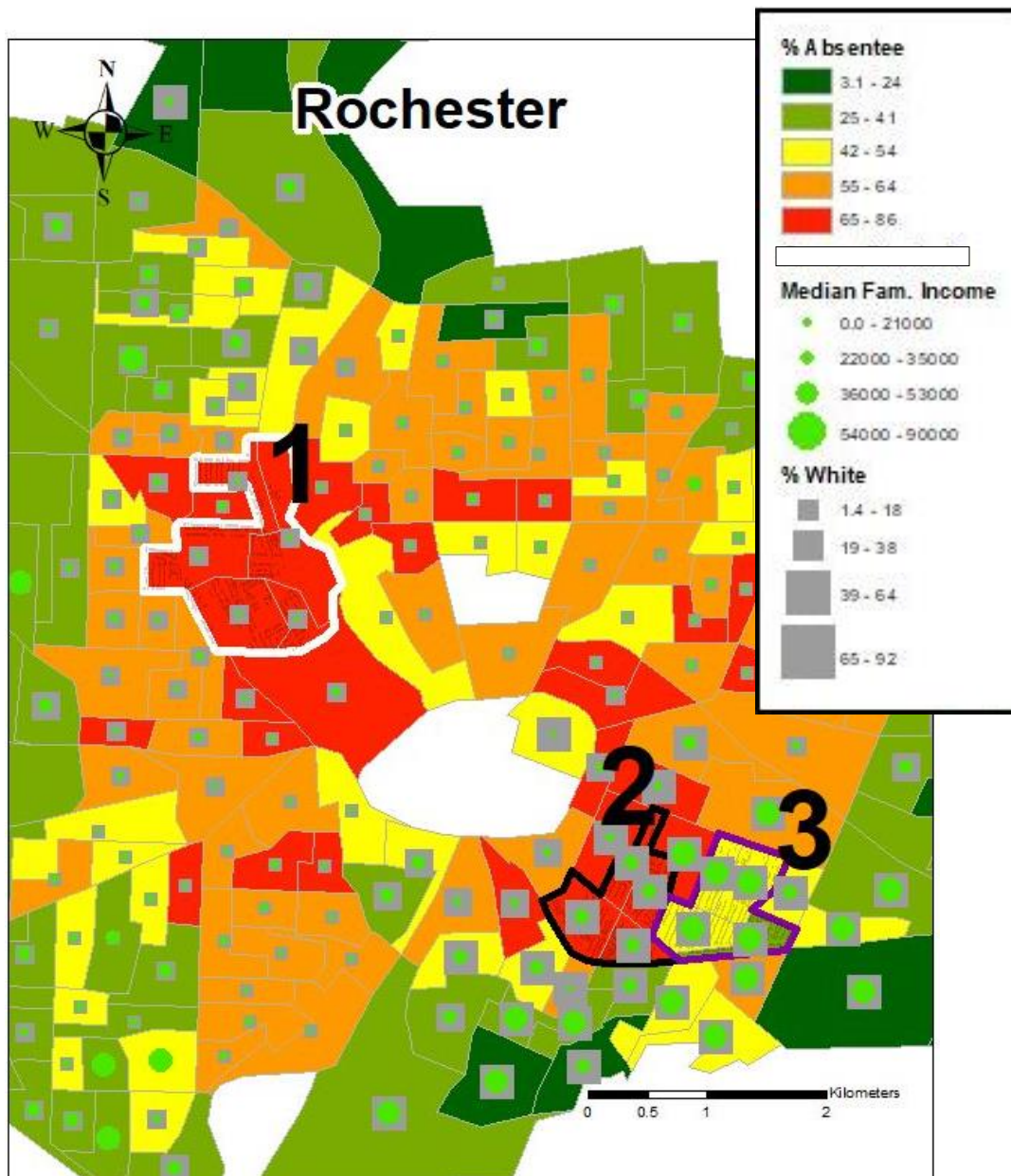


Figure 16: Location and Characteristics of Three Subareas, Rochester, 2017



There is no easy way for this author to show a “typical” street anywhere in the city, due to a lack of local knowledge. Several streets were explored in each area. What follows are samplings that can give the reader some sense of how these areas differ. Figure 17: shows two streets within Area 1. The homes on Karnes St. (top photo) are all occupied and look in decent repair. In contrast, the bottom picture, Saratoga Ave, shows a (presumably) vacant home with an empty space to its left that likely was a demolished home. It expresses most clearly the character of this area which containing many poor-quality homes within a high poverty area.

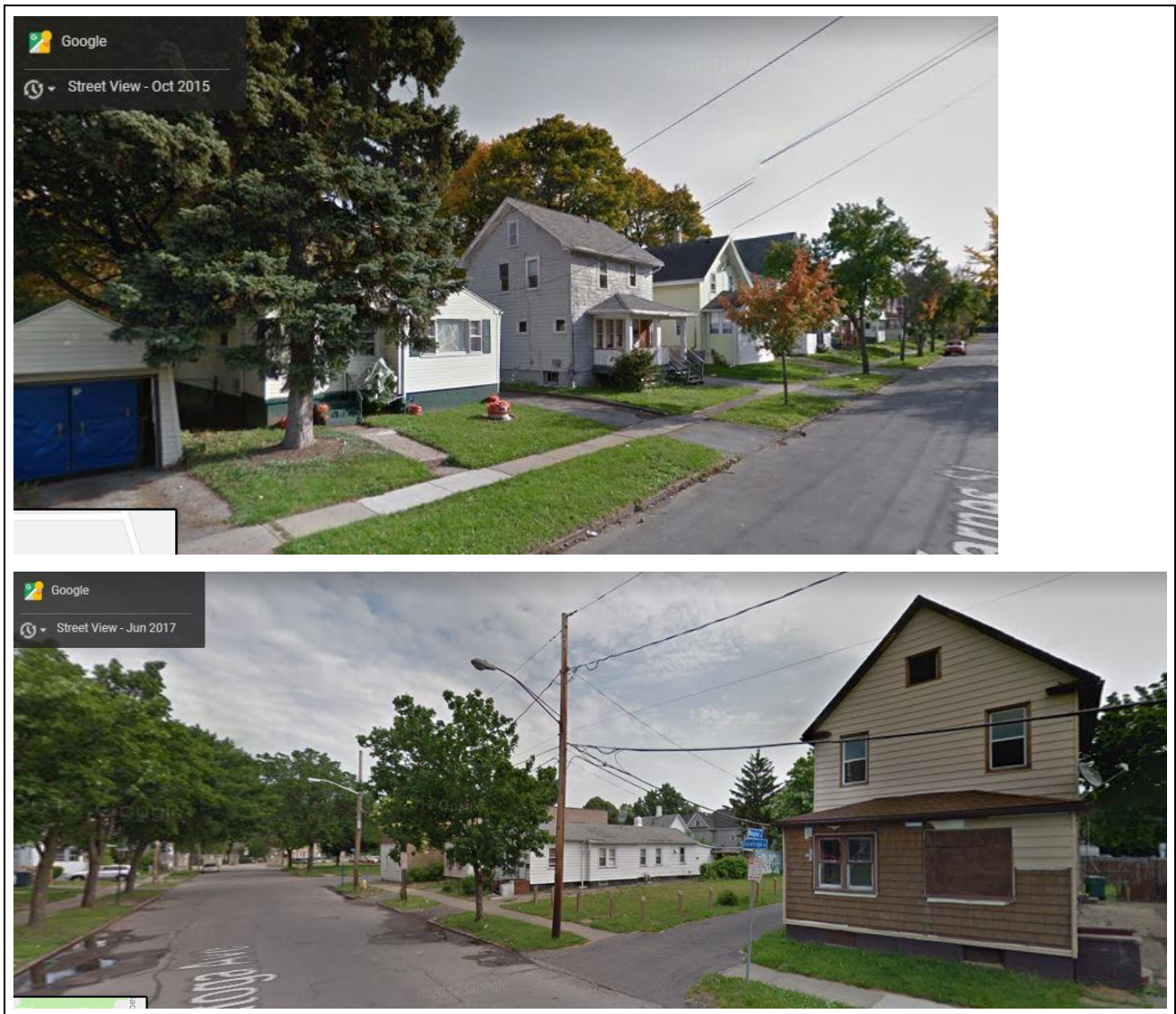


Figure 17: Karnes St. (top) and Saratoga Ave (bottom) in Area 1 (Google Street View, 2015 & 2017)

Figure 18 and Figure 19 show homes in Area 2 and Area 3, respectively. The condition and size of these homes reflect the higher values found in these areas. Properties on Rowley St. in Area 2 look somewhat better than those on Karnes St. in Area 1. Those on Barrington Ave., in Area 3, are not only larger, but they are on larger lots and are set back further from the road. They also look to be well maintained, for example with clipped hedges.



Figure 18: Rowley St. in Area 2 (Google Street View, 2014)

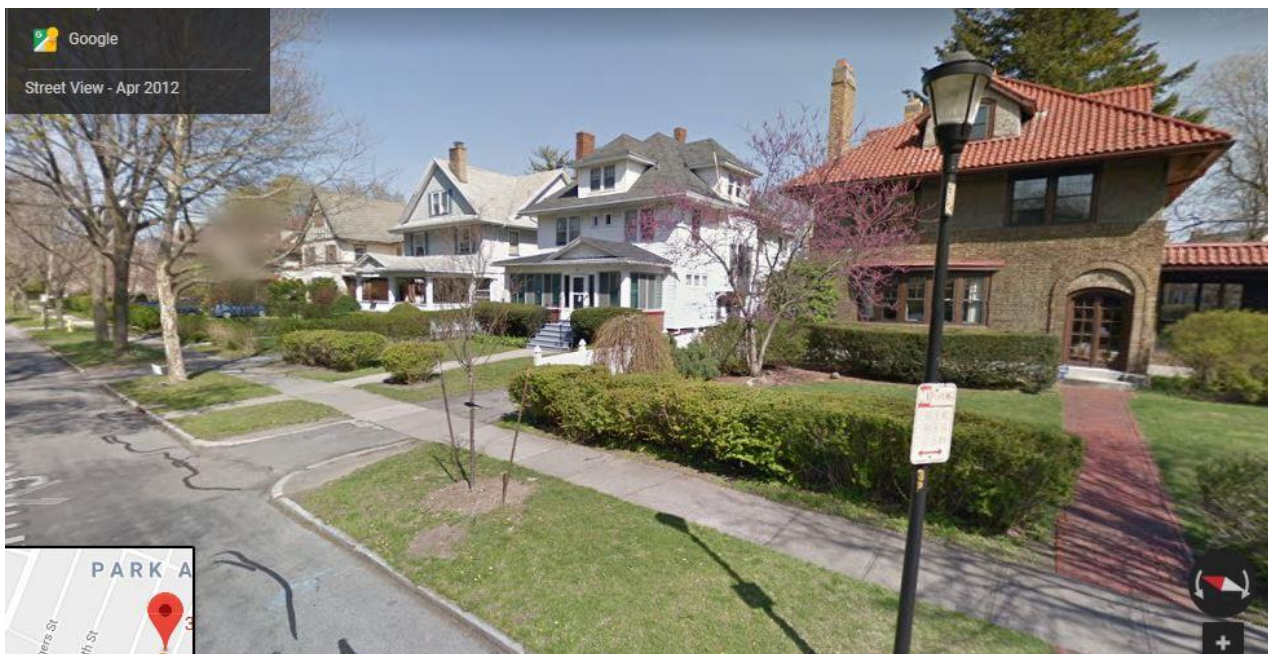


Figure 19: Barrington St. in Area 3 (Google Street View, 2012)

As can be clearly seen in Table 22, code violation and police report rates are far higher in Area 1. Code violation rates in this area averaged 23 compared to 9.6 for Area 2 and 6.0 for Area 3. Police reports had similar proportions. Area 1 code and police rates were also slightly higher than the city averages, whereas areas two and three had better rates than the city-wide average. Another example of the dramatic differences between Area 1 and the other two areas is the code violation rates for owner-occupied properties. They are eight times higher in Area 1, at 13.6, compared to 1.5 for Area 2 and 1.7 for Area 3. Code violations were much higher within Area 1, at 31.8, for multifamily absentee-owned properties, than 21.7 for single-family absentee-owned buildings. In Area 2 there was not much difference, and although in Area 3 single-family homes had higher code violations, there were only 40 of these properties suggesting outlier impacts.

Table 22: Tenure and Property Characteristics for the Three Subareas, Rochester, 2017

<b>Area 1: Poor Black</b>	<b>buildings</b>	<b>units</b>	<b>unit value</b>	<b>unit size</b>	<b>\$/ sq.ft.</b>	<b>police calls</b>	<b>code violations</b>
2-6 units, residential landlord	72	165	18800	1030	18	7.79	15.3
2-6 units, absentee landlord	380	920	17700	1000	18	11.71	31.8
1 unit, absentee-owned	360	360	27900	1360	21	13.46	21.7
1 unit, owner-occupied	220	220	31400	1470	21	9.16	13.6
<b>Total</b>	<b>1040</b>	<b>1670</b>	<b>24300</b>	<b>1230</b>	<b>20</b>	<b>11.33</b>	<b>23.1</b>
<b>Area 2: Modest White</b>							
2-6 units, residential landlord	115	274	75100	1130	66	6.16	10.5
2-6 units, absentee landlord	410	1175	58700	990	59	6.21	12.9
1 unit, absentee-owned	72	72	94400	1600	59	8.73	12.5
1 unit, owner-occupied	205	205	116300	1800	65	7.24	1.5
<b>Total</b>	<b>800</b>	<b>1730</b>	<b>79000</b>	<b>1270</b>	<b>62</b>	<b>6.41</b>	<b>9.6</b>
<b>Area 3: Affluent White</b>							
2-6 units, residential landlord	130	310	116900	1480	79	3.33	7.7
2-6 units, absentee landlord	200	540	96700	1300	74	4.37	12.6
1 unit, absentee-owned	40	40	192600	2060	93	6.07	15
1 unit, owner-occupied	420	420	241700	2490	97	5.41	1.7
<b>Total</b>	<b>780</b>	<b>1310</b>	<b>183100</b>	<b>2010</b>	<b>91</b>	<b>4.5</b>	<b>6</b>
<b>All Rochester</b>							
2-6 units, residential landlord	3000	6300	47200	1120	42	5.24	13.5
2-6 units, absentee landlord	8800	20900	34700	1030	34	8.7	27.1
1 unit, absentee-owned	13400	13400	51300	1390	37	10.9	25.2
1 unit, owner-occupied	27900	27900	84600	1510	56	5.8	4
<b>Total</b>	<b>53100</b>	<b>68500</b>	<b>56800</b>	<b>1380</b>	<b>41</b>	<b>7.63</b>	<b>13.8</b>

Even with such variation in incomes, racial composition and in the proportions of the various tenure in these subareas, absentee-owned properties always presented the poorest maintenance outcomes, followed by the properties of resident landlord and owner-occupiers, consistent with citywide experiences. The pattern across the various types of absentee landlords often does not match that of the city-wide data (compare Figure 11 with Figure 20, Figure 21, & Figure 22). For example, in Area 1 code violations follow a similar pattern to city-wide data, except that small private properties, which, at 33, are much higher than 24, for the city. In Area 2, code violations and police calls seemed unusually low for property managers compared to their rates for the whole city, which fits with observations reported about Figure 12. Police reports also vary from city-wide proportions. In both Area 2 and 3, they are a fair bit higher for owner-occupied properties than they are for Rochester as a whole. Perhaps this reflects greater numbers of burglar alarm systems. Focusing on small LLC properties, they have unexceptional rates for both code violations and police calls in Area 1, unusually low rates in Area 2 (less than half the other absentee owners), and the highest rates (about one third higher) in Area 3. Perhaps this unexpected range is due to outlier effects, as in all three areas the small LLCs only accounted for about 5% of the buildings.

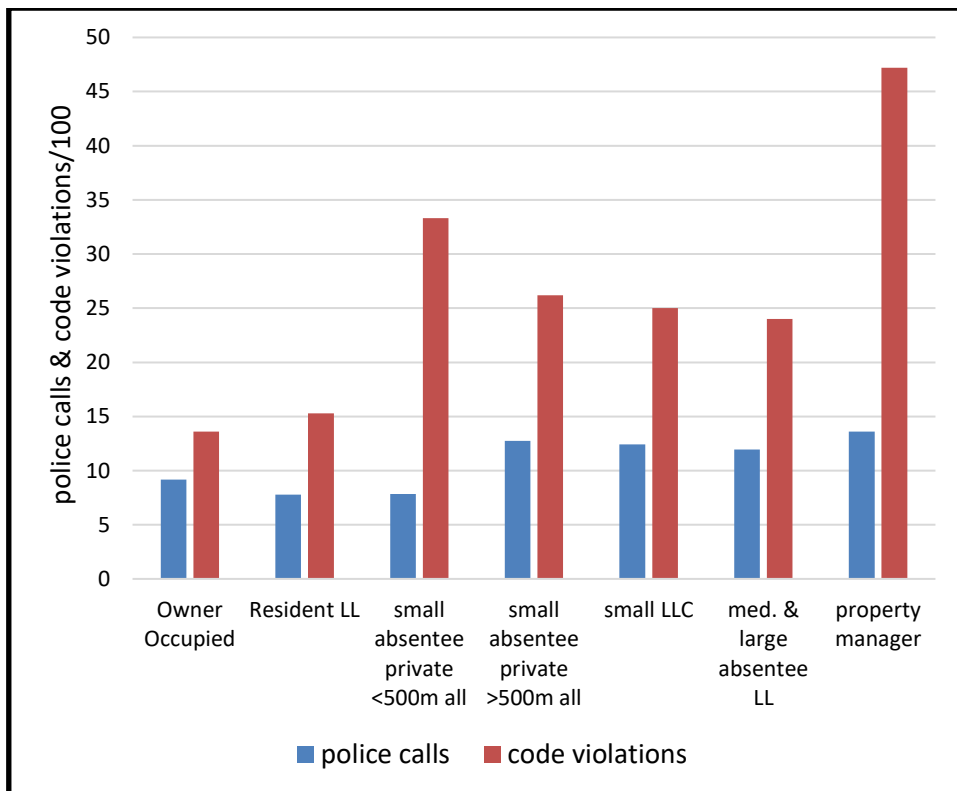


Figure 20: Building Maintenance by Type of Property Owner, Area 1, Rochester 2017

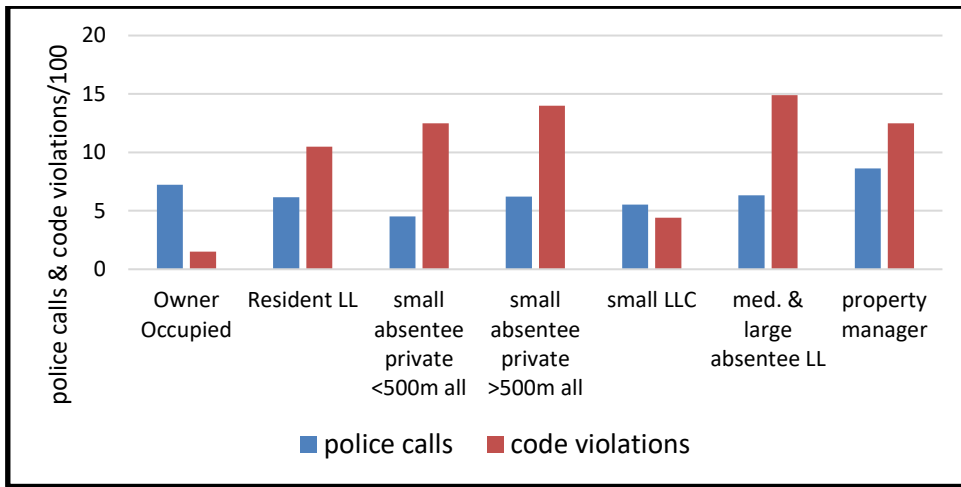


Figure 21: Building Maintenance by Type of Property Owner, Area 2, Rochester 2017

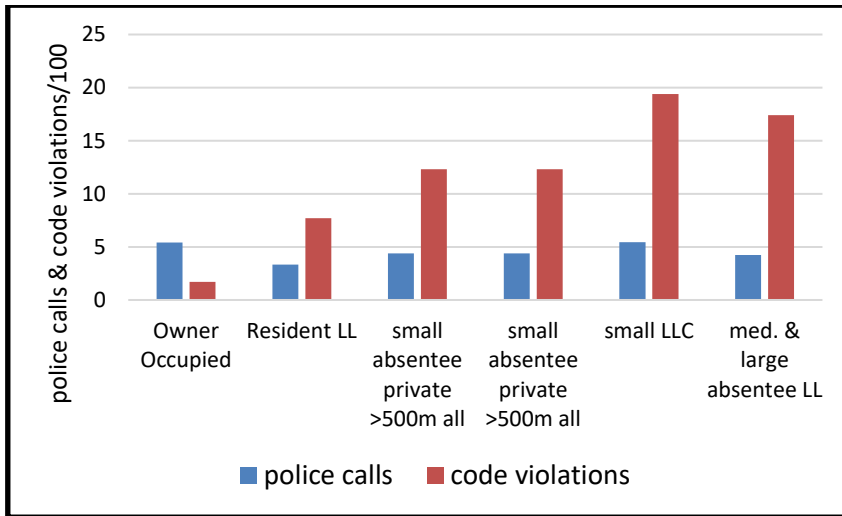


Figure 22: Building Maintenance by Type of Property Owner, Area 3, Rochester 2017

Graphs were created for all three areas showing the impact of maintenance by the distance from the landlord’s home, but no discernable pattern was found. This and the three previous figures are examples demonstrating the messy reality of small area analysis, where local factors play larger roles and outliers have a greater impact. They also suggest the hesitation needed in extrapolating from general observations. One constant still prevails. Property manager operated buildings are still among the most poorly maintained and are not even present in the more affluent area 3.

## Chapter 5: Change in Rochester, 2011-2017

An explanation of changes related to tenure type and property maintenance turned out to be interesting. This study is, unfortunately, lacking maintenance statistics for Rochester in 2011, meaning we only had the end situation for each property. Thus we cannot know the direction of change. However, it is possible to observe changes in tenure and type of landlord over the six-year period, all of which might suggest the trajectory of maintenance outcomes.

Table 23: Change in Ownership and Dwelling Characteristics of Residential Properties in Rochester, 2011-2017

tenure	Rochester - 2011				% change by 2017			
	buildings	units	unit value	average unit size	buildings	units	unit value	average unit size
2-6 units, residential landlord	3370	7260	43900	1120	-11	-13	8	0
2-6 units, absentee landlord	9040	21730	30100	990	-3	-4	15	4
1 unit, absentee-owned	11390	11390	46100	1350	18	18	11	3
1 unit, owner-occupied	29530	29530	75900	1490	-6	-6	11	1
<b>all Rochester</b>	<b>53330</b>	<b>69910</b>	<b>59700</b>	<b>1350</b>	<b>0</b>	<b>-2</b>	<b>10</b>	<b>2</b>
absentee 2 unit	6950	13900	30300	1020	-1	-1	14	5
resident 2 unit	2970	5930	43500	1130	-11	-11	7	0
absentee 3 unit	1050	3160	32800	930	-10	-10	23	2
resident 3 unit	300	900	50400	1060	-19	-19	15	1
absentee 4 unit	670	2690	25000	830	-10	-10	18	4
resident 4 unit	70	280	37400	930	-7	-7	-11	0
absentee 5 unit	213	1065	28500	820	-3	-3	22	2
resident 5 unit	12	60	37200	1010	-33	-33	12	-3
absentee 6 unit	163	980	25600	760	-11	-11	20	4
resident 6 unit	4	24	37600	890	75	75	-26	-21

It appears that the biggest tenure change in Rochester between 2011 and 2017 is an 18% increase in the number of single-family absentee-owned buildings (Table 23). As there is only a 6% decrease in owner-occupied homes, the implication is that some were originally multifamily resident landlord buildings, which saw an 11% drop, some might have been multi-unit absentee-owned buildings, which saw a drop of 3% and some were new builds that either started as absentee-owned, or changed to that status within the six-year period. The number of resident

landlord units shrank by 13% and the number of owner-occupied properties by 6%. There was a 4% unit drop in 2-6 unit absentee-owned buildings in spite of the drop of 13% in resident landlord units. Average unit values were up across the board. Likely demolition of low-value properties was part of the reason but, because few units were removed, the main explanation would be increases related to recovery from the 2009 recession. Absentee-owned properties had proportionately similar experiences to other tenure, though this was from a smaller base value. Absentee-owned property was the only tenure experiencing a change, in this case an increase in unit size, suggesting that buildings removed contained smaller units, perhaps buildings newly converted to absentee ownership were somewhat larger, and consolidation of duplexes making larger single units.

There was a net drop of 655 multi-unit buildings. Many must have been demolished and likely the balance were buildings reverting to single-family homes. 208 buildings had construction dates after 2011, 117 of which were absentee-owned in 2017. There was a net loss of 230 buildings between 2011 and 2017, 0.4% of all buildings, presumably the total of additions and net losses represents demolitions.

When looking at a breakdown of change experienced by different types of absentee owners, small private owners saw the greatest drop in numbers of units, with a 5% drop in single-family homes and a 28% drop in units in multi-unit buildings (Table 24 and Figure 23). As this is the largest group, it represents most of the change in the city. In contrast, the number of small LLC landlords almost doubled, increasing 88% for single-family homes and 82% for multi-unit buildings. Some of these are likely just a change in legal status, without a change in the underlying owner. Medium sized landlords experience a notable increase (+25%) in single-family homes, but had a small drop in multifamily units. Large landlords increased substantially, both in terms of single-family homes, (+43%) and multi-unit, at (+66%). No attempt was made to look at change for property managers, which likely would be difficult to do, as the 2017 statistics for property managers were almost certainly incomplete, making the older information even more suspect, especially in terms of comparing the two.

Table 24: Dwelling Units Owned by Different Types of Property Owners, Rochester, 2011 and Net Change, 2011-2017

2011					
type of property owner	type of property				
absentee	single family	unit value	multi- unit	unit value	% single family
Small Private (1-10 units)	7480	47700	12680	32300	37%
Small LLC (1-10 units)	735	55100	1360	30100	35%
Medium (11-40 units)	1945	39700	5100	26300	28%
Large (41+ units)	1230	43200	2588	25100	32%
<b>total absentee landlords</b>	<b>11390</b>	<b>46100</b>	<b>21728</b>	<b>30100</b>	<b>34%</b>
Resident landlord	0		7260	43900	0%
Owner-occupier	29530	75900	0		100%
<b>totals</b>	<b>52310</b>	<b>67600</b>	<b>50716</b>	<b>33800</b>	<b>51%</b>
% change 2011-2017					
small private (1-10 units)	-5%	16%	-28%	17%	18%
small LLC (1-10 units)	88%	0%	82%	31%	2%
medium (11-40 units)	25%	13%	-6%	16%	22%
large (41+ units)	43%	8%	66%	19%	-10%
<b>total absentee landlords</b>	<b>17%</b>	<b>11%</b>	<b>-4%</b>	<b>15%</b>	<b>13%</b>
resident landlord			-13%	8%	
owner-occupier	-6%	11%			
<b>totals</b>	<b>3%</b>	<b>9%</b>	<b>-5%</b>	<b>3%</b>	<b>-23%</b>

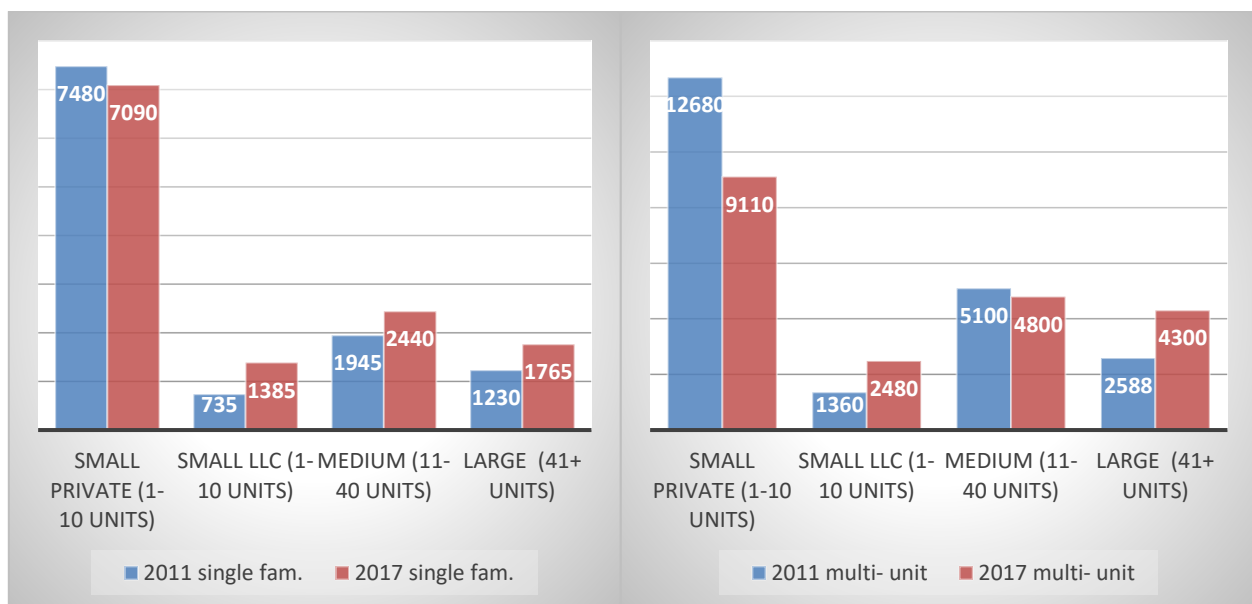


Figure 23: Change in the Residential Units Owned by Different Types of Absentee Landlords, Rochester, 2017



It has been noted previously that medium and large landlords seem to have very similar experiences, but there does seem to be a significant difference in the change of proportion of single-family holdings, with the medium landlord's proportion increasing by 22% while large's proportion decreased by 10%. This is further complicated by the fact that although large landlords did have an increase in the number of single-family buildings, they had an even larger increase in the number of multifamily units.

For all the change information from this table, it is unknown (though it could theoretically be explored) how much represents a growth in the size of existing landlords, such that small becomes medium, and medium becomes large, and how much is the entry of more large owners, and the loss of smaller ones. No doubt there were also situations where larger landlords reduced their holdings. As Figure 24 shows, there has been significant consolidation, as the overall proportion of absentee-owned units belonging to small owners dropped from 67% to 59% with most of the increase going to large owners that grew from 12% to 20% of all absentee-owned units.

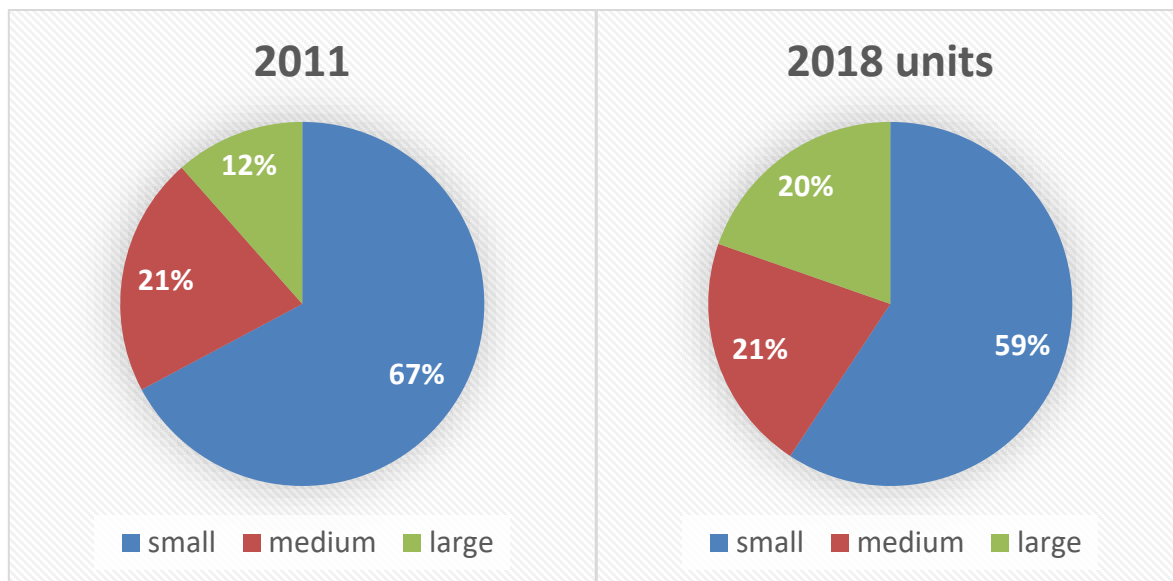


Figure 24: Change in the Proportion of Residential Units Owned by Different Sizes of Absentee Landlords

## Changes to distance between absentee landlord and rental property

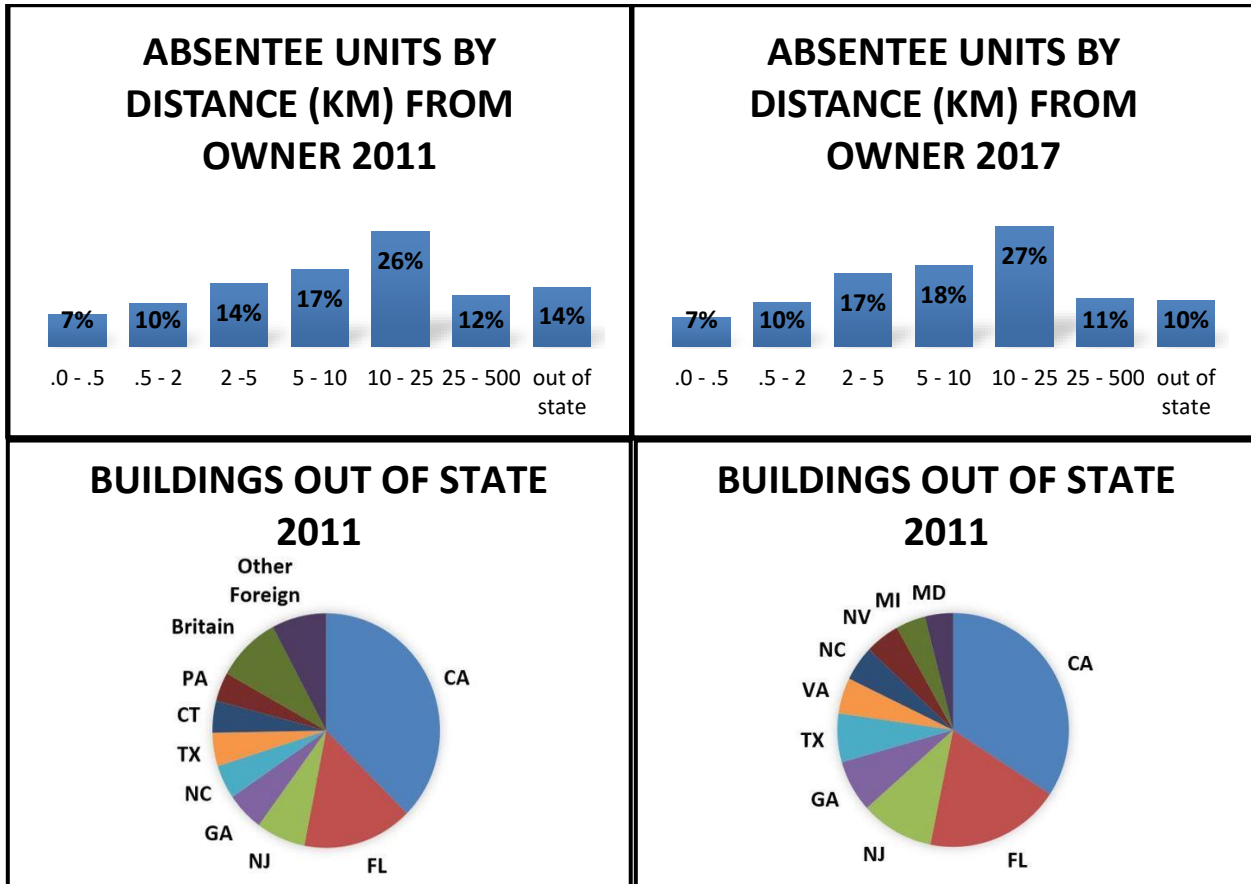


Figure 25: Distance (km) Between Units and Owners & Location of Out of State Owners 2011-2017

The distance between absentee owners and their rental properties did not change much over this time period (Figure 25). Short distances, 0 – 2km. had the same proportions in both 2011 and 2017. Medium distances, 2 – 25km, saw increases of 1-3%. There was a slight drop in the 25-500km (in-state) grouping. As there was an overall increase in the number of absentee owners, it seems this was distributed evenly across all distances. This is true whether looking at specific distances, or jurisdictional changes (Figure 26.) The one anomaly was out of state landlords, which dropped by 4%. However, as the bottom half of Figure 25 indicates, all foreign ownership seems to have disappeared. This seems unlikely. Random checks of foreign-owned properties in Rochester for 2011 and comparisons to the owner address of the same properties in 2017<sup>16</sup> seems to suggest that all received new American addresses. One interesting example was a group of over 100 units that had mailing addresses on the same street in a city in Kuwait in 2011. The 2017 data showed 82

<sup>16</sup> None were found missing in 2017.

of these units as owned by some entity (or group) at an address in downtown Rochester. Though nothing could be found online about this new address, it looks like a warehouse, it seems likely that this is some form of property management arrangement. However, most examples found were much less exotic. The properties simply had a new more local address. As this issue was not central to the research, no further investigation was pursued.

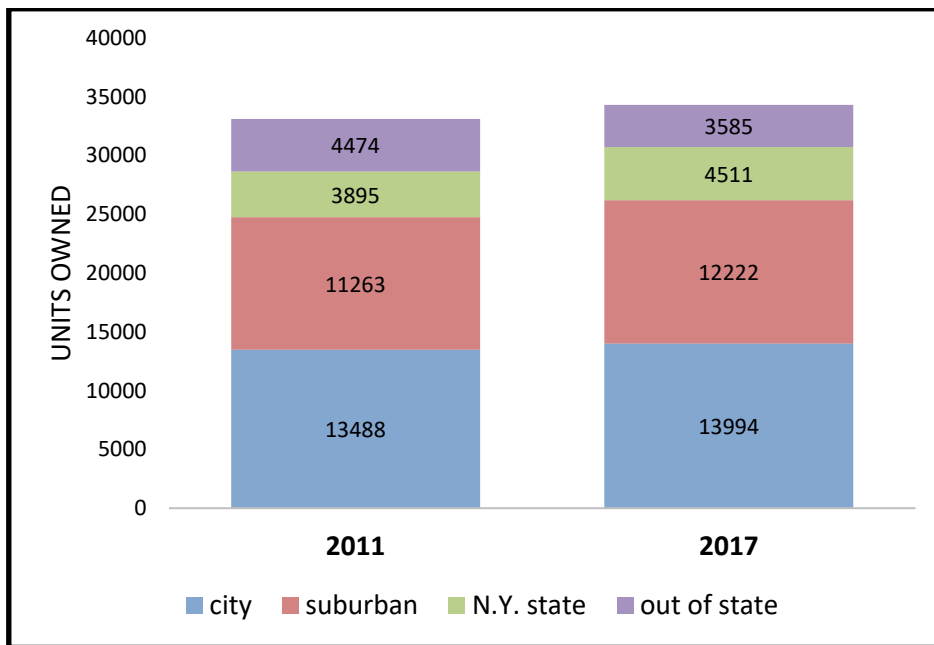


Figure 26: Home Location of Absentee Landlords, Rochester, 2011 and 2017

### Changes in Ownership and Tenure 2011-2017

This next section looks at two types of change in the ownership and/or tenure of buildings in Rochester. It provides a further understanding of whether and how these changes might have affected maintenance in 2017. The first part explores statistics related to a change in the location of the owner. This was further broken into absentee owners who moved to a different home location, and owners that either took up residence in property that they had previously owned in absentia or owners who moved out of their homes and rented them to tenants. The second part does the same, but with properties that changed hands.

## Same Owner

Table 25: Characteristics of Properties Whose Owners Move, 2011-2017

<b>SAME TENURE (absentee-owned)</b>							
<b>owner moved further away</b>							
	buildings	units	% of 2011	police calls	all absentee	code violations	all absentee
all	1496	2391	11	10	10.1	24.9	25.9
> 25km	330	562	2.6	9		27.6	
0 - 25 km	1166	1829	8.4	10.3		23.9	
Owner moves from local to far^	138	238	1.1	10.1		34.8	
^ was < 25km, now > 500km							
<b>owner moved closer, to within:</b>							
all	899	1453	6.7	10.7	10.1	25.5	25.9
0 - 25 km	646	1048	4.8	10.1		25.1	
>25 km	253	405	1.9	12.2		26.1	
<b>Total</b>	<b>2395</b>	<b>3844</b>	<b>17.7</b>				
<b>CHANGE IN TENURE</b>							
<b>owner becomes a resident</b>							
all	522	687	3.2	7.9	10.1	14.2	25.9
single family	381	381	1.8	9.3	10.9	12.6	25.2
multi family	141	306	1.4	6.2	8.7	18.4	27.1
<b>owner becomes absentee</b>							
					resident-owned		resident-owned
all	1513	1935	5.3	7	5.7	20.9	5.8
single family	1161	1161	3.9	8.1	5.8	21.1	4
multi family	352	774	10.7	5.4	5.2	20.2	13.5
owner moves >100km	298	364	1	6.5	5.7	26.2	5.8
large owners	46	76	0.2	8.5	5.7	23.9	5.8
<b>Total</b>	<b>2035</b>	<b>2622</b>	<b>8.5</b>				

4900 buildings (9.2% of Rochester) had owners whose home (or business) address changed over this six-year period, but still had the same owner (Table 25). In terms of units, 11% of all absentee-owned units experienced a landlord moving further away, while 6.7% had the landlord move closer. 395 of those recorded as having moved changed their address to a P.O. box and 139 changed their P.O. box. Some of these might not really be a change at all. Current code violation for this group as a whole saw little change, with the noticeable exception of those who moved far away. These newly distant landlord's properties experienced substantially higher code violation

rates of 34.8, compared to overall averages of 25.9. Police call rates were essentially unchanged by a move of the owner, regardless of the relative change in distance.

Change in tenure, while maintaining the same owner, seems to have created more dramatic impacts on property care. 1000 more owners became absentee than those who moved into their properties (replacing a tenant). Code violations for properties recently inhabited by the landlord seemed to have transitions: ranging from 14.2-18.4, much lower than absentee-owned properties average of around 26, but still higher than 5.8, the overall averages for resident owners. Police reports followed a similar pattern. Properties belonging to owners that became absentee landlords saw the pattern reversed. The code violations jumped, compared to resident-owner rates, yet not as high as the averages for absentee-owned properties, with the exception of those moving more than 100km away, who's code rate was fully that of the average of absentee owners. Also, the few recorded as being taken over by large owners saw code violations become almost as high as absentee-owned averages.

### *Change of Owner*

There were 12,000 buildings that were found to have a change of owner representing 22.5% of all Rochester buildings (Table 26). 6300 buildings saw a change in absentee owner, 31% of the 2011 absentee-owned buildings. Thus there was a fair bit more churn among absentee-owned properties than those of other tenures.

Absentee-owned buildings that saw a change in ownership had somewhat poorer average code violation rates (29-32) than all absentee-owned properties (26). It seems that churn is not good for property maintenance. Differences in code violations related to change in distance were minor, though somewhat consistent with the theory that greater distance produces poorer outcomes. Having the owner move closer did not seem to help at all, but if the owner moved further away, their property experienced a 4-5% higher rate of code violations than if they had made a local move. Police statistics seem mostly unaffected by a change of absentee owner, except they showed an improvement (-3%) when the owner changed from one living out of state to one within 1km and a deterioration (+3%) when the new owner was from a different (non-N.Y.) state.

Table 26: Changes to property experience when there is a new owner, 2011-2017

<b>SAME TENURE (absentee-owned)</b>							
<b>new owner is further away</b>							
	buildings	units	% of 2011	police calls	all absentee	code violations	all absentee
> 25km	1086	1864	3.5	10.97	10.1	32.5	25.9
0 - 25 km	1685	2777	5.2	10.07		28.5	
from local owner to out-of-state	482	820	1.5	11.81		33.6	
<b>new owner is closer, to within:</b>							
0 - 25 km	1746	3001	5.6	10.3	10.1	31.5	25.9
>25 km	1820	3030	5.7	10.63		32.1	
Moved from one state to another	206	366	0.7	13.5		35	
<b>local owner sells to "neighbour"</b>							
original<5km moved <5km	799	1348	2.5	9.71	10.1	33.9	25.9
original<1km moved<1km	97	177	0.3	9.29		33	
<b>from out of state to local</b>							
moved to within 25km	997	1655	3.1	10.43	10.1	34.5	25.9
moved to within 1km	79	149	0.3	7.29		32.9	
<b>Total</b>	<b>6337</b>	<b>10672</b>	<b>20</b>				
<b>CHANGE IN TENURE</b>							
<b>from absentee to resident owned</b>							
ALL	2020	2614	7.9	8.23	10.1	14.2	25.9
Absentee owner out of state	369	476	1.4	9.06		17.9	
absentee owner < 25km	1411	1825	5.5	8.13		13.3	
absentee owner <1km	195	259	0.8	6.01		13.3	
<b>from resident to absentee-owned</b>							
					resident-owned		resident-owned
ALL	3289	3965	10.8	8.49	5.7	26.2	5.8
absentee owner out of state	378	445	1.2	10.11		40.2	
absentee owner < 25km	2529	3059	8.3	8.27		23.9	
absentee owner <1km	321	382	1.0	7.4		21.8	
<b>Total</b>	<b>5309</b>	<b>6579</b>	<b>18.7</b>				

Properties becoming absentee-owned outnumbered those becoming resident-owned by 1300 units. Those that became resident-owned experienced lower code violation rates (14) compared with absentee-owned units (26) but this rate was still substantially higher than the average for all resident-owned properties (6). This suggests another type of transition. Police rates

gave a similar story. Properties that became absentee-owned had similar code violation rates to the general average of all absentee-owned property but had slightly lower police rates, suggesting little or no transition in this case.

When the tenure did not change, i.e. an absentee owner sold to another absentee owner, code violation rates were 10-25% higher (28.5-32.5) than the average (25.9). The change in distance between landlord and rental property also had some impact. Those properties that were only a short distance further away scored in the lower range and those that were a greater distance away scored at the higher end of code violations. Likewise, those that were now closer to the new owner experienced slightly better rates. Police incident rates seemed unaffected compared to the average with the exception of properties owned by someone who moved from out of state to within 1km. In this case, there was a 25% drop in the police rate. This makes intuitive sense, but there were only 79 buildings in this example limiting the significance of this observation.

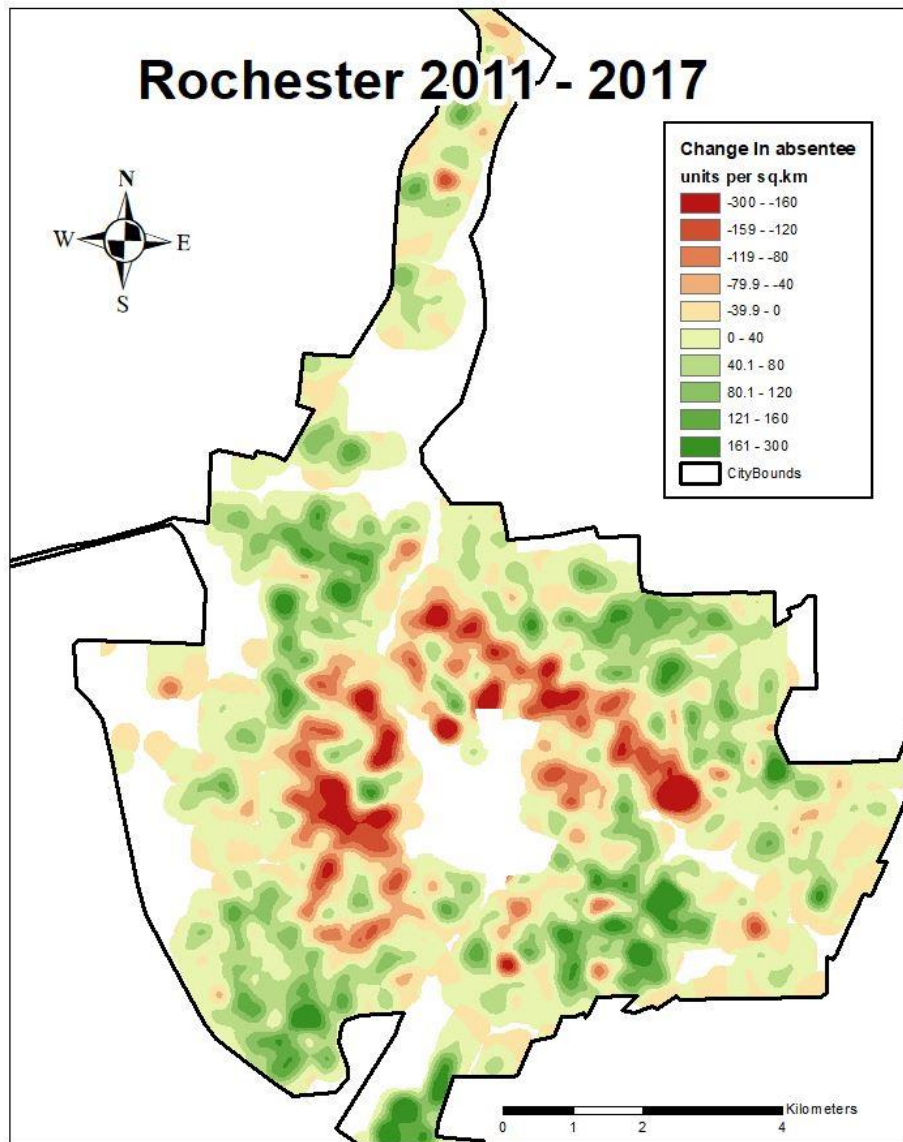


Figure 27: Change in the Unit Density of Absentee-Owned Properties 2011-2017



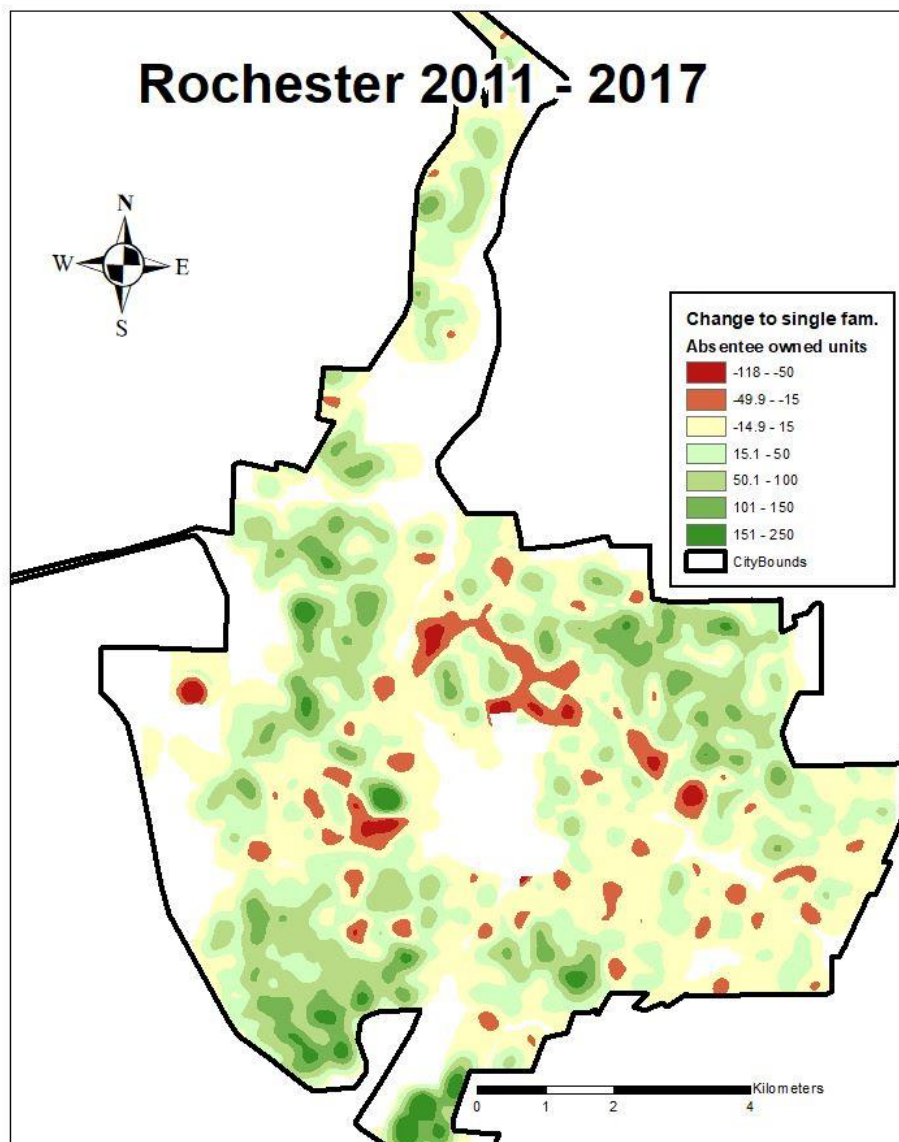


Figure 28: Change in the Unit Density of Single-Family Absentee-Owned Properties 2011-2017

Mapping the changes noted in previous tables reveals a distinct pattern which shows a reduction in numbers/density of absentee-owned units in the non-white areas surrounding downtown, and an increase, or no change, further away (Figure 27). This seems unlikely to be a gentrification story, as earlier data showed no increase in property values in these areas. This is, at least partially, a demolition story. As mentioned earlier, there are 230 fewer building in the 2017 database even as 208 new buildings were constructed between 2011-2017.

The changes in density of absentee-owned single-family homes seem to have experienced a somewhat similar pattern. There is a net growth of 18% in absentee-owned single-family homes. This must be some combination of demolition, conversion of multi-unit buildings to single-family,

or change of tenure to owner-occupied in the red areas, and a much larger change into absentee-owned in the green areas (Figure 28).

Table 27: Changes in Tenure and Assessed Values, Rochester, 2017

<b>from absentee owner to new resident-owner</b>	buildings	change in unit value	% 2011 unit value
ALL	2020	6400	0.18
Absentee owner out of state	369	3700	0.10
absentee owner < 25km	1411	7000	0.20
absentee owner <1km	195	8600	0.24
<b>from resident owner to new absentee-owner</b>			
ALL	3289	3600	0.10
Absentee owner out of state	378	4300	0.12
absentee owner < 25km	2529	3500	0.10
absentee owner <1km	321	5400	0.15

Table 27 shows that changes in assessed values are impacted by tenure type. Buildings that became resident owned grew in value by almost double the amount of those that became absentee-owned, consistent with earlier observations that incidences of code violations were lower for those that properties that became resident-owned, and higher when they became absentee-owned. In both cases, property values were higher if they involved an absentee owner living less than 1km. from the property, providing further evidence of the positive impact on properties where the landlord lives nearby. Although the statistics show that there has been an overall increase in assessment values in Rochester between 2011-2017, Figure 29 shows that this is not the case across all geographies. In fact, most of the city saw a small drop in values, and this is without taking inflation into account. Also, there is a marked relationship between changes in value and race, with white neighbourhoods getting the lion’s share of this newfound wealth.

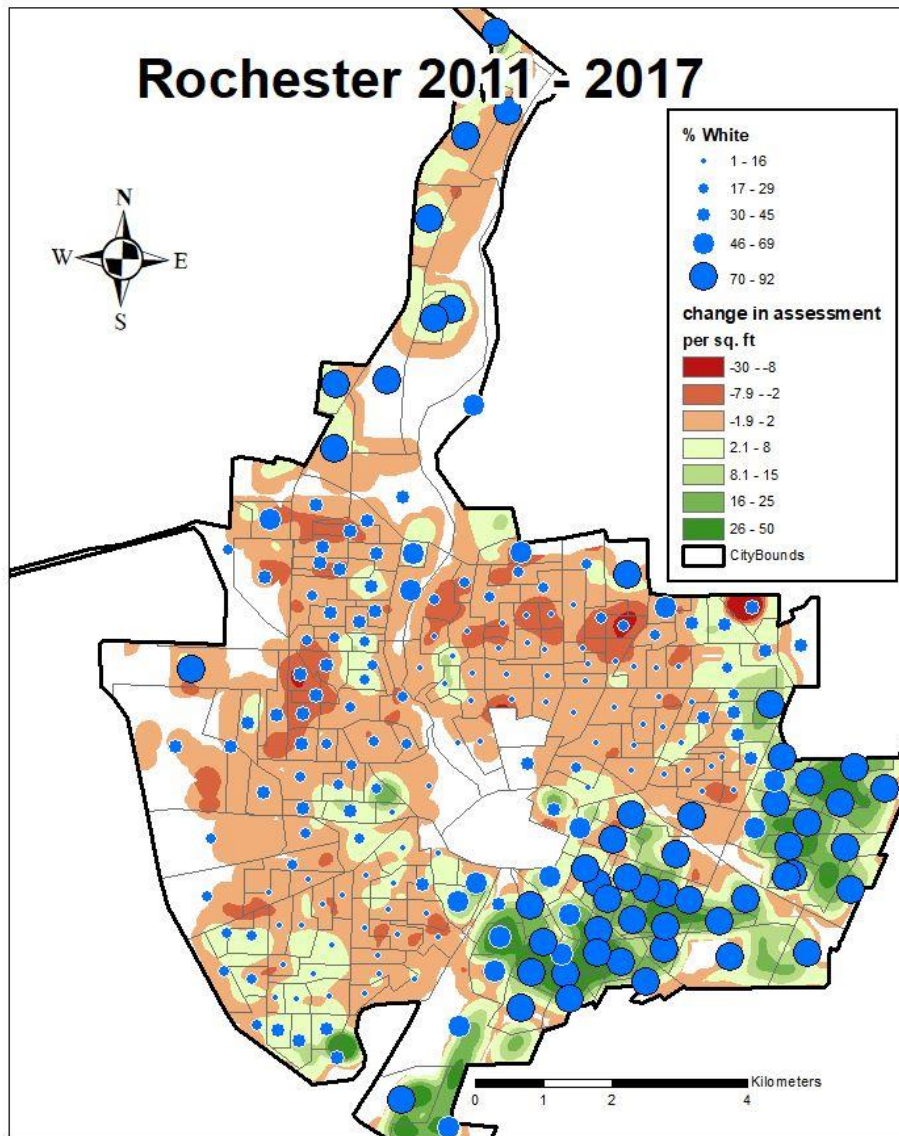


Figure 29: Map of Changes in Assessment Values Compared to Proportion White, Rochester 2011-2017

## Chapter 6: Three city comparisons

The goal of this section is to compare Buffalo and Syracuse to Rochester with an eye to determining how similar they are. This is being done to help establish how transferable Rochester’s maintenance results might be to Buffalo, Syracuse and other similar cities. Additionally, special attention was paid to variables that correlated well with maintenance rates in Rochester, to allow for plausible speculation about the maintenance situation in Syracuse and Buffalo. As was shown in Chapter 3, introducing the study areas, the cities are similarly scaled, with Buffalo having about a 30% larger population and Syracuse about 30% smaller than Rochester’s (Table 7).

There was a challenge with Buffalo’s data, as statistics for 4 – 6 unit buildings were unavailable. If one were to assume that the missing data had the same proportions as it does in Rochester, that would amount to approximately 7% of the total number of absentee-owned housing units (see more details in the limitations section). It is believed that the impact of this absence is likely minor. All tables and charts reflect the data available and do not account for the missing information from Buffalo.

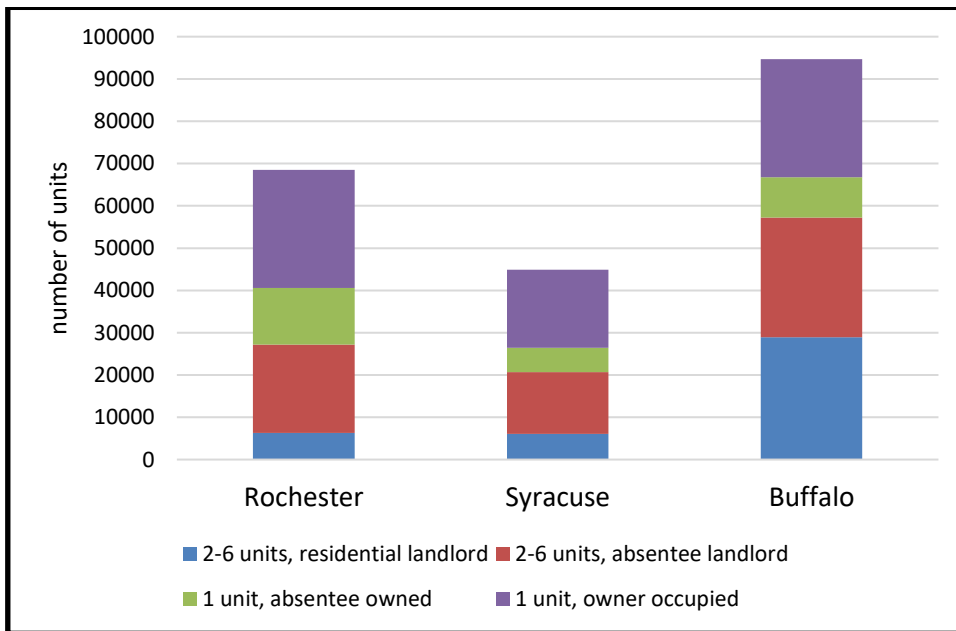


Figure 30: The Tenure Composition of Residential Properties in Rochester, Syracuse, and Buffalo, 2017

Absentee ownership levels are similar in all three cities, accounting for 51% of units in Rochester, compared to 46% in Syracuse (Table 28). Though Buffalo has fewer, at 42%, this is

missing the 4-6 unit absentee-owned properties. However, absentee-owned single-family homes are more preponderant in Rochester, where they account for 20% of all housing units, compared to 13% for Syracuse and 10% for Buffalo. Buffalo has the smallest proportion of owner-occupied single-family homes as well, at 29%, compared to 41% for both Rochester and Syracuse. The biggest tenure difference is the proportion of resident landlord properties. These are relatively uncommon in Rochester and Syracuse, accounting for approximately 10% of residential units, but 31% in Buffalo. Figure 30 provides a graphic representation of the tenure distribution in the three cities. Average assessed unit values are 9% lower in Syracuse and 18% lower in Buffalo than they are in Rochester. Buffalo's values would be lower yet if the 4-6 unit buildings were included, as multi-unit buildings are less valuable on a per unit basis.

Table 28: Ownership and Characteristics of Residential Properties in Rochester, Syracuse and Buffalo, 2017

<b>Rochester 2017</b>	<b>buildings</b>	<b>units</b>	<b>% Units</b>	<b>unit value</b>
2-6 units, residential landlord	3000	6300	9%	47200
2-6 units, absentee landlord	8800	20900	31%	34700
1 unit, absentee-owned	13400	13400	20%	51300
1 unit, owner-occupied	27900	27900	41%	84600
<b>all Rochester</b>	<b>53000</b>	<b>68500</b>	<b>100%</b>	<b>65800</b>
<b>Syracuse 2017</b>	<b>buildings</b>	<b>units</b>	<b>% Units</b>	<b>unit value</b>
2-6 units, residential landlord	2860	6070	14%	32200
2-6 units, absentee landlord	6040	14610	33%	28400
1 unit, absentee-owned	5750	5750	13%	56000
1 unit, owner-occupied	18500	18500	41%	76100
<b>all Syracuse</b>	<b>33160</b>	<b>44930</b>	<b>100%</b>	<b>59600</b>
<b>Buffalo 2017</b>	<b>buildings</b>	<b>units</b>	<b>% Units</b>	<b>unit value</b>
2-6 units, residential landlord	14200	28900	31%	31900
2-6 units, absentee landlord	13700	28300	30%	23700
1 unit, absentee-owned	9560	9560	10%	45900
1 unit, owner-occupied	27900	27900	29%	82100
<b>all Buffalo</b>	<b>65400</b>	<b>94600</b>	<b>100%</b>	<b>53700</b>

## Types of properties owned by different sizes of absentee landlords

In all three cities, unit values are inversely related to the size of the landlord. In Rochester, units owned by small landlords are 15-20% more valuable than those belonging to large landlords. For Syracuse, they are 12-15% more valuable, and for Buffalo, they are 25-30% more (Table 29). Only 4% of Buffalo's units belong to large landlords compared to 15% in Syracuse and 16% in Rochester (Figure 31). Buffalo has the highest proportion of small absentee owners, at 84%, compared to 68% in Syracuse and 60% in Rochester. Combined with the fact that it has significantly more resident landlords, this suggests that ownership of Buffalo's rental stock is rather different than for the other two cities in ways that point to slightly better standards of property maintenance.

Table 29: Dwelling Units Owned by Different Sizes of Absentee Landlords, Rochester, Syracuse and Buffalo, 2017

	type of property				
<b>Rochester 2017</b>	single family	average unit value	multi- unit	average unit value	% single family
small (1-10 units)	8570	54700	11820	37900	42%
medium (11-40 units)	2200	45200	4800	30600	31%
large (41+ units)	2590	46600	4300	29200	38%
<b>totals</b>	<b>13360</b>	<b>51300</b>	<b>20920</b>	<b>34700</b>	<b>39%</b>

	type of property				
<b>Syracuse 2017</b>	single family	average unit value	multi- unit	average unit value	% single family
small (1-10 units)	4290	58300	9080	29500	47%
medium (11-40 units)	730	49900	3000	26700	24%
large (41+ units)	730	48500	2540	26000	29%
<b>totals</b>	<b>5750</b>	<b>56000</b>	<b>14620</b>	<b>28400</b>	<b>39%</b>

	type of property				
<b>Buffalo 2017</b>	single family	average unit value	multi- unit	average unit value	% single family
small (1-10 units)	7830	47800	24010	24200	33%
medium (11-40 units)	730	39200	3470	22300	21%
large (41+ units)	540	33700	980	18400	55%
<b>totals</b>	<b>9100</b>	<b>56000</b>	<b>28460</b>	<b>28400</b>	<b>32%</b>

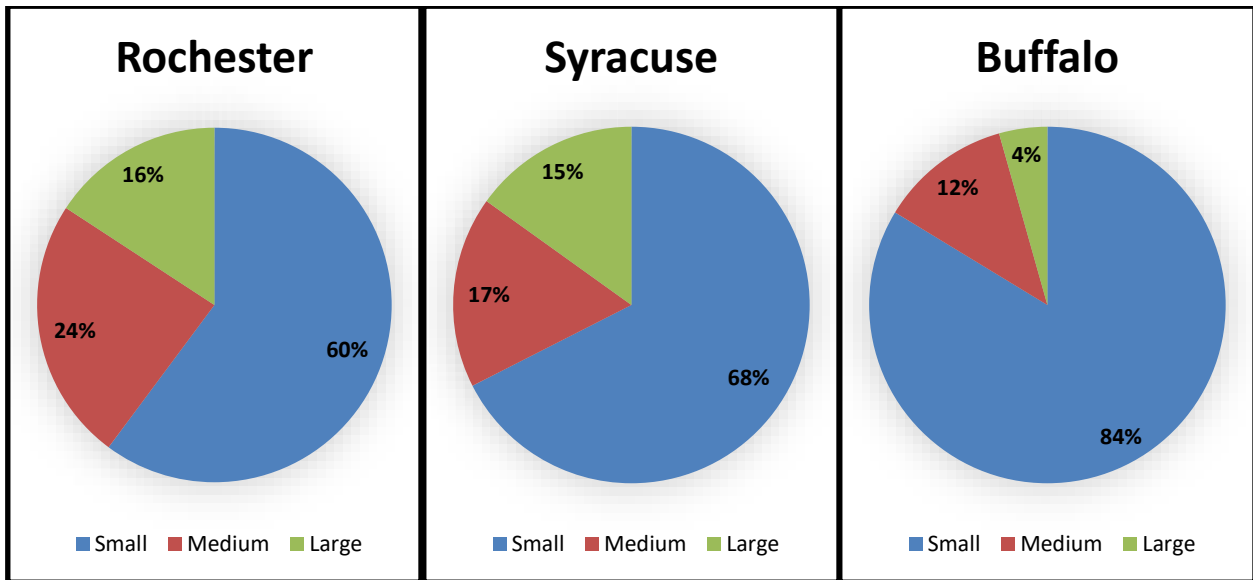


Figure 31: Residential Units Owned by Different Sizes of Absentee Landlords, 2017

A look at the geographical distribution of landlords in the three cities was done to provide another perspective on how comparable they are. Syracuse and Buffalo are similar to Rochester, in that small and medium-sized landlords are distributed fairly evenly throughout the metropolitan area with very few immediately beyond this (Figure 32, Figure 33, & Figure 34). The most obvious difference is the larger number and broader distribution of Rochester’s large landlords compared to the other cities. Although it is not possible to predict differences in maintenance outcomes based on these maps, their similarity assists in anticipating that Rochester’s outcomes could be generalizable to Syracuse and Buffalo.

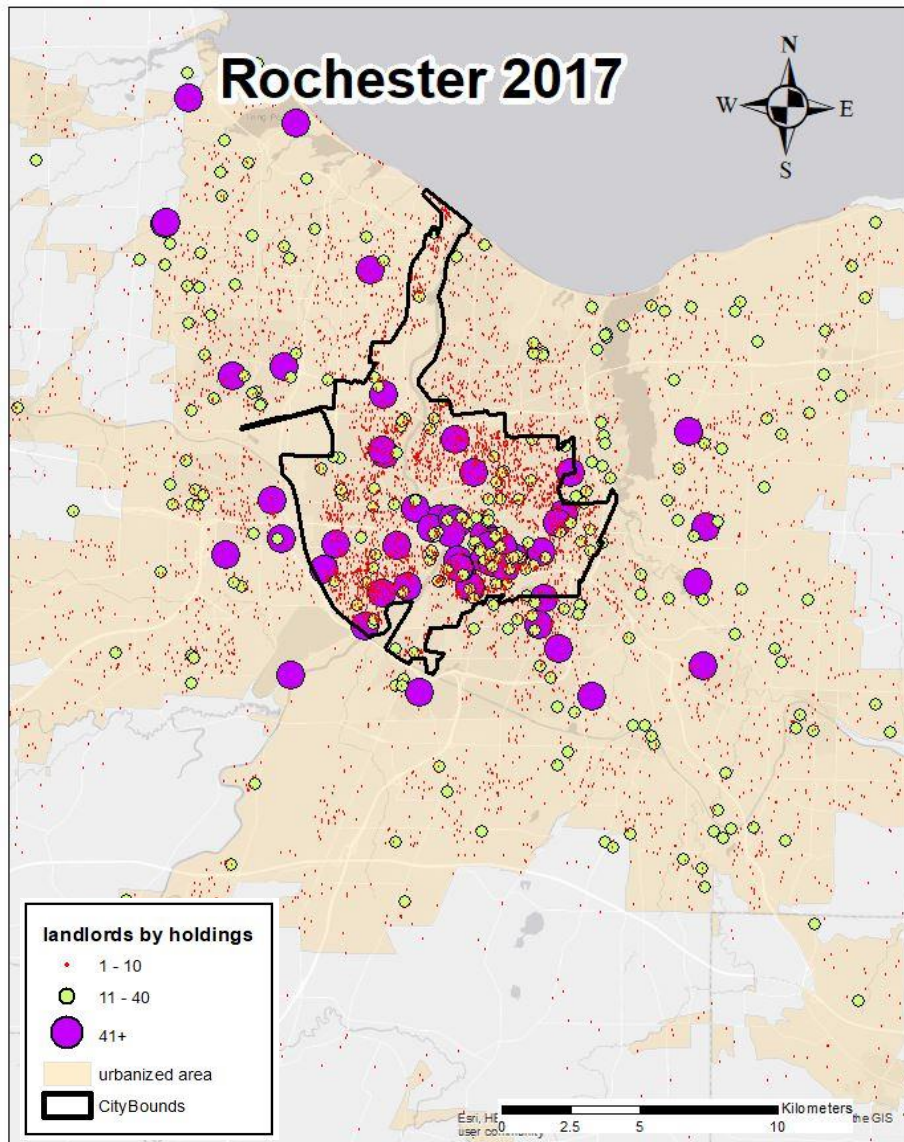


Figure 32: The Home Location of Landlords of Different Sizes, Rochester, 2017



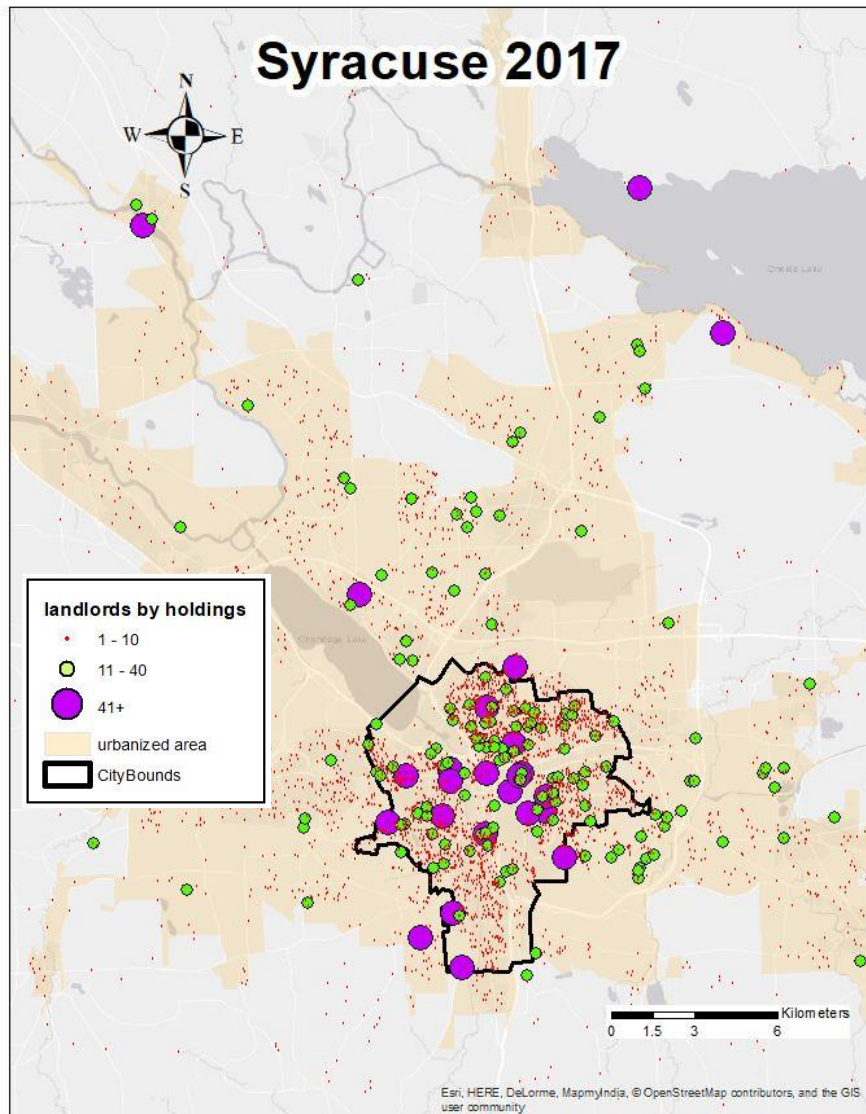


Figure 33: The Home Location of Landlords of Different Sizes, Syracuse, 2017

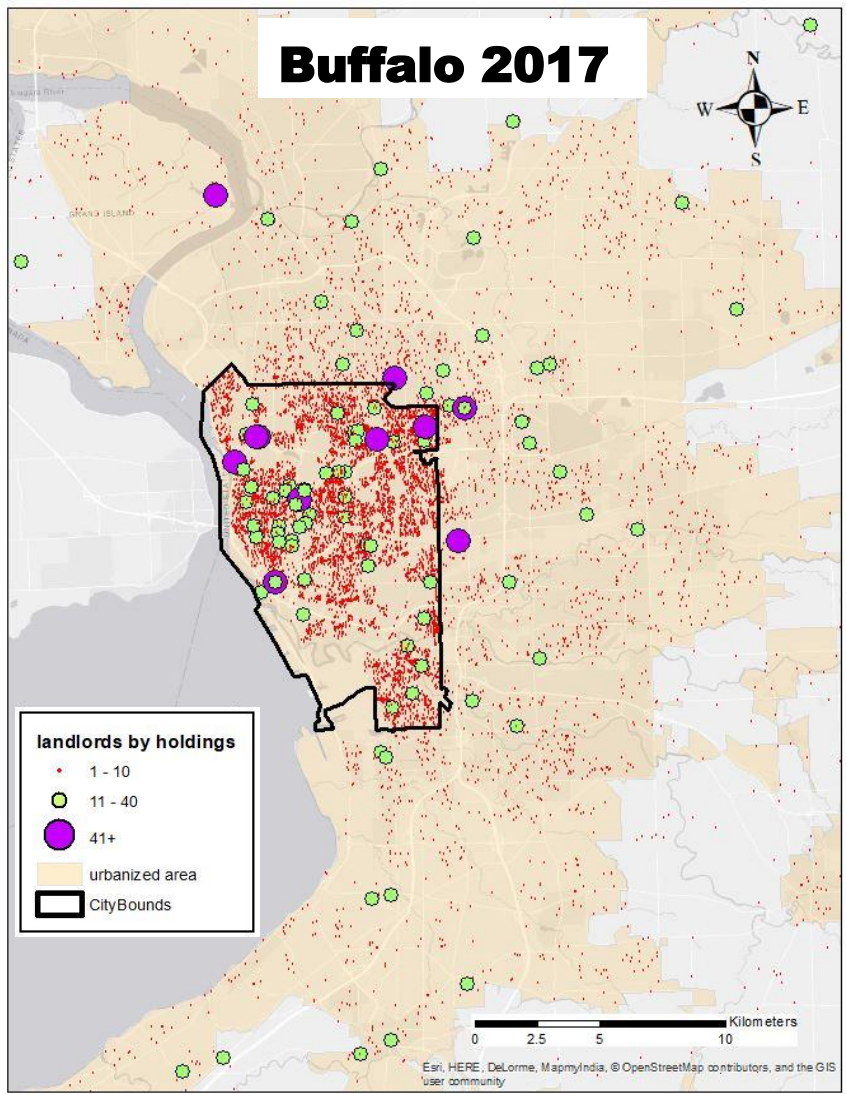


Figure 34: The Home Location of Landlords of Different Sizes, Buffalo, 2017

It was found that the distance between a landlord’s home and rental property had an effect on maintenance outcomes in Rochester. Thus, it was logical to compare the three cities on this variable. The charts in Figure 35 give some indication of the relative distances between the absentee landlord’s home, and their property. The distance groupings in the bar charts were based on natural breaks for the Rochester area. There is a relatively obvious drop off after 25km in Rochester. However, this is not matched in Buffalo or Syracuse, which could mean that a slightly larger distance would have been more appropriate for these cities. This is supported by the fact that the jurisdictional distribution of landlords is very similar for all three cities (Figure 36). Had time permitted it might have been interesting to learn whether the mix of types of landlords varies for different jurisdictions or distances. At 7%, Rochester has proportionately far fewer landlords

within 500m, compared to 11% in Syracuse and 13% in Buffalo. This matters as it has already been shown, in Rochester, that maintenance outcomes are better for this group.

Buffalo experiences the largest impact of foreign (including Canadian) ownership, though it is still only about 3% of its absentee properties. This slightly elevated proportion is likely because of its proximity to Canada, and being a larger, more “international” city. Rochester data from 2017 showed no foreign ownership, most likely a problem with the data, but in 2011 it had a small proportion, slightly larger than in Syracuse. In terms of states that are home to landlords, California and then Florida are consistently the most significant in all three cities, perhaps because they are common retirement locations for people who used to live locally. In all three states, New Jersey is the third most significant home to landlords.

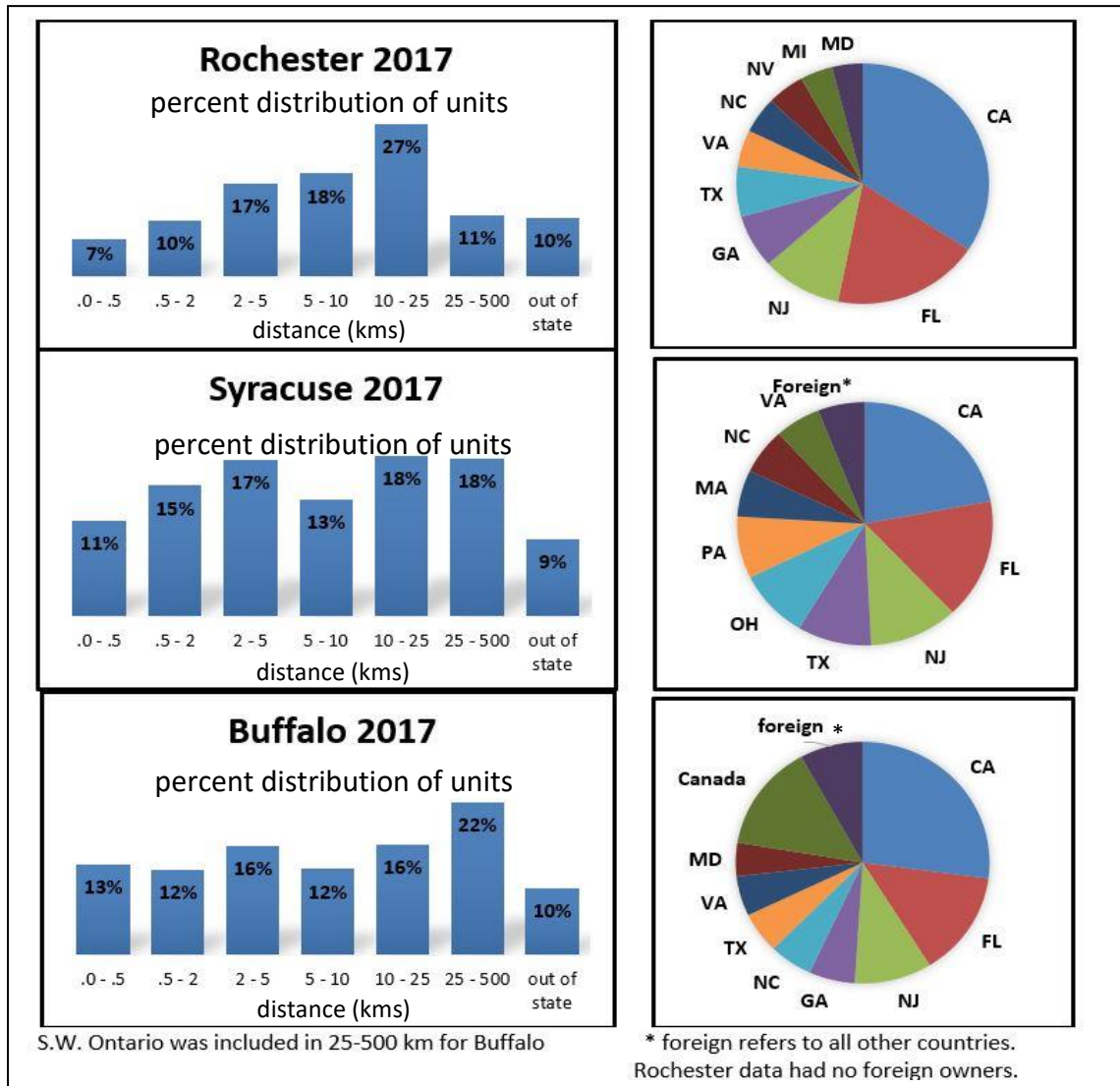


Figure 35: Distance Between Absentee Landlord and Their Rental Units and Location of Out-of-state Owners, Rochester, Syracuse, and Buffalo, 2017

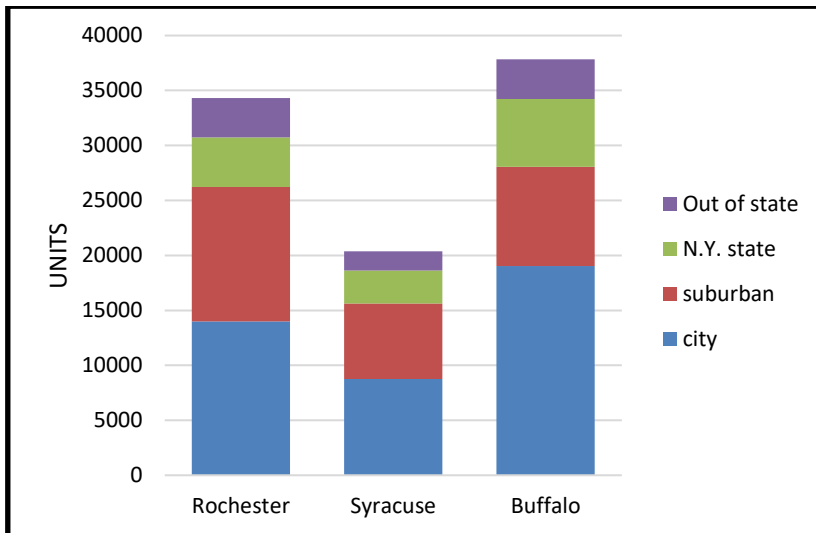


Figure 36: Jurisdictional Location of Landlords, Rochester, Syracuse and Buffalo, 2017

The following maps, Figure 37 and Figure 38, along with Figure 4, show the concentration of absentee-owned properties in each city. With the exception of Buffalo, resident landlords are a very small grouping and in all cases have shown no particular geographic pattern. Thus, at least for Rochester and Syracuse, these maps effectively also show the relative density of owner-occupiers, because their distribution is essentially the inverse of absentee-owned property. White areas on the maps that are within the city boundaries are census blocks that are substantially non-residential.

The concentration of absentee-owned units shows a concentric circle pattern for both Rochester and Syracuse. Interestingly, Buffalo does not exhibit this pattern, having more of a sectoral pattern. Historical review of city development, which is not a focus of this thesis, would likely help explain some of the differences, and geographic differences likely also play an important part. For example, only Buffalo is impacted by a coastline which runs along its west side.

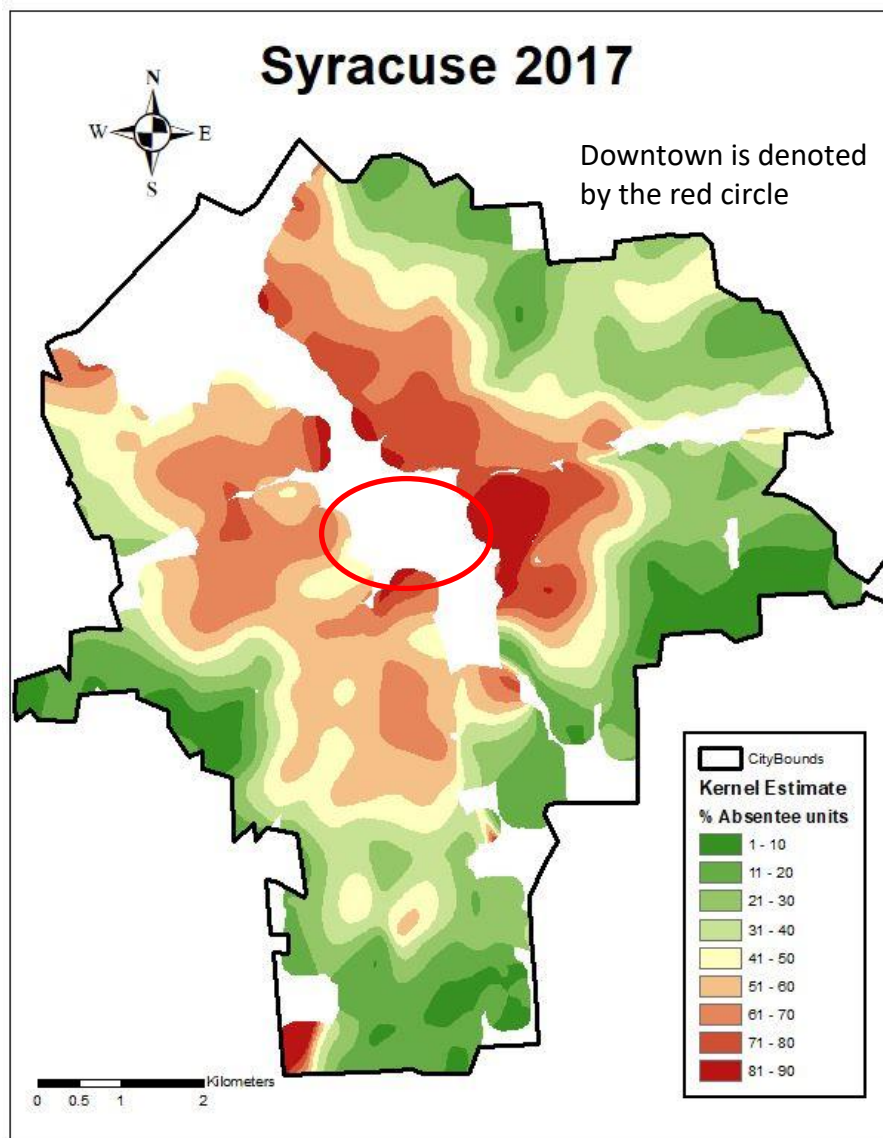


Figure 37: Concentration of Absentee-owned Property, Syracuse, 2017

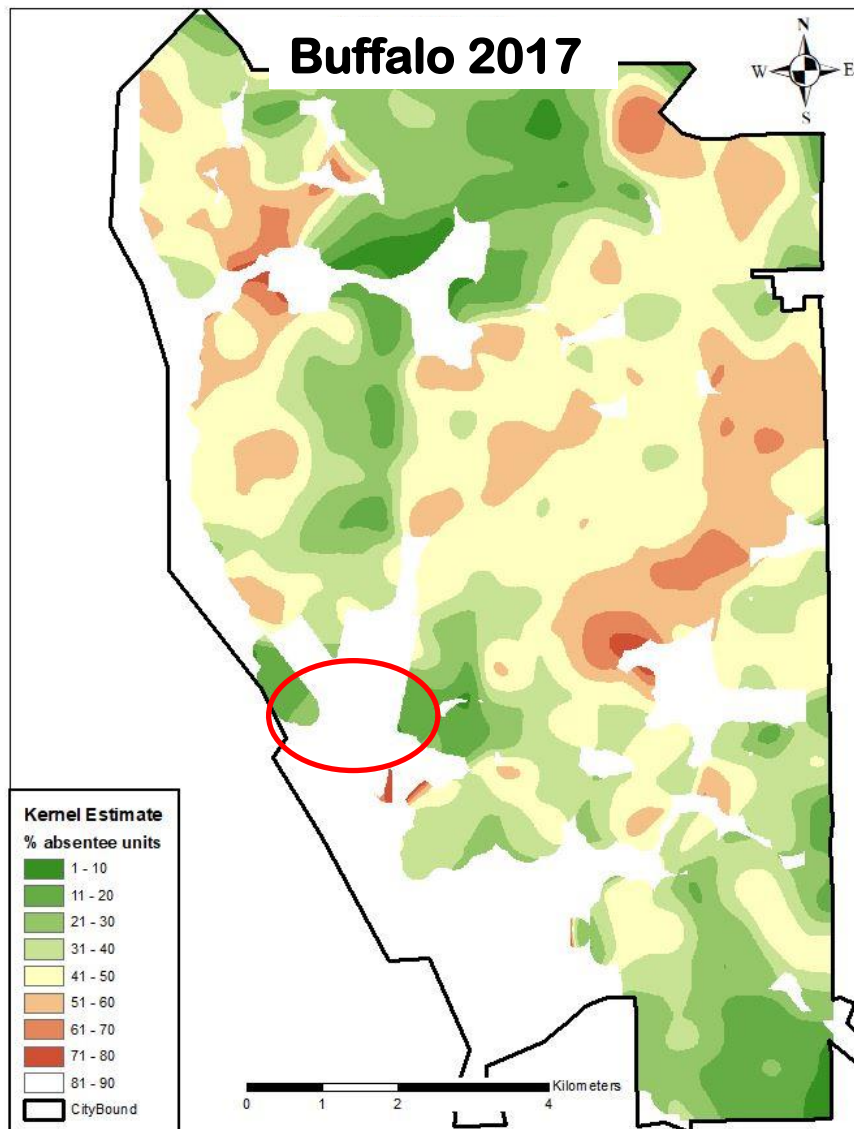


Figure 38 Concentration of Absentee-owned Property, Buffalo, 2017

## Demographics

As in Rochester, Figure 5, Figure 39 and Figure 40 show there is a close correlation between median family income and proportion “white” In Syracuse and Buffalo. Also, there are concentrations of blacks, and/or Latinos reaching ghetto-like densities in some parts, with Buffalo having the most extreme concentrations. There is sufficient overlap of race and income as to make it difficult to determine which variable is the most relevant to the conversation on tenure, and in that regard, these variables can be partial proxies for each other. As with tenure on the previous maps, the

pattern of distribution of income is roughly circular in Rochester and Syracuse, with higher income towards the outskirts, and for Buffalo, again, the pattern is more sectoral in nature.

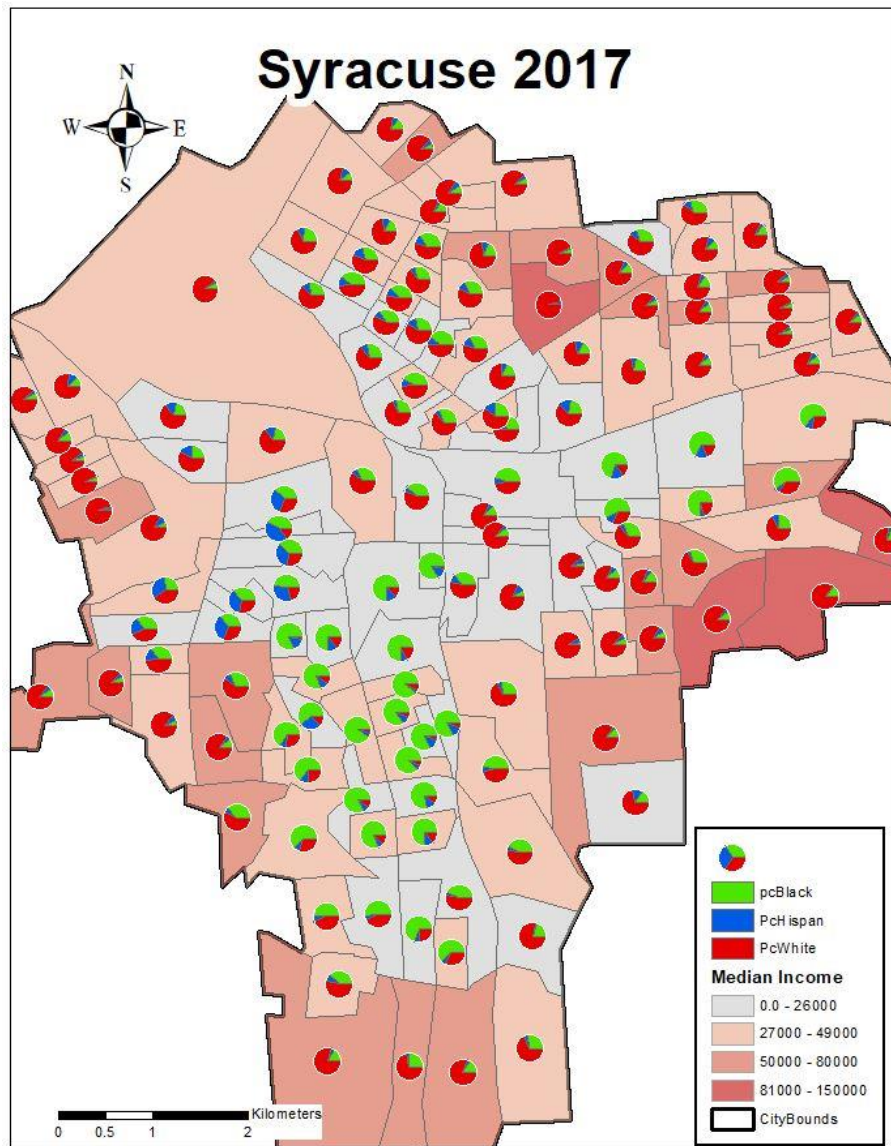


Figure 39: Distribution of Race and Income in Syracuse, 2017

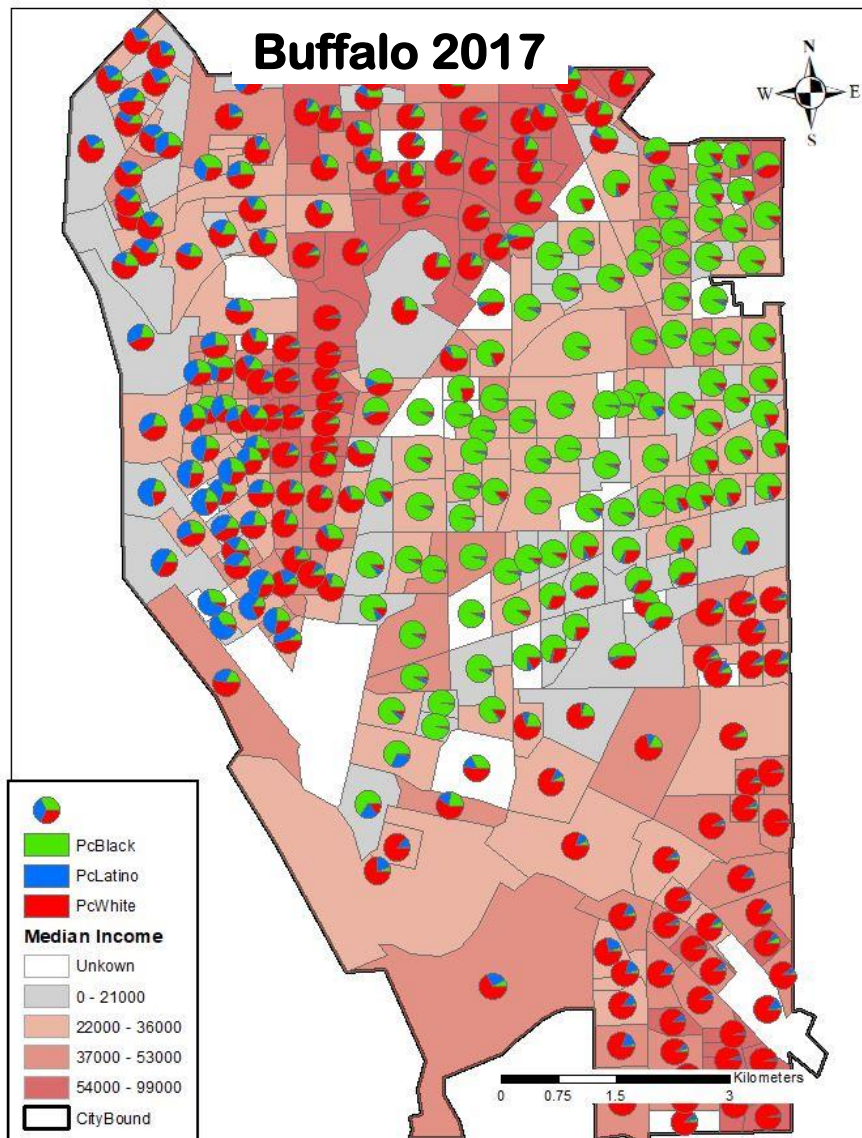


Figure 40: Distribution of Race and Income, Buffalo, 2017

### Relations at the census block scale

Key point data, code violations and police reports, were only available for Rochester. Too little data was available across all three cities to allow for a meaningful point data comparison, though this may not be too problematic as aggregated correlations proved stronger in Rochester, with the implication being that the neighbourhood scale was in many respects the most appropriate scale for comparisons.

A comparison of correlations in the three cities produced varied results. As can be seen in



Table 30, assessment per unit and median family income are both strongly correlated with the proportion of absentee-owned units (i.e. tenure) for all three cities, ranging from approximately 0.6 in Rochester and Buffalo to 0.5 in Syracuse. This matches earlier observations. Vacancy correlated much closer to tenure in Rochester, at 0.61, than in Syracuse. Vacancy data was not available for Buffalo. Correlations between tenure and race (% white) were relatively strong in Buffalo and Rochester, at 0.56 and 0.50 respectively, but much lower, at 0.38 in Syracuse. When comparing race to property values, results range with Buffalo being the least similar to Rochester. Rochester's correlation was particularly strong, at 0.75, Syracuse was fairly strong at 0.61, but the correlation was only .49 in Buffalo. Population density correlated modestly to tenure in Rochester, 0.33 and Syracuse, 0.43, but here the outlier was Buffalo where, at 0.07, there was effectively no correlation between these variables. Although there are some differences in correlations between the cities, the similarities outweigh the differences, suggesting that maintenance results in Rochester are generalizable to Syracuse and Buffalo.

Table 30: Correlations of Selected Demographics and Property Variables, Rochester, Syracuse and Buffalo, 2017

<b>Rochester 2017</b>	income	assess/unit	% absentee	% white	density
income	1.00	0.71	-0.61	0.65	-0.14
assess/unit	0.71	1.00	-0.64	0.75	-0.17
% absentee	-0.61	-0.64	1.00	-0.50	0.33
% White	0.65	0.75	-0.50	1.00	-0.20
density	-0.14	-0.17	0.33	-0.20	1.00

<b>Syracuse 2017</b>	income	assess/unit	% absentee	% white	density
income	1.00	0.69	-0.55	0.52	-0.33
assess/unit	0.69	1.00	-0.49	0.61	-0.34
% absentee	-0.55	-0.49	1.00	-0.38	0.43
% White	0.52	0.61	-0.38	1.00	-0.23
density	-0.33	-0.34	0.43	-0.23	1.00

<b>Buffalo 2017</b>	income	assess/unit	% absentee	% white	density
income	1.00	0.57	-0.59	0.54	0.09
assess/unit	0.57	1.00	-0.65	0.49	0.00
% absentee	-0.59	-0.65	1.00	-0.56	0.07
% White	0.54	0.49	-0.56	1.00	0.06
density	0.09	0.00	0.07	0.06	1.00

The historical pattern of housing construction and the proportion absentee-owned, by age of building, is very similar in all three cities. Figure 41, Figure 42, and Figure 43 show, perhaps better than any other example, how closely comparable Buffalo and Syracuse are to Rochester. The busiest period, in terms of houses that still exist, were the first three decades of the 20<sup>th</sup> century. There was brief growth in construction during the 1950s, post WW II, which is particularly strong in Syracuse.

It appears that older buildings are preferred by absentee owners in all three cities. The proportion of absentee-owned housing units dropped consistently with newer housing through the 1950s, with around 20% being the lowest. Interestingly, the proportion of absentee-owned housing goes up after 1960, perhaps a reflection of some 1-6 unit purpose-build rental housing. However, the small amount of new construction in these recent decades minimizes the significance of this fact. The great similarity, in all three cities, of housing development and proportion of absentee ownership across the age of homes furthers the hypothesis that maintenance results in Rochester are generalizable to Syracuse and Buffalo.

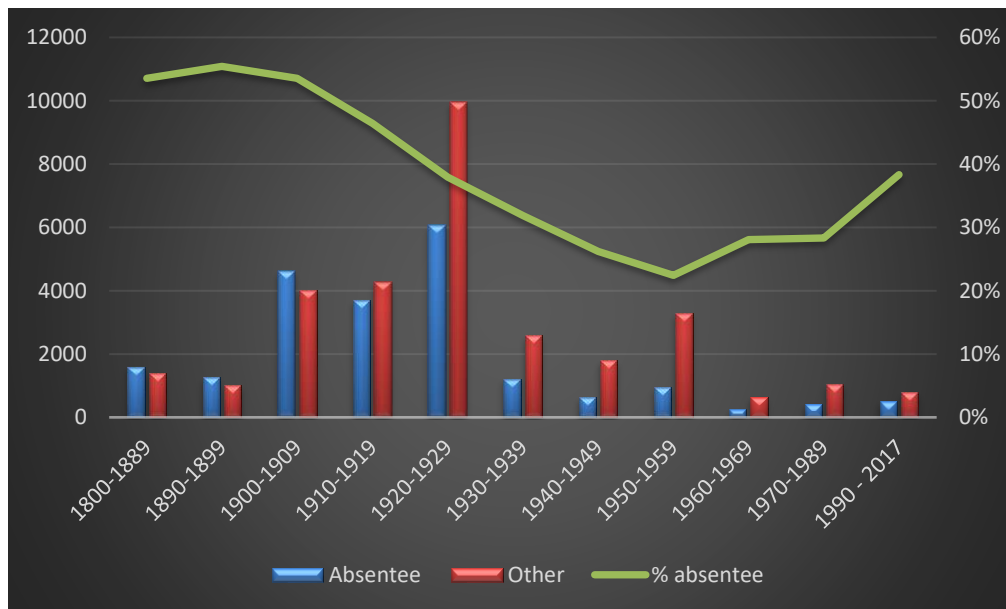


Figure 41: Distribution of Building by Age and Tenure, Rochester, 2017

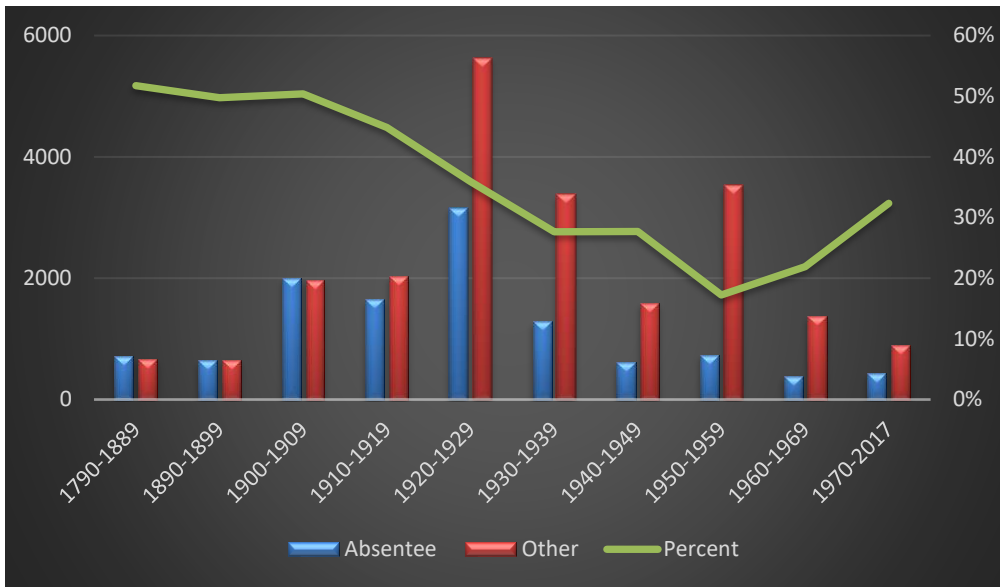


Figure 42: Distribution of Building by Age and Tenure, Syracuse, 2017

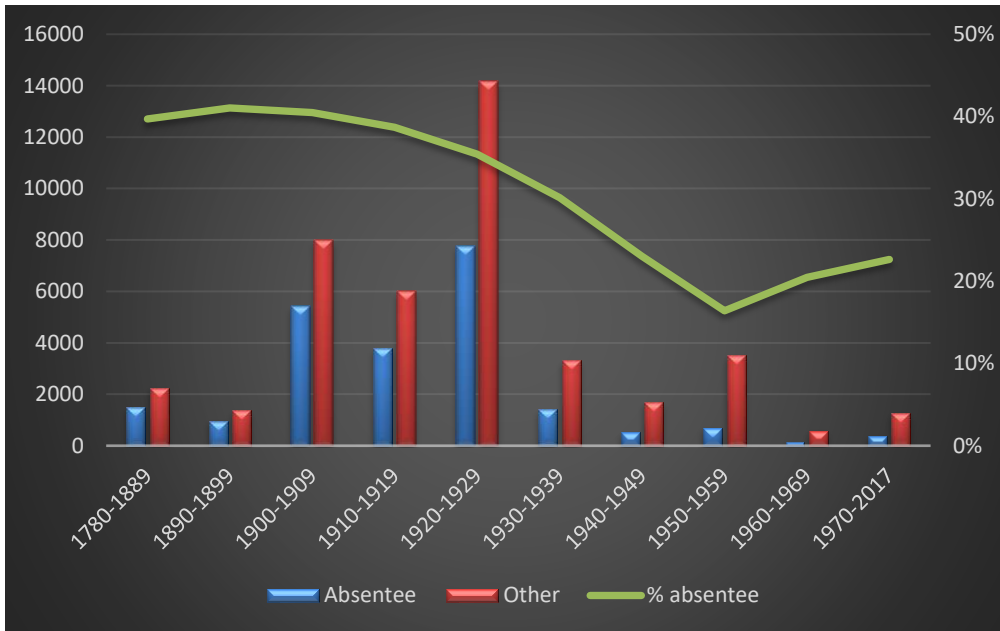


Figure 43: Distribution of Building by Age and Tenure, Buffalo, 2017

## **Chapter 7: Discussion**

### **Introduction**

The results in this study provide a number of improvements to what can be found in the literature. Data used represents nearly 100% of the properties in the study areas. Because it is open source city information linked via GIS it gives both reliable numbers for each variable and the relevant geography. This also means that a significant number of variables are available in a non-aggregated form, including two that can be used to measure maintenance outcomes. The number of buildings in this study is large: over 53,000 in Rochester, the main focus, as well as 33,000 in Syracuse and 65,000 in Buffalo. This is the first study, to this authors knowledge, that does a full comparison of all three tenure types. This study is very rich in data, as the scale of the results section indicates. This discussion will focus on a selection of these results deemed to be the most significant.

### **Tenure Matters**

The literature indicates consistently that absentee landlords spend the least on maintenance, have the worst maintenance outcomes and are most likely to delay or avoid repairs. A few studies concluded that resident landlords take better care of their properties than do absentee landlords, but we could find no indication of how resident landlords compare to owner-occupiers. There is also little in the literature to indicate how substantial the differences are between the tenures.

The key observation in this paper, when looking at averages for Rochester, 2017, was that owner-occupied properties have the least maintenance issues. Code violations were one-third of resident landlord properties, and one-sixth of absentee-owned properties (Table 14). This factor of six, between absentee landlords and owner-occupiers, is close to Galster's (1987) observations in Wooster, Ohio in the 1980s, where he noted that absentee owners were over "five times more likely to own dwellings having exterior defects" (p. 296).

When the property was a duplex, resident landlords showed less than half as many code violations as absentee-owned properties, 11.5% compared to 26.7%. This is similar to Sternlieb's (1966) observations in central Newark, where he found that only 10% of the resident landlord properties were poorly kept, compared to at least 21% for absentee-owned properties (p.175).

However, in Rochester, three and four unit resident landlords are, if anything, slightly more problematic than absentee. Data was too sparse to allow for comments on 5-6 unit buildings, though logic would dictate that they would be similar to 3-4 unit buildings. Porell (1985) found both of the above observations to be true, though he put the cut off at buildings of five or more units (p. 116). As noted above, resident landlords maintenance outcomes, on average, were found to be three times worse than owner-occupied units.

The police data reports support the above observations in terms of absentee-owned being by far the worst, at roughly double other tenures, but resident landlord properties were no different from owner-occupiers, regardless of the number of units. It seems that, although for larger buildings resident landlords attitude to maintenance is similar to that of absentee landlords, when it comes to their impact on criminal disorder, they behave more like owner-occupiers. In a way this makes sense. The discomfort of physical disorder might be stopped by walls, but this is not the case with criminal disorder. Thus police data is telling a somewhat different story, which is supported by a correlation of only .14 between code violations and police reports in point data (Table 17).

Geographically, the relationship between absentee concentrations and code violations seem consistent across the map of Rochester. The relationship appears to have broken down in one area south-east of downtown (Figure 6 highlighted in yellow). As this area has a fairly high proportion of absentee ownership and relatively low income, it would have been expected to have much higher code violation rates than it does. The distinction is associated with the proportion of white residents, which is high in this area. Here, race trumps the other variables. However, even in this area, which corresponds with Area 2 of the comparison of three subareas, the expected ranking of maintenance by tenure occurred.

### **Type and size of absentee owner**

In the literature, the consensus suggests that 'professionalism,' among absentee landlords, should produce better maintenance outcomes. Stegman (1972) concluded, based on surveys of owners, that "investor managers" are more likely to be responsive to tenant needs. Though more in reference to large landlords, Mallach (2007) seems to support this position, claiming that experienced landlords have many skills and a network of suppliers ensuring better maintenance outcomes.

The Rochester data argues strongly against this observation, particularly in non-white neighbourhoods. Whether looking at code violations or police incidents, property managers were by far the worst category across Rochester. Their code violations were 32% higher, and police incidents 18% higher than averages for absentee-owned properties (Table 20). In Area 1 of the subarea study, code violation rates for property managers were extremely high, at almost double the rate of other absentee owners in that area.

However, not all property managers are created equal. Desmond (2016) observed that landlords focus on renting to “certain kinds of people,” meaning a particular race, income or other specifics such as students (p. 13). Based on the observations in Rochester, it also seems that property managers can treat maintenance very differently, perhaps because of their behaviour towards particular demographics. One property manager who maintained properties solely in a white area of Rochester had maintenance rates well below the citywide average of any absentee ownership grouping (Figure 12). A further look at this part of the city, Area 2 in the subarea analysis, showed code violation rates of all property managers to be similar to all other landlords, not higher like they are citywide, though their police rates were about 30% higher (Figure 21). Thus, even within this area, there was a range of maintenance behaviours among the property managers.

According to the literature, LLCs are likely to be the most problematic of absentee owners because they are often using the corporate identity to hide from authorities and tenants, something that should correlate well with poor care of the property (Badger, 2018 & Desmond, 2016). In Rochester, we did not find any difference in maintenance outcomes between small private owners, and small owners that used LLCs (Table 20). In the subarea study, LLCs had much better code violation rates in both Area 1 and Area 2 but worse rates in Area 3. However one interprets these last observations, it seems that Rochester does not follow the pattern expected by the literature. This might be a good thing because Rochester has experienced an almost doubling of the number of small LLCs in the last six years (Table 24). They now represent 20% of all small landlord unit holdings. By comparison, in 2015, 33% of rental units in the U.S. were held by LLCs, though this includes all sizes of buildings and landlords (Badger, 2018). Though it does seem counterintuitive, perhaps this increase is for reasons other than the ability to get away with poor care of their properties.

The literature makes a range of predictions on how maintenance behaviour is related to the size of the landlord. Sternlieb (1966) found that large (12 or more buildings) landlords in Newark took the poorest care. It should be noted that he was talking about the particular type of landlord that he referred to as “slum specialists” (p.174). In Stegman’s (1972) 1970 study of Baltimore, maintenance was similar for all sizes though, based on some interviews, he was inclined to believe that large landlords have experience and connections that would make them somewhat better. Mallach (2007) seems to agree, noting that small owners are typically less experienced and had less time to supervise maintenance work.

Observations for all of Rochester suggest that size makes very little difference. Small, medium-sized and large landlords, on average, had almost identical code violation outcomes, though police reports were slightly higher, the larger the landlord (Table 20). In Area 1 of the subarea study, there is a slight improvement in maintenance as the landlord becomes larger, but in areas two and three the ranking is the opposite. It would have been necessary to control for race and/or income to determine if the observations in the subareas were consistent throughout the city. It is not possible, for now, to conclude that there is any substantial or consistent relationship between the size of a landlords holdings and their maintenance behaviour.

### **Distance and age**

There is a range of observations in the literature concerning the impact on maintenance of distance between a landlord and their rental property. Mallach (2007) offered suggestions that it could be a significant factor, where maintenance was inversely affected by distance, but this was based on a single interview. Mayer (1981) found that it made no statistical difference. Galster (1987) found that the most important factor was whether the landlord lived in the immediate neighbourhood, a threshold where those who were close took better care than those further away. Sternlieb (1966) found another threshold at the other extreme. He observed that those living at a great distance, especially out of state, would be more likely to take poor care of their property than all others.

The evidence from Rochester confirms both their suggestions. As can be readily seen in Figure 13, there is little overall correlation, in Rochester, between the distance a landlord lives from their rental property and the number of code violations or police incidents. However, compared to absentee-owned averages, rates were about 10% lower for both variables at very short distances

(less than 500m) and about 25% higher at very large distances (out of state). Comparing small private absentee-owned properties, there is also a small advantage for those who live within 500m of their rental property (Table 20). Perhaps this advantage would have appeared more substantial if those closer than 500m were compared with those living much further away, say all those 10km and more.

One other point should be noted. Fourteen percent of absentee landlords used P.O. boxes. In these situations, approximated distances were assigned. It is not known whether this disguised some distance related impact. Controlling for P.O. boxes was not explored. It is interesting to note that units with a P.O. box mailing address experienced slightly higher than average code violations (27.5 vs 26 for all absentee). It seems more likely this relates to a different kind of distance, being more about the landlord hiding from the tenant or other interested parties.

Age of building did not prove to have any statistical relationship to tenure in Rochester. Various attempts were made to compare age to all other variables. In the point data, only unit size correlated to year built, growing with new properties. Mapping of property age did not produce useful results, and attempts at aggregation also proved unhelpful. However, it can still be observed that there is a relationship between age and tenure. Slightly more than 50% of buildings built before 1915 were absentee-owned (Figure 41a). This proportion drops steadily through to the 1950s where it was about 22%. Few buildings have been built since then, but the proportion absentee-owned climbs in more recent times, perhaps due to a larger proportion of purpose-built rental structures.

## **Property values**

Although there were no suggestions in the literature that absentee owners always buy the least expensive properties in a neighbourhood, there was plenty to indicate that low-income neighbourhoods would typically have more absentee-owned property. According to Mallach (2018), absentee owners of property in poorer neighbourhoods often have advantages over resident landlords in terms of financing options. Slum landlords, by definition, are focused on low priced property. They are equally, though perhaps not always fairly, associated with poor maintenance. According to Sternlieb (1966), “a basic problem of slum maintenance... (is) alienation (of the tenant) from the absentee landlord” (p. xix).



Absentee-owned properties have the lowest average unit value in Rochester. Compared to resident landlords, multi-unit absentee-owned buildings are about 25% lower in value, and comparing owner-occupied to absentee-owned single-family homes, 40% lower (Table 14). The former comparison is consistent with countrywide statistics from 2001 (Table 2). Point data correlations between assessed value and code violations (or police calls) are the highest, excepting vacancy. This brings up an interesting question: to what extent are the maintenance issues connected directly to the low value of a property, as low value could be seen as closely related to poor physical condition regardless of other variables such as tenure? In other words, perhaps absentee owners are associated with poor maintenance because they chose to own lower priced property. This issue was looked at in the three subarea section. Area 1, which had mostly poor black residents, had code violation rates that were much higher than average for absentee-owned properties, with resident landlords experiencing about half those rates, and owner-occupied lower still (Table 22). However, even in this small area, property values followed the expected ranking, though not with as great a range. Further, in Table 15, where a comparison was done of city wide maintenance rates controlling for unit value, tenure, not property value, was the driving force in determining maintenance outcomes. Thus, maintenance issues in Rochester do not seem to be driven by the property values, but rather by the tenure, compounded by property value (and race, as we will see in the following section).

## **Race and location**

There are many suggestions in the literature that the race of the tenant can impact the behaviour of the landlord. This is worth considering because it offers some explanation, potentially competing with tenure, for why maintenance outcomes vary. Alternatively, it could help explain why some tenure types are associated with worse maintenance outcomes. Mayer (1985) found race to be a factor in landlord maintenance behaviour, but Galster (1987) did not. Stegman (1972) concluded that this is more likely to be an issue with small landlords, a detail which could not be explored in this study as data on race was only available in aggregated form.

Rochester has substantial racial segregation. Correlation between code violations and race is higher than with income or property values. We also noted earlier that the anomalous, mainly white, area southeast of downtown Rochester had unexpectedly low code violation rates, even

though the proportion of absentee-owned properties was high and incomes were relatively low. Race appears to be the explanation.

Race also seems to have played a prominent role in recent changes to property values. Without accounting for inflation, between 2011-2017 property values increased in Rochester, on average, regardless of tenure or unit size. However, when looking at changes geographically there is a very different picture. The poorer minority areas of the city saw a drop in assessment per square foot, but wealthier, and perhaps more importantly, white areas saw much larger increases in property values (Figure 29). Supporting this observation, Dietz & Haurin (2003) observed that in the late 20<sup>th</sup> century, there is generally a negative relationship between the rate of appreciation of home values and the presence of minorities. They also noted that that was not true of household income, except when combined with race (p. 415). However, Dietz & Haurin do not look at the effect on maintenance.

As has already been noted above, there is a strong relationship between where a home is located, and the likelihood that it is experiencing maintenance challenges. The map of code violations makes this very clear (Figure 6). Stegman (1972) observed a similar situation in 1970 Baltimore. He found that one half of inner-city rental housing were “well below code.” Landlords mostly tried to just keep things from getting worse, rather than attempting to get them up to a minimum standard (p. 80), though this does take into account neighbourhood-scale variations.

That some parts of a city have particularly problematic maintenance is hardly surprising. The efforts in this thesis are towards discerning the extent to which these phenomena relate to tenure as opposed to other variables such as race, property values, and income. Galster (1987) concluded that tenure, and by this he meant resident owner vs absentee, trumps socio-economic change in a neighbourhood, at least in terms of the impact on external disrepair of homes. No such conclusion is possible in this thesis. It seems unlikely that one could completely disentangle these influences, and in many cases, it would be because they have a cumulative effect. The best example of this is the anomalous area southeast of downtown Rochester, noted above.

Although it is beyond the scope of this thesis, various neighbourhood effects also play a part. Galster (1987), using surveys, found that cohesive neighbourhoods spend 28 – 45% more on maintenance (p. 227). He also made reference to neighbourhood satisfaction in the same vein. It would make sense to assume that changes to these sorts of pressures will add further uncertainty

or at least complexity to the assessment of why an area of the city is experiencing maintenance challenges.

## **Vacancy**

On the subject of vacancy (incidents of vacant dwellings), the literature speaks to its close relationship with maintenance. Mallach (2018) found positive correlations between absentee ownership and vacancies. Sternlieb (1973) saw poor maintenance as the starting point, with vacancy as the endpoint when repairs become uneconomic. Mallach (2018) describes the worst cases as neighbourhoods suffering from hypervacancy, where a census tract has more than 20% vacant buildings and often the only buyers of these properties are absentee vultures, looking to squeeze the last dollars out of buildings before they are permanently abandoned. Unsurprisingly, Rochester vacancy rates are much higher in poor non-white neighbourhoods (Figure 10). However, it does not appear that Rochester has experienced this extreme form, as the highest vacancy rate found in a census block, which is much smaller than a census tract, was 14%. Though Rochester is doing some demolition, it has been focusing more on attempting to resuscitate buildings by selling buildings, with conditions and incentives attached, in an attempt to prevent them from being later abandoned (City of Rochester, 2018).

The variable with the highest correlation to vacancy in the Rochester 2017 point data, was code violations, more than double any other variable (Table 16). This is not surprising, as one of the most likely explanations for vacant status is their poor state of repair. However, the statistics are likely exaggerated because it is the city employees that police code violations and they are also responsible for reporting vacant buildings. Although it would have been interesting, time limits did not permit a comparison of vacancy rates to types of landlords.

## **Change over time**

So far, we have discussed the relationship between tenure and property maintenance at a moment in time. Here we will add the perspective of short term change. Perhaps, more than any other section of the results, this change section has been handled selectively, giving only a small picture of all the possible observations and interpretations. Some effort will be made in the conclusion section to suggest more ways the available data could be explored and other potentially available data that could be added in order to advance understanding of this subject.

As limited as the literature was found to be on the subject of tenancy and maintenance, studies of change were even rarer. The literature discusses fears of change, and efforts by owner-occupiers, in particular, to defend their neighbourhood from changes that were perceived to be negative. NIMBYism occurs, in part, to try and prevent change that allowed for more absentee ownership which was often feared to lead to drops in the quality and value of homes, fears that could sometimes become self-fulfilling.

In Rochester between 2011-2017, there were a number of changes with negative implications for the city, and a few with positive. On the negative side, absentee ownership has become more prevalent, more concentrated and more business oriented. Further, many properties, almost 10% of all units in Rochester, experienced a change in absentee landlord ownership, a situation that itself was found to be associated with poorer average maintenance outcomes. On the positive side, there has been a drop in absentee ownership in much of the inner-city, where maintenance results were the worst, and some increase in the outer parts, where maintenance results were far better. Additionally, there was a decrease in the number of landlords living out of state.

Overall, there was a slight increase in the proportion of units belonging to absentee landlords, but in terms of impact, it appears to be a mixed blessing. As absentee ownership is everywhere associated with poorer maintenance outcomes, having more of this cannot be good. However, within the absentee-owned category, the growth was in single family homes, up 18%, with multifamily home numbers actually shrinking a bit. Some of the single-family homes were formerly owner-occupied, and it seems likely that some have been consolidated from multi-unit status, as there was a fairly large net drop of multiunit builds of all tenure ownership. This might be good news as, based on the observations in the subarea section, absentee-owned single-family homes in poor areas had significantly better maintenance outcomes than absentee-owned multi-unit homes.

There was also a change, mostly negative, in the types of absentee ownership. There was both an 8% growth in the proportion of absentee-owned units belonging to large owners, most of which were for landlords owning more than 100 units, and an 8% increase in the proportion of LLC and other corporate ownership among small owners. This is the opposite of what Sternlieb (1973) found in Newark between 1964 and 1971. There, owners of 12 or more buildings decline from 20%

to 10% of the properties being studied (p. 84). Of course, Newark's situation in the 1960s was very different from Rochester's.

Care for property seems lowest when it is transferred between absentee owners (Table 26). In only six years, 18% of absentee units changed hands. Code violation rates were between 10-25% worse for these properties than the average for all absentee-owned properties, with the worst being those transfers where the landlord was now further away from the property. This churn, in general, appears to bode poorly for maintenance outcomes and unfortunately, it was the most common form of transaction observed. Of course, lacking older data, there is no way to know if this issue is accelerating or slowing.

When looking at a breakdown of transactions by tenure type, three times as many owners chose to move out and rent their old residence, compared to those moving into a property they formerly were renting. Though the newly rented properties that became absentee-owned did have poorer maintenance outcomes than the average for owner-occupied properties, these outcomes were not as bad as the average for all absentee-owned properties, this could indicate that owners feel some residual affection for their former residence. It can also be that it takes a number of years of lower maintenance for code violations to appear. Supporting the former supposition, resident-owned homes becoming absentee-owned through the sale of the property had maintenance rates just as bad as the average.

Looking at the geography, net change in absentee ownership was negative near the city core, and positive to neutral further out (Figure 27). This would suggest a universal bias towards improved maintenance results, as we found that the inner city areas had the worst maintenance outcomes for absentee-owned property. The drop in the absentee-owned proportion in the poorest areas in Rochester suggests some hope for these challenged neighbourhoods. As property values did not rise in these neighbourhoods, gentrification is not the likely explanation. Stegman (1972) observed that in 1970 in Baltimore, housing was quite cheap, and yet the proportion rented was very high because blacks living in the area could not get mortgages (p. 7). Perhaps this is now less of a problem in Rochester, allowing for some positive change.

Of the two distances, between the landlord and their rental property, that were found to have an impact on maintenance outcomes, those landlords that lived within 500m and those who lived out of state, the former saw no change in Rochester, between 2011-2017, but the latter

decreased in numbers from 14% of all absentee units to 10% (Figure 25). This would suggest a small average maintenance improvement.

## **Generalizing beyond Rochester**

In general, the more limited evidence that was available for Buffalo and Syracuse indicates that the findings for Rochester can be generalized, at least to other declining industrial cities in the U.S. As a reminder, this study is only looking at the cities, as opposed to the metro areas. Correlations at the census block scale between absentee ownership concentration and family income were similar, across the three cities, in the range of negative .54-.61 (Table 30). These were the strongest correlations found for Buffalo and Syracuse and the second highest for Rochester. Correlations with race were also similar. Housing age distribution and proportion of absentee ownership by age of building were very similar in all three cities (Figure 41). Out of state landlords represented about 10% of all units in all three cities and the geographical distribution of these was fairly similar, though Buffalo had about three times the proportion living in foreign countries, with two-thirds of those being in Canada. The proportion of landlords living in the city versus the suburbs was also very similar for all three cities (Figure 36).

In some ways, however, Buffalo stands out from both Rochester and Syracuse. The city has a much lower proportion of owner-occupied units – 29%, compared to 41% for Rochester and Syracuse. Instead, Buffalo has many more units owned by resident landlords, 31%, compared to about 10% in Rochester and Syracuse (Table 28). The size of landlords is another variable that distinguishes Buffalo. While Rochester and Syracuse have a very similar mix, Buffalo has appreciably more small landlords (Figure 31). Buffalo also has a significantly lower proportion of owner-occupiers but presumably, the smaller proportion of large landlords would counteract part of this, in terms of the impact on maintenance outcomes.

Buffalo is also different in terms of geography. Both Rochester and Syracuse have broadly circular patterns where the absentee-owned properties are concentrated around the core and owner-occupiers toward the periphery (Figure 4 and Figure 37). Buffalo, which already has distinctly different geography because of a coastline along its western border, has absentee-owned concentrations alternating with resident-owned units in bands radiating from the core. The same can be observed in maps of race and income distribution (Figure 39). This has no particular

significance for the relation between tenure and maintenance, but it could affect the dynamics in specific neighbourhoods.

In some ways, Rochester appears to stand out in comparison to Syracuse and Buffalo. Property values are higher: unit values in Rochester are 9% higher than in Syracuse, and 18% higher than in Buffalo. In the case of Buffalo, this is partially explained by the smaller proportion of single-family homes. However, in both Buffalo and Syracuse, multi-unit properties had significantly lower values than in Rochester, and if 4-6 unit statistics had been available for Buffalo, this would have shown an even more dramatic difference. Rochester also has more large landlords living beyond the city limits than does Syracuse or Buffalo (Figure 32). The larger distance between these more distant landlords might negatively impact maintenance behaviours. However, when looking at all absentee-owned properties, more (4 – 6% of total units) in Syracuse and Buffalo lived with 500m, suggesting better maintenance outcomes for these properties (Figure 35). The higher unit values in Rochester might suggest somewhat better maintenance outcomes, but the larger number of more distant landlords and the smaller number of close landlords would both have the opposite effect, especially the latter.

Concluding how similar the tenure and maintenance experience is for Rochester, Syracuse and Buffalo is very difficult based on the research done so far in this thesis. They are similar in that their absentee-owned properties correlate closely to household income, race, their distribution of housing by age and proportion absentee-owned by home age are both similar, and they have a similar proportion of absentee owners living out of state. Buffalo stands out in terms of differing proportions of tenure and the geographic distribution of tenure and demographics and Rochester is a bit different when it comes to property values. Overall levels of property maintenance may vary somewhat from city to city, but there is no reason to believe that the relationship between tenure and maintenance was any different.

## Chapter 8: Conclusion

Primarily, this thesis offers information about the maintenance behaviour of property owners at a level of precision well beyond what is found in the literature. Rather than a reliance on surveys and interviews of samplings from a few neighbourhoods, it captures almost all residential properties in a city. Rather than relying on aggregated averages, it looks at each property individually. However, in addition to producing results with greater precision, this thesis also offers a methodology that opens windows to exploring different types of residential property owners. Not only can we look at homeowners, resident landlords and absentee landlords statistically and geographically, comparing these groups across the city, or neighbourhood by neighbourhood, but we can subdivide them by the scale of their holdings, or the type of ownership. If data is available for multiple years, as it was for Rochester, then it can be excavated in myriad ways permitting fascinating windows into change over time of any fraction of the housing market.

What follows is a summary of specific results from the research in this thesis looking at Rochester, as well as comparisons to Buffalo and Syracuse. After that, a list of suggestions for further research will be offered, including work that could be done with the existing Rochester data, and ideas for further exploration in other cities and with other sources.

In comparing maintenance outcomes by tenure in Rochester, absentee-owned properties were the worst. Resident landlord properties had much better outcomes, but only if they were duplexes. Thus resident landlords in larger buildings approached maintenance in a way much more like an absentee landlord. Owner-occupied buildings had the best outcomes. This held true across the city, and when looking at selected neighbourhoods. None of these findings contradict the literature. Rather, this study reinforces our understanding of the relationship between tenure and maintenance by giving them much stronger and more current statistical support. However, what is new is the observation that resident landlords of duplexes belong in a separate category, with distinctly worse maintenance results than owner-occupied properties, but noticeably better than absentee-owned properties. Although there is a strong relationship between maintenance levels, property values, household income, and especially race, when controlling for these factors, the above-noted ranking of maintenance outcomes by tenure was found to be consistent for any part of Rochester. Thus the impact of these other variables was to compound the distinct impact of tenure.



There was very little difference found in maintenance outcomes when comparing absentee landlords of different sizes, and only a small difference between private and LLC (and other corporate) owned properties. However, properties handled by property managers were found to have much worse outcomes across most of the city. These three observations, especially the last, are quite different from what was found or predicted in the literature.

The slumlord, in some form, is alive and well in Rochester. Though absentee-owned properties were found throughout the city, they were far more prevalent in poorer areas. Race appears to have an impact on landlord behaviour, in that maintenance outcomes were far better in absentee-owned properties in white areas, even with some controlling for income. The distance between a landlord and their rental property only proved to be significant at very short (within a block or two) or very great (out of state) distances.

In terms of change, there was a small overall increase in the number of absentee-owned units, and more ominously, for the city of Rochester, there has been a move towards larger landlords and more LLC type ownership. Countering these, there has been a decrease in absentee ownership in the poorest areas and an increase in the proportion of single-family homes, which had better maintenance outcomes than other building sizes.

When comparing Syracuse and Buffalo to Rochester, the goal was to get a sense of how generalizable Rochester outcomes might be to similarly sized cities. Close correlations were found between tenure and demographic variables in all three cities. This was also true for the proportion of absentee ownership by property age. The three cities were not similar in all ways. The geographical distribution of tenure and demographics of Buffalo was quite different from the other two cities, as were the proportions of properties belonging to resident landlords. Rochester property values, though not high by national standards, were noticeably higher than in Buffalo or Syracuse, regardless of tenure. However, it is likely that these dissimilarities would not significantly impact the proportionate relationship found between tenure and maintenance. Further, it seems reasonable to expect that the findings in Rochester can be extended to other declining industrial cities in the U.S.

## Directions for research

Truly, the opportunities for exploring housing are endless thanks to open-data that many cities in the U.S. already offer. The following suggestions should get the creative juices flowing. They will begin with ideas for further work on Rochester. This will be followed by suggestions for Syracuse, Buffalo and other cities with similar, but more limited data access. Finally, there will be a few suggestions on what might be nice to do, if other information is available.

Code violations were supplied by quantity and type in Rochester. After a discussion with the Rochester authorities that compiled this list and policed it, a more in-depth study of particular code violation types could potentially produce a more refined measure of property quality. Instead of simply labelling buildings in a binary fashion, a grading system could be developed. Perhaps combining this with a visual assessment based on Google Street View would add further precision. Comparing these outcomes across different tenure types, and different sizes and types of absentee landlords could provide a more precise picture than reported in the current study.

Similar to the ideas with code violations, Rochester police data could be further analyzed. As this data was available by type of crime, this could be considered and ranked. Some initial exploration of this data produced interesting examples. For example, it showed much more violent crime in the inner city and higher proportions of property related crime in the outer areas. The police data was also available for a seven-year period. This could be integrated with the other housing data from earlier years to produce a more in-depth longitudinal review.

The home locations of landlords were mapped in order to determine the distance between the landlord and their rental property. As detailed in Appendix D, the landlords that were located within Rochester have associated police and code data. A comparison could be done to see differences in the care of property between the landlords home and their rental properties.

A study can be done of one or several neighbourhoods (or even finer detail such as specific blocks) in the city looking, in much greater detail, at the changes that have occurred. The ownership of properties can be traced for patterns. Buildings that are currently vacant could have some interesting histories. Signs of deterioration or gentrification might be spotted. There is some local literature that would assist in selecting prime locations and help explain some outcomes. Google Street View has multiple years available for many parts of the city, which might add further detail, and possibilities for the analysis of change.

As can be seen looking at the details about Buffalo and Syracuse in the results, even cities that do not provide variables like code violations can be surveyed and much can be learned. Had this thesis been working exclusively on one of these cities, further work could have been done looking more closely at various neighbourhoods, and with tools like Google Street View, assessments of the conditions of the front of a building could supply some indication of maintenance levels. In fact, this would be a great way to compare and verify further the Rochester data. It would also be a way of testing the usefulness of Street View as a source of information about property maintenance.

The data in Rochester contained a wealth of information about individual landlords. This could be explored to find certain patterns that could shed light on landlord behaviours. Some examples shown in this thesis were landlords that seem to be trying to obscure the size of their holdings such as shown in figure 45, and the curious movements of holdings from a group of owners in Kuwait referenced in the results. Comparing these results to other cities that provide similar access would further substantiate understandings.

The Syracuse data had other information that looked like it could be useful, such as vacancies, foreclosures, and past due utility/tax bills, but after many hours of exploration it was set aside (see Appendix F). This could be picked back up as a separate project. Looking for other cities that offer other data linked to properties would expand the search for understanding the behaviour and impact of tenure type and landlord type.

Property managers turned out to be an interesting and problematic group in Rochester. This was only looked at superficially, within the larger context of this thesis. However, even in this brief inspection, it was noticed that they were specializing in particular neighbourhoods. This was not about maintaining properties near the office, as their offices were often outside of the city. It looked more like they were specializing in a particular clientele or focused on a particular quality of rental product. This could be explored more deeply, with a greater effort to capture a higher percentage of all the property managers in the city. Bringing in cities both similar and different to Rochester would greatly expand an understanding of the impact of property managers, and historical data would establish the trajectory of this group.

A study of absentee ownership behaviour using the techniques in this study could explore some new issues such as the major increase in financialization of rental properties, especially of

single-family homes in the U.S. since the 2009 recession. There was no sign of this in the Rochester, Buffalo or Syracuse, but in many other, mostly more prosperous cities in the U.S. it seems this is a growing phenomenon.

If other cities can be found that supply code violation data, then a comparison could be made to all the work done in Rochester. This would make it possible to confirm or qualify the patterns already observed and allow some judgement of the effects of city size, prosperity, ethnic mix etc. Even better would be if code information was available for a number of years.

It is surprising how little research has been done on these and similar topics using property assessment data that is so readily available in many American cities. This is a major new opportunity, especially as software has also become sophisticated and efficient enough to effectively process these huge files.

## Bibliography

- Abood, M. (2017). *Securitizing Suburbia: The Financialization of Single-Family Rental Housing and the Need to Redefine "Risk."*. Retrieved from Masters Thesis - Massachusetts Institute of Technology: <https://dspace.mit.edu/handle/1721.1/111349>
- Allen, J. (1983). Property relations and landlordism - a realist approach. *Environment and Planning D: Society and Space*, 1, 191-203.
- Alonso, W. (1964). The historic and the structural theories of urban form. Their implications for urban renewal. *Land Economics*, 40, 227-231.
- Andrews, J. (2018, Nov. 7). *The tenant-landlord relationship is going digital*. Retrieved Nov. 2018, from Curbed.com: [https://www.curbed.com/2018/11/7/18068904/property-management-tools-cozy-avail-zillow?silverid=%25%25RECIPIENT\\_ID%25%25](https://www.curbed.com/2018/11/7/18068904/property-management-tools-cozy-avail-zillow?silverid=%25%25RECIPIENT_ID%25%25)
- Applebomejan, P. (2012, Jan 16). Despite Long Slide by Kodak, Company Town Avoids Decay. *The New York Times*.
- ArcGIS. (2018). *Spatial Join*. Retrieved Dec 11, 2018, from <http://pro.arcgis.com/en/pro-app/tool-reference/analysis/spatial-join.htm>
- Badger, E. (2018, April 30). *Anonymous Owner, L.L.C.: Why It Has Become So Easy to Hide in the Housing Market*. Retrieved Oct. 2018, from New York Times: [https://www.nytimes.com/2018/04/30/upshot/anonymous-owner-llc-why-it-has-become-so-easy-to-hide-in-the-housing-market.html?utm\\_source=citylab-daily&silverid=MzEwMTU3MzAyOTc2S0](https://www.nytimes.com/2018/04/30/upshot/anonymous-owner-llc-why-it-has-become-so-easy-to-hide-in-the-housing-market.html?utm_source=citylab-daily&silverid=MzEwMTU3MzAyOTc2S0)
- Baer, W., & Williamson, C. (1988). The filtering of households and housing units. *Journal of Planning Literature*, 3(2), 128-152.
- City of Rochester. (2018). *Neighbors for Neighborhood's Program*. Retrieved October 2018, from <http://www.cityofrochester.gov/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=8589972824&libID=8589972805>
- CMHC. (2001). *Residualization of rental tenure: Attitudes of private landlords towards low-income households*. Canadian Mortgage and Housing Corporation. Retrieved from <https://www.cmhc-schl.gc.ca/odpub/pdf/62753.pdf?fr=1481070943033>
- Davis, O., & Whinston, A. (1961). The economics of urban renewal. *Urban Renewal*, 26(1), 105-117.
- Desmond, M. (2016). *Evicted*. New York : Crown Publishers.

- Dietz, R., & Haurin, D. (2003). The social and private micro-level consequences of homeownership. *Journal of Urban Economics*, 54, 401-450.
- Downs, A. (1981). *Neighbourhood and urban development*. Washington: The Brookings Institution.
- Dubin, R. (1998). Maintenance Decisions of Absentee Landlords under Uncertainty. *Journal of Housing Economics*, 7, 144-164.
- Elorza, J. (2007). Absentee landlords, rent control and healthy gentrification: A policy proposal to deconcentrate the poor in urban America. *Cornell Journal of Law and Public Policy*, 17(1).
- Engels, B. (1999). Property ownership, tenure, and displacement: in search of the process of gentrification. *Environment and Planning*, 31, 1473-1495.
- Esri. (2018). *How To: Create connection lines between two or more points*. Retrieved dec 16, 2018, from <https://support.esri.com/en/technical-article/000012092>
- Galster., G. (1987). *Homeowners and neighborhood reinvestment*. Durham, NC: Duke University Press.
- GIS.NY. (2018). *N.Y. State Geocoding Web Service*. Retrieved July 2018, from <http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=1278>
- Glaeser, E. (2007, Autumn). *Can Buffalo Ever Come Back?* Retrieved Dec 2018, from City Journal: <https://www.city-journal.org/html/can-buffalo-ever-come-back-13050.html>
- Greater Syracuse Land Bank. (2018). *Revitalizing Neighborhoods, Restoring Properties*. Retrieved Oct. 2018, from <http://syracuselandbank.org/>
- Grigsby, W. (1987). The dynamics of neighborhood change and decline. *Progress in Planning*, 28, 1 - 76.
- Ham, M., Manley, D., Bailey, N., Simpson, L., & Maclennan, D. (Eds.). (2013). *Understanding Neighbourhood Dynamics*. Dordrecht, The Netherlands: Springer.
- Harris, R. (2014). *Why neighbourhoods matter more now*. Unpublished manuscript, McMaster University.
- Helms, A. (2012). Keeping up with the Joneses: Neighborhood effect in housing reservation. *Regional Science and Urban Economics*, 42, 303-313.
- Highfalls. (2018). *Highfalls Property Management*. Retrieved Sep 2018, from <http://www.highfallspropertymanagement.com/>

- HUD. (2016). *Comprehensive Housing Market Analysis*. Retrieved Dec 2018, from U.S. Department of Housing and Urban Development:  
<https://www.huduser.gov/portal/publications/pdf/RochesterNY-comp-17.pdf>
- HUD. (2017b). *Comprehensive Housing Market Analysis: Buffalo-Cheektowaga-Niagara Falls, New York*. Retrieved Dec 2018, from U.S. Department of Housing and Urban Development:  
<https://www.huduser.gov/portal/publications/pdf/BuffaloNY-comp-17.pdf>
- Immergluck, D. (2013). *The Role of Investors in the Single-Family Market in Distressed Neighborhoods: The Case of Atlanta*. Retrieved Feb. 2019, from  
[http://www.jchs.harvard.edu/sites/default/files/w13-2\\_immergluck.pdf](http://www.jchs.harvard.edu/sites/default/files/w13-2_immergluck.pdf)
- Lindblad, M., Manturuk, K., & Quercia, R. (2013). Sense of community and informal social control among lower income households: The role of homeownership and collective efficacy in reducing subjective neighborhood crime and disorder. *American Journal of Community Psychology, 51*(1-2), 123-139.
- Mallach, A. (2007). *Joint Center for Housing Studies Harvard University Landlords at the Margins: Exploring the Dynamics of the One To Four Unit Rental Housing Industry*. Retrieved Oct 7, 2015, from [http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/rr07-15\\_mallach.pdf](http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/rr07-15_mallach.pdf)
- Mallach, A. (2018). *The Empty House Next Door*. Retrieved Sep 12, 2018, from Lincoln Institute of Land Policy: <https://www.lincolnst.edu/publications/policy-focus-reports/empty-house-next-door>
- Mallach, A., & Brachman, L. (2013). *Regenerating America's Legacy Cities*. Retrieved Sep 12, 2018, from Lincoln Institute of Land Policy: <https://www.lincolnst.edu/publications/policy-focus-reports/regenerating-americas-legacy-cities>
- Martin, D. (2003). Enacting neighborhood. *Urban Geography, 24*(5), 361-385.
- Mayer, N. (1981). Rehabilitation decisions in rental housing: An empirical analysis. *Journal of Urban Economics, 10*, 76-94.
- Mayer, N. (1985). The impact of lending, race, and ownership on rental housing rehabilitation. *Journal of Urban Economics, 17*, 349-374.
- McDermott, M. (2015, March 8). *Zombie homes stalk county neighborhoods*. Retrieved Jan. 2019, from Democrat & Chronicle:

- <https://www.democratandchronicle.com/story/news/2015/03/08/zombie-homes-stalk-county-neighborhoods/24622909/>
- McDermott, M. (2016, June 9). *Report: Zombie homes eat \$9.4 million in property values*. Retrieved Jan. 2019, from Democrat & Chronicle:  
<https://www.democratandchronicle.com/story/news/2016/06/09/zombie-homes-eat-9-million-in-property-values/85647992/>
- New York State. (2018). *Property type classification codes - Assessors' Manual*. Retrieved Oct 2018, from Department of Taxation and Finance:  
<https://www.tax.ny.gov/research/property/assess/manuals/prclas.htm#top>
- NYSAR. (2018). *NYSAR News: Latest News*. Retrieved Dec 30, 2018, from New York State Association of Realtors, Inc.: <https://www.nysar.com/nysar-news/latest-news/2018/02/09/housing-affordability-remains-flat-in-2017-syracuse-tied-for-nation-s-most-affordable-housing-market>
- Porell, F. (1985). One Man's Ceiling Is Another Man's Floor: Landlord/Manager Residency and Housing Condition. *Land Economics*, 16(2), 106-118.
- Renn, A. (2015, Autumn). *Reinventing Buffalo* New York city should focus on getting better—not bigger. Retrieved Dec 10, 2018, from City Journal: <https://www.city-journal.org/html/reinventing-buffalo-14115.html>
- Rohe, W., & Stewart, L. (1996). Homeownership and neighborhood stability. *Housing Policy Debate*, 7(1), 37-74.
- Sadahiro, Y. (2018). Descriptive Measures of Point Distributions Summarized with Respect to Spatial Scale in Visualization. *Cartographica: The International Journal for Geographic Information and Geovisualization*, 53(3), 185-202.
- Schramm, H. (2018). *Syracuse History*. Retrieved Dec. 10, 2018, from <http://syracusesthenandnow.org/History/History.htm>
- Semuels, A. (2015, Nov. 20). *How to Decimate a City*. Retrieved from The Atlantic:  
<https://www.theatlantic.com/business/archive/2015/11/syracuse-slums/416892/>
- Shinn, J. (2016). *Housing Market Profiles: Rochester, New York*. Retrieved Dec 2018, from U.S. Department of Housing and Urban Development:  
<https://www.huduser.gov/portal/periodicals/USHMC/reg/RochesterNY-HMP-Dec16.pdf>



- Skaburskis, A. (2006). Filtering, city change and the supply of low-priced housing in Canada. *Urban Studies*, 43(3), 533-558.
- Spielman, S., Folch, D., & Nagle, N. (2014). Patterns and causes of uncertainty in the American Community. *Applied Geography*, 46, 147-157.
- Stegman, M. (1972). *Housing Investment in the Inner City*. Cambridge MA: MIT Press.
- Stelfox, D. (2014, Jun 25). Last days of Kodak town: the decline and fall of the city photography built. *The Guardian*.
- Sternlieb, G. (1966). *The Tenement Landlord*. New Brunswick, NJ: Rutgers University Press.
- Sternlieb, G., & Bruchell, R. (1973). *Residential Abandonment. The Tenement Landlord Revisited*. New Brunswick, NJ: Rutgers University & The State University of New Jersey.
- Suttor, G. (2015). Rental housing dynamics and lower-income neighbourhoods in Canada. *Research Paper 235*. Retrieved from Research Paper 235:  
<http://neighbourhoodchange.ca/documents/2015/06/suttor-2015-rental-housing-dynamics-rp235.pdf>
- Syracuse. (2010). *Syracuse Housing Plan*. Retrieved Dec 20, 2018, from  
<http://www.syracuse.ny.us/uploadedFiles/Departments/CommunityDevelopment/Content/Documents/2010%20Syracuse%20Housing%20Plan.pdf>
- United States Census Bureau. (2018a). Retrieved 2018, from  
<https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>
- United States Census Bureau. (2018b). Retrieved July 2018, from  
[https://www.census.gov/geo/maps-data/data/cbf/cbf\\_blkgrp.html](https://www.census.gov/geo/maps-data/data/cbf/cbf_blkgrp.html)
- United States History. (2018). *History of Rochester, New York*. Retrieved Dec 12, 2018, from  
<https://www.u-s-history.com/pages/h2144.html>
- Weiner, M. (2016). *Census: Syracuse, Buffalo, Rochester among nation's poorest cities (database)*. Retrieved Sep 18, 2018, from NYup.com:  
[https://www.newyorkupstate.com/news/2016/09/census\\_syracuse\\_buffalo\\_rochester\\_among\\_nations\\_poorest\\_cities\\_database.html](https://www.newyorkupstate.com/news/2016/09/census_syracuse_buffalo_rochester_among_nations_poorest_cities_database.html)

## Appendix A: Identification of residential properties

The first task, in the winnowing process of identifying residential properties appropriately, was to remove those that were not relevant. Only buildings in the 200 use-code range (New York State, 2018) were retained. This is the code for residential buildings. This means that apartments over stores and some other mixed-use buildings were excluded from the analysis, which helps explain why the downtown area was mostly absent in the aggregated data studies. See the limitations' section for more details. Additionally, only buildings with six or fewer units were retained.

Some buildings that contain residences were not included in this study. For purposes of illustration, the following are examples from Buffalo. Though this enumeration of excluded buildings was not done for the other cities, it seems likely that they too would provide similar examples in all categories except apartments because, unlike Buffalo, they are not missing 4-6 unit designations.

- 53 Converted Residences (code 483): "A building usually located in a residential area, which has been partially converted or adapted for office space (e.g., a doctor's or dentist's office with an apartment upstairs)" (New York State, 2018).
- Downtown Row Type (codes 481 & 482): "Usually a two or three story older structure with retail sales/services on the first floor and offices and/or apartments on the upper floors" (New York State, 2018).
- 1285 Multiple Residences (code 281): "More than one residential dwelling on one parcel of land. May be a mixture of various residential codes" (New York State, 2018).
- 2391 Apartments (code 411) – these would include buildings that were counted in the other cities, where they contain 4-6 units.

By comparison, 69600 residential buildings (1-3 units) were included in the Buffalo analysis. The relatively small number of excluded buildings and the fact that some do not contain residences and others are larger than six units, supports the assumption that almost all appropriate residential buildings were included in the present analysis. The reasoning for all the above exclusions was to prevent the possible counting of non-residential units, except in the case of Multiple Residences, where the unit count was unclear making it an unreliable statistic.

## **Appendix B: The determination of tenure & GIS notes**

This is a complete recounting of the procedures used to distinguish absentee-owned from resident-owned properties and in further defining types of absentee landlords. Additionally, details are presented explaining various spread-sheet and ArcGIS processes that were applied to the data.

### **Separating absentee-owned from resident-owned**

After removing properties not relevant to this study (Appendix A), the next, and more challenging task was to distinguish absentee-owned properties from all others. Within Excel, a direct comparison of entire addresses produced excessive numbers of false positives of absentee ownership. It was determined that using a truncated version of the addresses would be more effective. The length of the truncation was a difficult call. Too short would permit too many to seem like matches, too long would provide little benefit over using the whole address. Trial and error found eight characters to be sufficient except where the mailing address was a P.O. box. It was determined that 14 characters would catch differences in P.O. boxes, except in the case of UPS boxes that always began as a physical address, followed by some kind of box or suite designation. For such cases, a combination of procedures was used. First, a 14 character truncation was used along with Excel “if” statements to separate the list into two groups. All the non-matches were tentatively labelled as absentee. Then the matched list, tentatively understood to be resident-owned, was organized using the count-if Excel function to find duplicates of the truncated address and of the full addresses. A comparison of these two count-if results, using an “if” statement to find the difference, isolated the UPS addresses, as these had a smaller count-if value with the full address as compared to the count-if values in the truncated version. Those determined to be UPS addresses were labelled as such and then dumped back into the tentative absentee grouping.

A search for hyphens within an address was done and often indicated the presence of condominiums that were individually owned but with unit number buried and missed in the truncation. It could also indicate multi-unit buildings that had a single street number in one of the address columns and a range (that included the single number) in the other. An “if” statement in Excel was used to find the hyphens, and those found were combed and manually assigned to the appropriate tenure.

These procedures produced one group that could reliably be seen as resident-owned properties comprised of resident landlords and owner-occupiers, and another that was mostly

absentee-owned. However, further work was needed to remove resident-owned properties from the absentee list. Two key procedures were applied. The first was to select all addresses with P.O. boxes, using “if” statements. All with P.O. boxes outside the city were considered absentee-owned, although it is possible that a resident owner could have a P.O. box just over the border in a suburban municipality. In Rochester in 2017, 3282 P.O. boxes were found, of which 782 were confirmed as outside the city. Of those within Rochester, a count-if was run. All of those that contained values above one were considered absentee-owned, on the assumption that an owner cannot live in two locations: if the same P.O. box was attached to more than one property, it is likely that the owner lives in neither. Of course, it is possible that the owner lived at one of these locations. As these examples were typically registered companies, and indeed mostly limited liability companies (LLCs) this seemed to further imply an absentee owner. It was also assumed that all P.O. boxes that were owned by a company would be considered an absentee-owned property, as it seemed unlikely that a property owner would use a corporate identity for their place of residence. It was found that this very small group had problematic values (high police calls and code violations) matching other absentee-owned properties, further indicating that absentee-owned was probably the correct choice. In the end, Rochester was found to contain 1980 additional absentee-owned properties using these procedures. Syracuse had far fewer P.O. boxes, a total of 632 within the city. Buffalo also had a much smaller number, 875. Additionally, the Syracuse data lacked owner names, so it was not possible to determine whether ownership was a corporation.

A further major step in removing resident-owned properties from the absentee list was part of the process of locating the absentee owner’s home addresses. All mailing addresses of the absentee-owned properties in the state of New York, as determined up to this point, were geocoded using the N.Y. State Geocoding Web Service (GIS.NY, 2018). The XY to line function in ArcGIS was used to calculate straight line distance between owner and property. This was very useful in exploring relationships between distance from the property and the “qualities” of that property. It was also useful as part of the winnowing procedure.

Special processes were put in place where the landlord’s home address was less than 50m from the absentee-owned property. Though only a small number were caught, amounting to fewer than 2% of all absentee properties, it did give a much more accurate selection of properties that

are very near the landlord's home (a category defined as <500m). This final step should have almost completely eliminated resident-owned properties from the absentee-owned list. In closely examining a random sample of fifty properties where the presumed absentee landlord lived with 15 metres of their rental property it was found that most were not, in fact, absentee-owned, being the same address. In many cases, the addresses were really a matching address, typically with minor differences such as "Av" compared to "Ave" or overlapping street number, such as 44 vs 44-48. In other cases, the street names and numbers, though different, were actually still the same location, just on intersecting streets. This is the case in example "A" of Figure 44 below.

After completing the procedures just described, all remaining pairs of buildings within 15m of each other were designated as resident-owned unless their addresses indicated that they were obviously neighbouring, such as 24 and 26 Johnson St. Beyond 15m, till 50m, the opposite assumption was made: that they were absentee-owned unless this was obviously not the case. Thus in example "B" in Figure 44, it can be seen that they were neighbouring homes, with the landlord living next door, and they had different street names because of their relative proximity to the corner. No doubt a few properties were mislabelled using these rules, but a random sampling of more than 50 above and below the 15m threshold did not reveal a single error, suggesting that the procedure adopted was reasonable. In Syracuse, the biggest issues were differences such as "E"(direction, such as east) in one address but not in the other, or where two intersecting streets were named in one but not the other address. Here a further 1% of all absentee-owned properties were found between 15-30m of the owner's home address. (See also limitation concerning inaccuracies at a small distance).

Considerable effort was taken to ascertain the best way to assess the impact on property maintenance of the distance between the absentee landlord and their rental property. The most obvious method was to calculate the actual distance, where it could be determined. Although buildings with P.O. boxes could not be geolocated, approximations were assigned that would allocate them to the appropriate distance range. Those located within the city were assigned a distance of 15km, within the state 100km, and out of state, 2000km. In another approach, fixed blocks of distances were created: "block" = 500m or less, "city" = > 500m <15 km, "commute" = >15km <200 km, Far = 200 km+. This latter approach was also aggregated to the block level, collecting a count for each category applied to the census block, to allow comparison with census

data. Ultimately this fixed block of distance approach was dropped as it did not produce any meaningful results.

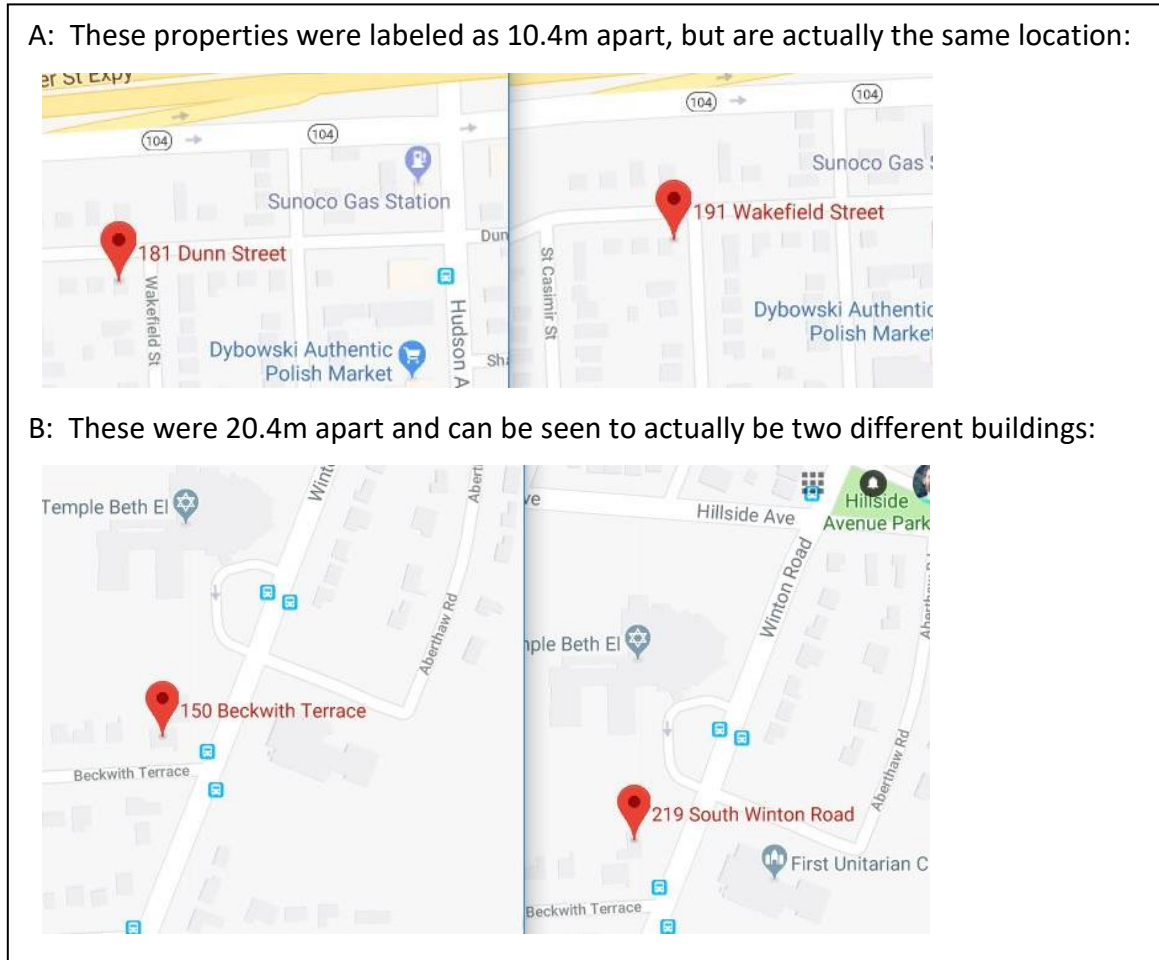


Figure 44: Eliminating Geocoding Error. Assessing Whether a Property was Absentee or Resident-Owned (Google Maps).

### Other adjustments, assignments, and observations

In Rochester, some buildings with fewer than seven units had unusually high property values and/or square footage. When looking at a sample of these using Google Street View, it was found that they were apartment buildings. Presumably, they had been miscoded as having less than seven units. Thirteen absentee-owned buildings and four resident landlord buildings with a size of greater than 11,000 sq. ft. were removed from the list.

Also in Rochester, 4465 buildings had addresses such as 49-53 Earl. The question arises as to whether this denotes a multi-unit building, or three separate ones. A random viewing of 13 such cases using Google Street view found 12 single buildings containing multiple units, and one small

townhouse complex, the above mentioned Earl St. Almost every property was shown as having two or more units in the supplied data. There really was no choice but to treat all as single properties, as that is how they were given in the official data.

Two key variables that were available only for Rochester had a number of possible permutations. For current code violations, the data was supplied in binary form, where a building either had current violations (1) or had no current violations (0). Alternatively, it was available in a more detailed form where the total number of violations were reported and broken down by type. The latter option was only discovered late in the study and ultimately not used. Correlations were run exploring this new information, using the code count per building as the variable, in place of the binary version. This alternate version of the variable was found to correlate poorly to tenure in both the point and aggregated data sets. A close look at buildings with large numbers of code violations showed that many of these violations were of a very minor nature. This seems to indicate that a building with eight violations was not four times worse than one with two. Perhaps this could often be explained because once an inspector was called in to flag one, likely significant problem, she might find a number of others. Sternlieb (1966) found that code violation details could be deceiving. He discovered examples of buildings with an assortment of violations that were in reasonably good order. Also, some landlords he interviewed complained of discriminatory application of the codes by inspectors (p. 181). However, Sternlieb believed that code enforcement “serves very effectively at least as a stabilizing factor in housing conditions” (183).

Regardless of how this assessment was done, the fact that correlations were so weak, indicates that buildings with five or even twenty current violations were not proportionately worse than those with one or two violations. However, it seems equally certain that some buildings must have experienced greater maintenance issues than others, and that the variable that describes current code violations, no matter which version, does not fully capture this issue.

The other variable available in multiple permutations was police reports. This data was available by type of crime and by year, beginning in 2011. There were many ways this could have been used, with the simplest having been applied here. The total count for the seven years of available data was divided by seven to give an annual total count. Far more research would have been required to justify further categorizing and weight by crime category. Using particular years would have been more appropriate when looking at the longitudinal data, but it would also have

made the data more susceptible to spikes in the values. The reason police reports were not reported on a per building rate, as code violations were, was that police calls were most likely related to individual units. Different tenants within the same building could have very different behaviours, whereas, in the case of code violations, the same landlord was responsible, regardless of the unit. A comparison of buildings, by the number of units, showed this to be a somewhat flawed assumption, because the police rate appears to be lower for larger buildings, beyond two units. In spite of this, with averaging of police values for all buildings sizes being used for all reporting of this variable, and there being very few 3-6 unit buildings, the chosen approach is still more accurate than to use a per building calculation.

One further consideration was scale. The largest scale is always ideal, but a compromise was necessary considering the available data. The housing data was accessed at the very best scale, the individual building. This is why kernel density maps were used wherever possible to display this data. Population and race data from the census was from the very reliable 2010 census, but unfortunately, that is somewhat dated. Nonetheless, it justifies using the largest available scale, census blocks. Family income data was taken from the American Community Survey (ACS) five-year average, the best source available (see limitations). Though using a smaller scale, the census tract or larger, would make this a more reliable source, using these larger units would compromise the usefulness of all other data. For this reason, it was decided to use the census block scale for all aggregated data, knowing that it would be very reliable for all but the race variable. Individual block outcomes in relation to race are thus unreliable, although a grouping of blocks should produce a more acceptable estimate of the true situation. For this reason, the largest scale study, one comparing three neighbourhoods in Rochester, used a minimum of four census blocks in each neighbourhood.

### **Some GIS notes**

To create a polygon of residential areas for each city, a 200m buffer was applied to all residential property (1-6 units) point data. This created a smoothed, relatively contiguous grouping. This is also reasonable, because a residential area does not end at the centroid of the property of the outermost home, but rather a short distance beyond, encompassing the yard, the street, and perhaps some city property such as green spaces.



Kernel density maps were offered, in addition to the more commonly used choropleth maps. Kernel maps do a better job of presenting continuous change in generalized values of a variable across space. As this research had information on almost 100% of properties, this was particularly appropriate, as it avoids adding the modifiable areal unit problem (MAUP) issues created by choropleth maps, and is much easier to interpret than dot maps (Sadahiro, 2018, p. 185-186). Kernels in this study used the following specifications: 10m cell size and 300m radius. These were clipped to the residential boundary. Anything finer than 10m added no appreciable detail at the map scale used. The 300m radius was found to be the best compromise for smoothing/averaging purposes. A smaller radius produced too many islands, and a larger radius leads to an overly generalized view of data distribution. ArcGIS Raster Calculator was used to create a ratio of kernels, such as absentee-owned units as a percentage of all residential units - a good way to do a first order analysis of the relative proportion of absentee-owned units across the city.

Geocoding of landlord locations was done with the NY state Geocoding service. Results produced approximately 98% matches for Rochester and Syracuse where there was a real address (i.e. not P.O. box and within NY state). Buffalo data lacked zip codes of landlord addresses. Thus the matching percentage was lower - approximately 90%.

## **Appendix C: Determining types of absentee landlords**

### **Determining the 'size' of landlords**

As some of the literature suggested that larger landlords would manage their properties differently, it seemed logical to explore this by categorizing absentee owners by size of overall holdings. Stegman (1972) called landlords 'large' if they owned 100 or more units. He also suggested that with more than 75 units it would be impossible to maintain the operation as a part-time job, so they needed to be either a full-time landlord or to hire someone to do that for them. As with some of the other literature, the implication is that larger landlords would be more business-like, and thus treat maintenance differently. His other categories were "casual" – 1-4 units, 5 – 24 small, and 25 – 99 medium (p. 27-28).

As this study only looks at small buildings (six or fewer units) a count of units controlled by the same landlord was the most practical way of assigning a 'size' category. Landlords were divided into these groups: large (>40 units), medium (11-40 units) and small (<11 units). The logic to the use of these particular thresholds was the existence of natural breaks around these numbers in the Rochester data. The other cities did not exactly fit this, but it was decided that it was more important to continue this approach for consistent comparison. As it turned out, differences between large and medium-sized landlords were minor, suggesting they could be really be grouped as one category, whereas somewhat more substantial differences were found between small absentee landlords and the rest.

This job of dividing landlords by size was challenging, as many landlords were registered with what seems to be deliberate minor variations in their mailing address and name (Figure 45). This is not just a phenomenon of the three cities in this study. Abood (2017) mentioned a number of examples that are at least as convoluted in the appendix of her thesis (p. 90-93). In addition to legitimate cases of different owners at the same address (a property manager address), the variety of owner names that represented the same owner was sometimes astounding. Often they were variations of actual people's names, adding initials, or proper names. Additionally, there were frequently many different corporations attributed to the same address. These minor variations were much more frequent than might have been expected by chance, suggesting the possibility of deliberate "mistakes." The reasons remain unclear but are explored briefly in the discussion section. It was found that property ownership records could most conveniently be consolidated by

using the home address as the defining indicator of ownership. No example was found where the same owner was recorded with more than one truly different address. Though the corrective process, to the same issue, used by Immergluck (2013) is not detailed in his paper<sup>17</sup>, his observations of this problem seems to indicate it was less severe in Atlanta:

“I made some minor adjustments to the classification of investor size for some specific investors by identifying additional variations on the spelling of investor names and by combining the counts of some LLCs with likely similar owners or management based on similar names. This generally resulted in moving some medium investors into the big category and some small investors into the medium category. These adjustments were not substantial enough to have any pronounced effects on the findings here” (p. 7).

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<sup>17</sup> This paper looked at properties owned by financial institutions, mostly acquired through foreclosure, that were being bought up by investors after the 2009 housing crash, and turned into rentals. It was not looking at maintenance, only measuring investment activity and the conversion of property to rental status. It uses property transaction data at the parcel level, so in some ways similar to the main source of data for this thesis.

Rochester Example: Two versions of the address, three versions of the owner's name

<b>Owner Address</b>	<b>Owner</b>
17 SUNRISE PK PITTSFORD NY 14534	ZHANG XIAOPING BECKY
17 SUNRISE PARK PITTSFORD NY 14534	ZHANG XIAOPING BECKY
17 SUNRISE PARK PITTSFORD NY 14534	ZHANG XIAOPING BECKY
17 SUNRISE PARK PITTSFORD NY 14534	ZHANG XIAOPING BECKY
17 SUNRISE PK PITTSFORD NY 14534	ZHANG XIAOPING & LI YAN
17 SUNRISE PK PITTSFORD NY 14534	ZHANG XIAOPING
17 SUNRISE PK PITTSFORD NY 14534	ZHANG XIAOPING
17 SUNRISE PK PITTSFORD NY 14534	ZHANG XIAOPING

Buffalo Example: Ten versions of the address, eight versions of the owner's name

<b>owner address</b>	<b>owner</b>
2315 WHIRLPOOL 730 NIAGARA FALLS, NY	PINE PROPERTY GROUP LLC
2315 WHIRLPOOL DR NIAGARA FALLS, NY	CEDAR PROPERTY GROUP LLC
2315 WHIRLPOOL ST #730 NIAGARA FALLS, NY	OVER THE RIVER PROJECT LLC
2315 WHIRLPOOL ST 730 NIAGARA FALLS, NY	OVER THE RIVER PROJECT LLC
2315 WHIRLPOOL ST BOX #730 NIAGARA FALLS, NY	NOBLE HOUSE PROPERTY GROUP INC
2315 WHIRLPOOL ST BOX 730 NIAGARA FALLS, NY	CEDAR PROPERTY GROUP LLC
2315 WHIRLPOOL ST NIAGARA FALLS, NY	NOBLE HOUSE PROPERTY GROUP INC
2315 WHIRLPOOL ST NIAGARA FALLS, NY	PIGEONS ROCK PROPERTY GROUP
2315 WHIRLPOOL ST STE 7 NIAGARA FALLS, NY	PINE PROPERTY GROUP LLC
2315 WHIRLPOOL ST STE 730 NIAGARA FALLS, NY	GEMS PROPERTIES OF WNY INC
2315 WHIRLPOOL ST STE 730 NIAGARA FALLS, NY	GEMS PROPERTIES OF WNY INC
2315 WHIRLPOOL ST STE 730 NIAGARA FALLS, NY	GEMS PROPERTIES OF WNY INC.
2315 WHIRLPOOL ST STE 730 NIAGARA FALLS, NY	NOBEL HOUSE PROPERTY GROUP IN
2315 WHIRLPOOL ST STE 730 NIAGARA FALLS, NY	NOBLE HOME PROPERTY GROUP
2315 WHIRLPOOL STE 730 NIAGARA FALLS, NY	GEMS PROPERTIES OF WNY INC

Figure 45: Examples of Multiple Versions of the Owner's Names/Addresses Found in City Data

In order to assign a single address to each owner, the focus was on changing addresses to group them logically. A truncated list (8 characters) of owner addresses were sorted alphabetically. An Excel count-if was applied to the addresses. A count-if was also applied to the full owner addresses. All locations that had different count-if values were isolated and then sorted by the count-if values of the truncated list. By scanning this list, starting with the largest value, it was straightforward (though laborious) to consolidate the addresses – each to a single version. To

demonstrate: In the second example in Figure 45, all addresses were changed to “2315 WHIRLPOOL ST NIAGARA FALLS, NY.” This was only done down to a count-if value of 11, as it was not important to know if a landlord owned two or six or eight properties: these were all classified as “small” landlords. Additionally, this would have been a huge job, as there were far fewer large landlord examples. Thus in the first example of Figure 45, the addresses were not changed, even as they were accounted to belong to a single owner. Still, this did not take care of common addresses that had differences in the first eight characters. To further perfect the list the same process was then done using owner names (where the names were only superficially different), and some further consolidation was possible. The final count-if values of owner addresses were considered to be the number of buildings owned by the landlord. After doing the math to account for the actual number of units held, landlords were then assigned to the appropriate size grouping (large, medium, or small).

### **Separating “small absentee private” from corporate, especially LLC, owners:**

The assumption that large landlords would manage their properties differently than small ones seems to be mostly based on the idea that they would operate their real-estate more like a business. It seemed likely that the same logic might apply to smaller absentee landlords if they were businesses, rather than private holders. In other words, those who went to the trouble of incorporating might have different motivations that would play out with different maintenance behaviour. Additionally, recent commentaries on LLCs created for real-estate ownership suggests that this type of incorporation is often used to obscure knowledge of the actual owner because they are trying to avoid attention or legal ramifications related to poor property maintenance or abandonment (Badger, 2018). An initial exploration of this division of absentee landlords showed that there were substantial differences, helping to justify this effort. Only Rochester was divided this way, as it was the only city that had detailed data, such as current code violations, allowing a useful comparison of these various groupings.

In Rochester, 1649 buildings were found to contain LLC in the names of small (<11 unit) owners. In addition, the following were found: 74 with “CORP”, 21 “DEVELOP”, 307 “INC”, 199 “TRUST”, 36 “HOLDING”. 38 “CHURCH” 126 “PROPERT” 24 “ROCHESTER”. Some of these overlapped. The filter command in Excel was used to select the LLC and copy to another sheet. The

same option was used to remove all the other versions (two at a time using the "or" option). All small absentee-owned properties that did not have these designations were assumed to be owned by small absent private owners. This was not a perfect solution, as grouping a church holding with LLC holdings might be questionable, but the goal was to isolate "small private" absentee landlords. Thus, it might be that just looking at LLC owners could have produced even more dramatically different results.

### **Finding property managers:**

The only reason property managers were considered as a separate category of absentee landlord was the fact that they were quickly discovered when attempting to separate holding by owner. This "accident" proved to be enlightening as this group almost always had the poorest maintenance statistics, regardless of the type of neighbourhood or value of properties. The original approach to identifying property managers was to include all absentee owner addresses that had more than 40 units and that contained multiple owner names that were not variations on a consistent theme (usually variation of one company or family name). The 40 unit threshold was arbitrary but seemed reasonable. This work was later refined by going to Google and looking up these addresses. In some cases, it was obvious that the named person was indeed a property manager. In others, it seemed more likely that they were really a large owner. A search was also made of all property managers in Google, but none that were not already identified as such showed up in the owner's list of Rochester residential properties. The final list verified as property managers were only those that were clearly identifiable as such: that, according to observations from Google searches, managed other owner's residential rental property, promoting and "maintaining" these properties on behalf of the actual owners. (see limitations). For example, the common address of 2255 Lyell Ave, when searched in Google, produced the company name High Falls Property. This proved to be the largest property manager that this study found in Rochester, with 295 units under management. A review of their website confirmed their status as a property manager, where they wrote: "*Rochester* is a great place to invest, offering affordable housing with a high return on your investment. The right management company is the key to success" (Highfalls, 2018).

## **Appendix D: The assignment of variables to the landlord's residences**

The easiest way to assign variables, such as code violations, to Rochester landlord addresses, would be a spatial join of residential property and the landlord locations that were found by geocoding. The problem was that these did not exactly line up, as residential data was located using a centroid of city-supplied polygon parcel data, and the landlords' homes were geocoded using NY state Geocoding service, which estimates the position on a block by proportional estimate based on the street number compared to the blocks range of numbers. Many properties might have been assessed to a neighbouring house or missed altogether. The preferred and chosen alternative was to first select all residential property that was not absentee-owned and join that to a file of absentee property using the landlord address as a join. This is logical because none of the absentee owners residences would register as absentee-owned. No false positives could occur here assuming that the original tenure assignments were solid. There were many misses for several reasons. Any landlord address that was not residential (i.e. commercial) would be skipped, but then that is as it should be because we only wanted residences. Also, because so many landlords used variations of their address, in many cases an address difference of a minor nature, like "Ave" vs "av," would be missed. As the consolidation used to assign one version was arbitrary, it could often differ from the geocoded version. Still, it seems likely that the net selection was random and thus representative.

## Appendix E: Measuring Maintenance

Two variables were available for Rochester, 2017 that gave a specific measurement for each property that could in some ways be considered a proxy for measuring levels of maintenance. 'Code violations' seem closest. However, the measure is far from perfect, which is why it made sense to also look at police incidents. There are a number of limitations with the code violation variable. Code violations are not equally egregious because inspections are typically responses to complaints, rarely are they proactive, which is problematic because lower-income tenants are less likely to file complaints. The city employees supervising the application of code violations can have biases and can miss locations or details. As a result, a home could have serious maintenance issues and no code violations, or the reverse. According to Sternlieb (1966), code violation details can be deceiving. He found examples of building with an assortment of violations, that were in reasonably good order. He also learned that some landlords complained of discriminatory application of the codes by inspectors (p. 181). However, he also argued that code enforcement "serves very effectively at least as a stabilizing factor in housing conditions" (p. 183).

The connection between police incidents and maintenance is via an assumption – that homes experiencing crime, especially repeated crime, are likely problematic locations that would also typically have related problems of poor maintenance. Additionally, to the extent that landlords vet their tenants, they contribute to maintenance issues when they are more focused on collecting the rent than on the behaviours of their tenants.

In fact, judging from the evidence in Rochester, police incidents and code violations appear to move closely with change in property assessment values (Figure 17). Additionally, correlations between code violations and police incidents were relatively high, at .14 for point data and .84 for aggregated data. However, these correlations are well below 100%, indicating that they cover related by different issues in relation to tenure, including different influences from other variables such as race and income. In some cases, the difference seems to indicate that code violations are the more meaningful indicator. For example, across Rochester, police incidents were higher for owner-occupiers than resident landlords, even as code violations were much lower. It seems reasonable to assume that here, police incidents were speaking to a different issue, that of higher vigilance among owner-occupiers when dealing with crime. Dietz & Haurin (2003) support this hypothesis stating: "Homeowners are less likely to suffer crime than renters, perhaps because they



invest more in security due to their vested stake in real property" (p. 404). However, when comparing types of absentee landlords, police incidents seem to provide a ranking of impact on the quality of property maintenance that aligns more closely with expectations than do code violations. In Figure 11 the ranking of police incidents runs from small private landlords to small LLC to larger absentee owners, whereas the code violations are relatively equal across all these groupings. As code violation data is imperfect, the police data could be filling in blanks, adding useful nuance. However, there is no certainty here, and the lack of difference might be the true story.

## **Appendix F: Additional unused data for Syracuse**

The Syracuse data included a number of variables that were explored in detail. Unfortunately, there was not enough time available to fully explore its value, and the early attempts were determined to lack sufficient relevance to this thesis. It is mentioned here as a possible starting point for a future project.

As with Rochester, there was a variable called occupancy which determined if a building was currently unused. In Syracuse, the largest holding was the land bank Greater Syracuse Property Development Corporation (GSPDC). It owned 530 buildings and 400 of them were vacant. The land bank, according to its website, deliberately buys stressed properties and attempts to improve the outcomes through combinations of finding ‘better’ owners and demolition (Greater Syracuse Land Bank, 2018). When searching for the Rochester Land Bank, nine properties were found – so it is a much smaller player than in Syracuse. There is a question as to whether the Syracuse properties owned by GSPDC should be included in this analysis, as it is arguably a unique and distorting factor. However, it only represents a very small part of absentee-owned property, and other than the vacancy rate does not seem that much different than otherwise similar absentee properties. As the geographic distribution of absentee-owned properties would be impacted, it was decided to leave it in. The GSPDC properties are located in some of the most troubled neighbourhoods. The study of land bank impacts and geographic representation belongs in another paper.

Other data, examples following, gleaned from Syracuse open-data was tantalizing as a possible substitute for the code violation data found in Rochester. No individual variable affected enough buildings to be a direct substitute. An effort was made to create a composite of all these variables in the hope this would be effective, but when tested it did not produce any plausible outcomes. Perhaps, with some refinement, it could be useful. Attempts were made to contact city officials, but time limited this endeavour, and so it was decided to leave this for a future project. For the record, here was the first attempt at a composite variable called “disorder”:

To keep it simple, a value of 1 was given for each of the following

- A) More than \$5000 tax owing,
- B) more than three years taxes past due,
- C) more than \$250 water owing
- D) more than \$1000 water owing

and two points if:

- E) Seizure,
- F) Bankruptcy.

Thus a score of eight is the worst and zero is the best score. The logic is that each major category is worth two points, and I further broke down the taxes owing and water according to severity. Seizure and bankruptcy are binary Y/N categories.

As an example of how this point system failed, Figure 46 displays no logic in the trajectory of the points to distance. As we found at least some relationship at small distances (0 – 5km) in Rochester, this seems to suggest that, in addition to the overall observation that we don't seem to be able to nail any relationship between distance and impact on the care of housing, the devised point system for Syracuse may not be a reasonable proxy of care for property.

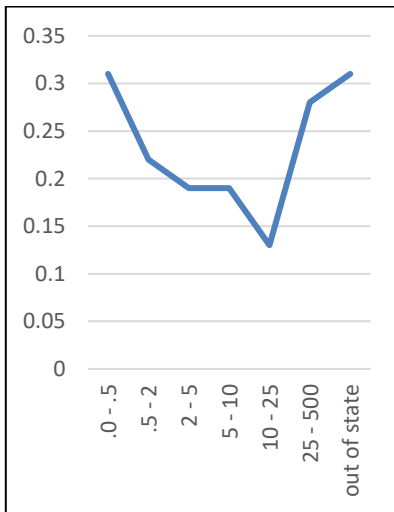


Figure 46: Assessed "Disorder" by Distance in Syracuse, 2017

## Appendix G: Data sources

Rochester 2017 was extracted from: <https://rochester-ny.toilemi.com> and supplied as a polygon shapefile April 2018.

Rochester 2011 (and 2012-15, but not used) was supplied by the city of Rochester through contact Pam Delaney [Pam.Delaney@cityofrochester.gov](mailto:Pam.Delaney@cityofrochester.gov), in Excel format. It was converted into a shapefile by joining the property addresses (over 99% matched). Ms. Delaney was also helpful providing feedback, and some definitions of variables.

Syracuse 2017 was downloaded June 17, 2018 from: <http://data.syr.gov.net/datasets/parcel-data-august-2017> in the format polygon shapefile.

Buffalo 2017 was downloaded June 17, 2018 from: [https://data.buffalony.gov/dataset/Assessment-Residential-Neighborhoods\\_data](https://data.buffalony.gov/dataset/Assessment-Residential-Neighborhoods_data) in the format polygon shapefile.

Data source for census block groups (CBs):  
[https://www.census.gov/geo/maps-data/data/cbf/cbf\\_blkgrp.html](https://www.census.gov/geo/maps-data/data/cbf/cbf_blkgrp.html)

N.Y. State Geocoding Web Service added to ArcGIS to geocode property owners' locations:  
<http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=1278>

Property code definitions from:  
New York State (2018). Property type classification codes - Assessors' Manual. Retrieved Oct. 2018 from Department of Taxation and Finance:  
<https://www.tax.ny.gov/research/property/assess/manuals/prclas.htm#top>

Census data:  
United States Census Bureau. (2018a) Retrieved 2018, from  
<https://factfinder.cesnsu.gov/faces/nav/jsf/pages/index.xhtml>