

The Effect of Community Land Trusts on Neighborhood Outcomes*

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Abstract

This paper studies the effect of community land trusts (CLTs) on neighborhood composition and affordability. CLTs are non-profit organizations that buy and resell houses at subsidized prices with one unique feature: the trust keeps the land deed and leases it to homeowners who sign a long-term agreement to limit the home's resale price, maintaining its affordability indefinitely. CLTs have been rediscovered in recent years as a popular solution to maintaining the stock of affordable housing, in part because they also create pathways from renting to homeownership. An important question is whether a CLT - aside from making the purchased dwelling permanently affordable - generates spillover effects on surrounding house prices through improvements in neighborhood amenities. We create the first national dataset of CLT housing transactions from 2000 to 2016 and combine it with panel data on individual migration histories to estimate the effects of CLT purchases on home prices and displacement in the surrounding neighborhood. We find evidence that neighborhood housing values increase within 250 meters of new CLTs purchases, while the probability of a household moving out of the neighborhood decreases, implying that CLTs help to revitalize declining neighborhoods.

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1 Introduction

Widespread affordable housing shortages and gentrification of historically low-income neighborhoods are a growing concern in US housing policy. Indeed, while the price of shelter relative to other goods has increased by 120 percent between 1970 and 2016 (Albouy, Ehrlich, and Liu 2016), there is considerable heterogeneity in the extent of house price appreciation across places. Coastal cities that experienced a rise in incomes coupled with a restrictive regulatory regime for housing exhibit the largest increase in prices (Glaeser and Gyourko 2018). Regardless of the underlying causes, the increase in housing costs has been linked to the displacement of low-income renters (Qiang, Timmins, and Wang 2020). Aspiring home buyers and low-income home-owners may also be adversely affected. Displacement of lower-income, long-term residents has become a key concern for communities and local governments, spurring a movement to find creative and community-based solutions to tackle these problems and increase the stock of affordable housing (Hwang and Ding 2020).

It is in this context that the long-used model of community land trusts has been rediscovered. Community land trusts (CLTs) are non-profit organizations that buy and resell dwellings at subsidized prices with one unique feature: the trust keeps the land deed and leases it to homeowners who sign a long-term agreement to limit the home’s resale price, maintaining its affordability indefinitely. This arrangement seeks to balance between two competing objectives: allowing the present occupant to build wealth through their home, while keeping the resale price affordable for the next buyer.

Whether this is a model worth pursuing in response to the shortage of affordable housing is ultimately an empirical question. Dwellings that enter the CLT model remain permanently affordable. However, CLTs may have an impact on surrounding housing prices as well. The cost of neighborhood housing may increase if CLT purchases further restrict housing or improve neighborhood amenities.¹ Alternatively, housing prices could go down if the influx of lower-income residents make neighborhoods less desirable. If price effects are positive, this may lead to the displacement of lower-income residents in the neighborhood. In this paper we ask the following: what is the effect of a community land trust’s acquisition of properties on neighborhood property prices and incumbent residents’ likelihood to move? In what context should CLTs be used to meet the affordable housing challenge?

CLTs may have a deleterious effect on the affordability of neighborhood properties. CLTs generally have a negligible effect on the total housing stock, since they seek to acquire existing

1. For instance, most CLTs create incentives for homeowners to make visible improvements on their home, which can have a positive spillover effect on the price of surrounding houses.

properties.² The properties they acquire, however, are no longer available on the private market, resulting in a reduction in the supply of housing units for sale. When demand for housing is either unchanged or increasing, a reduction in the supply of homes will lead to higher prices for the remaining units. To the extent that properties within the same neighborhood are substitutes for one another, we would expect acquisitions by a CLT to increase surrounding house prices, making housing less affordable in the vicinity of CLT homes.

Furthermore, CLTs in practice tend to organize members together with their local community to undertake projects that improve neighborhood amenities, such as the construction and maintenance of community gardens. CLTs also increase civic activity in the neighborhoods where they operate (Thaden and Lowe 2014), which may increase the community's capacity to effectively petition local authorities for better services. Finally, properties acquired by a CLT and leased to an owner-occupant are more likely to be maintained, either by the occupant or the CLT itself. All of these reasons would improve the neighborhood quality where CLTs are active, and, therefore, increase demand for housing in that neighborhood.

On the other hand, CLTs might in theory exert negative pressure on surrounding house prices through their purchases. Eligibility for occupying CLT homes (either as home-owners or renters) is determined by income. Households usually meet conditions that limit their incomes to around 80% of area median income, with the precise threshold differing by organization. If affordable housing developments are viewed as a disamenity, as Diamond and McQuade 2019 find to be the case for higher-income households in higher-income areas, an influx of lower-income residents would make a neighborhood less desirable and, in turn, reduce demand for local residential properties. Should this effect overcome the upward pressure on house prices described above, we would expect prices of properties surrounding a unit acquired by a CLT to decline, relative to similar properties farther away.

CLT activity may affect other neighborhood outcomes related to affordability, in addition to house prices. Many municipalities in the United States are experiencing the effects of gentrification: displacement of low income residents as long-neglected neighborhoods undergo revitalization through an influx of businesses and new residents. If CLT activity contributes to gentrification, we would expect to see an increase in the likelihood that residents in the surrounding neighborhood move elsewhere. We would also expect to observe an increase in

2. Some organizations purchase and develop vacant lots, or rehabilitate dilapidated buildings, thereby adding to the local housing supply. This occurrence is not very common in our data and we do not account for this activity explicitly in the analysis. The purchase of a vacant lot is treated the same as the purchase of an existing unit.

the income of neighborhood residents, as low-income residents are displaced by those who are attracted by the improved amenities, and who can afford to meet the increase in housing costs.

To study these questions, we are creating the first comprehensive national data set of CLT real estate transactions between 2000 and 2016 and combine it with panel data on household migration histories. These data allow us to study the effect of property acquisitions by CLTs on the value of surrounding properties, as well as the likelihood that a neighboring household relocates. We also explore the effect of CLTs on homeownership and income. It is important to note that our paper measures affordability using property sales prices and estimated home values, but not rental prices. To the extent that home values are a measure of housing costs that is correlated with rents, the results we find on affordability may extend to the rental market.

Despite the policy interest, due to a lack of detailed data we have little well-identified empirical evidence evaluating how CLTs affect the residents who live in the surrounding homes and the neighborhood housing market. First, the number of properties that CLTs purchase in a census tract is rarely sufficient to detect effects with statistical significance in aggregate data. More importantly, CLTs are not randomly assigned to neighborhoods: they select into neighborhoods according to factors that are rarely observable to a researcher (e.g. the local community capital). Across-neighborhoods comparisons are therefore unlikely to be able to identify the effects of CLTs. The high spatial frequency of the microdata on housing transactions and household characteristics that we construct allows us to overcome some of the identification challenges associated with the study of CLTs.

We identify the effects of CLTs on surrounding housing prices and residents' mobility by exploiting the fact that CLTs tend to be cash-constrained and the exact property they acquire is determined by the set of properties available for sale at the precise time when organizations can afford to make a purchase. Within a target neighborhood, the set of properties available for sale is likely to be independent of a CLT's purchase timeline, so that the exact geographic location of the home that they purchase is credibly exogenous. We therefore use a spatial difference-in-differences estimator (also known as "ring method"), to evaluate the effects of a CLT acquisition on immediately surrounding homes relative to the homes slightly farther away within the target neighborhood. While our research design provides a step forward with respect to previous analyses, we still find some evidence that there may still be within-neighborhood sorting of CLTs into specific properties, and we discuss our identification strategy and the challenges we face in more detail in [section 4.1](#).

We find that acquisitions by Community Land Trusts lead to an increase of roughly \$14,300 in the estimated home value of surrounding properties, relative to the control group (see Table 4). Using data on sales prices over the five years after the purchase, we find that acquisitions lead to a 10.14% increase in the sales price of surrounding properties, relative to the control group. To put these findings in context, the average sales price within CLT micro-neighborhoods in the period before a CLT purchase is \$225,900, while the mean estimated home value at the time of purchase is \$159,300 (see Table 7). Turning to the effect on relocation, we find that CLT acquisition reduces the likelihood of a move from a surrounding home by 1.4 percentage points over a baseline likelihood of 14.5% (see Table 5). Taken together, these results suggest that CLT activity makes properties in target neighborhoods more valuable, but that does not precipitate the relocation of residents. One interpretation of these findings is that CLTs mitigate the decline of neighborhoods where they operate, thereby making existing residents more likely to remain and pushing property values upwards. This suggests that CLTs are a promising model for neighborhood revitalization, with benefits for both CLT residents and residents in the neighborhood, without causing displacement.

Additional results tend to support this conclusion. For example, we find that estimated likelihood that a household is a homeowner increases, while incomes increase by 2.4 % over a baseline of \$50,000 (see Tables 6 and 8). These two results, however, should not be interpreted as the effect of CLT activity on the homeownership and income of existing residents, since they are likely attributable to a change in the neighborhood demographic composition.

Related Literature: This paper contributes to several strands of literature. First, it adds to the literature on Community Land Trusts (CLTs). Despite the increasing attention that the model has received, evaluations of CLTs are still limited and the majority of the available studies focuses on the impacts that CLTs have on their residents³. This paper instead focuses on the neighborhood effects of CLTs, which is less studied in the literature. Nelson et al. 2020 focus on the City of Lakes Community Land Trust in Minneapolis and find that its presence in a neighborhood is associated with stably higher housing prices, even in neighborhoods affected by foreclosure. Choi, Zandt, and Matarrita-Cascante 2018, using data from 46 CLTs across the United States and demographic data at the census tract level,

3. This literature is largely consistent in finding that CLTs do increase wealth-building opportunities for low-income households (Temkin, Theodos, and Price 2010, Thaden 2011), while results are less consistent regarding whether they create lasting affordability for the homes in the model (Lauria and Comstock 2007, Davis and Stokes 2009). Bourassa 2007 highlights how the ability to create lasting affordability depends on conditions such as prevailing interest rates, housing price appreciation and CLT-specific characteristics.

find evidence that CLTs can slow displacement and turnover in gentrifying neighborhoods. Our study leverages extensive micro data to study highly local effects of CLT housing across the United States. Previous studies either focus on a single CLT (Nelson et al. 2020) or rely on CLTs to voluntarily provide information on the units they own (Choi, Zandt, and Matarrita-Cascante 2018). We contribute to the literature by bringing in a comprehensive new dataset on public-records CLTs transactions before 2016, paired with transaction and demographic data at the address level. This allows us to study the microneighborhood effects of CLTs instead of having to restrict our attention to those tracts that have sufficient CLT homes to detect effects at such an aggregate level.

Second, this paper is part of the literature examining the effects of affordable housing on local neighborhoods. With this focus, scholars have previously studied the Low Income Housing Tax Credit (LIHTC) (Eriksen and Rosenthal 2010; Diamond and McQuade 2019; Baum-Snow and Marion 2009), Section 8 vouchers (Davis et al. 2021, Susin 2002), rent control (Autor, Palmer, and Pathak 2014, 2017; Diamond, McQuade, and Qian 2019) and inclusionary zoning (Schuetz, Meltzer, and Been 2011; Soltas 2021, Singh 2020). Despite their expanding role in the affordable housing landscape, Community Land Trusts (CLTs) are relatively understudied and we contribute to filling this gap.

More broadly, our paper is related to the literature examining neighborhood spillover effects of housing policies. Pennington 2021 exploits the random variation in the location of serious building fires in San Francisco and finds that new construction of market rate housing reduces rents and displacement pressures while improving neighborhood quality, thus benefiting incumbent residents. Hornbeck and Keniston 2017 find that negative spillover effects on property values from outdated buildings dampened renovation incentives in Boston until the Great Fire in 1872 created room and incentives for new construction. Rossi-Hansberg, Sarte, and Owens 2010 study the impact of urban revitalization programs implemented in the Richmond, Virginia area on local land prices. Campbell, Giglio, and Pathak 2011 examine the effects of housing foreclosure on housing prices nearby. We contribute to this literature by showing that CLTs, which increase new homeowners' incentives to make improvements on the house they own, have positive spillovers on neighboring prices and the residents' willingness to remain in the neighborhood.

The paper proceeds as follows. Section 2 gives background information on community land trusts. Section 3 describes the data we use. Section 4 presents research design and estimation procedure. Section 5 gives the estimation results for the effect on housing prices and moving probability. Section 7 concludes.

2 Community Land Trusts

Community land trusts (CLTs) seek to remove land from the private market by purchasing it and leasing it to qualified residents at below-market rate. They maintain affordability by limiting resale prices through formulae that compensate leaseholders based on inflation, local house prices, and length of tenure. Most CLTs obtain a 501(c)(3) designation from the IRS, though in a few cases, programs similar to CLTs are administered by local governments or public housing authorities. In this paper, we focus on CLTs that have been registered as 501(c)(3) organizations at some point between 1990 and 2016.⁴

The earliest CLTs were formed in primarily rural areas in the 1960s and 70s, with the first arising to provide black households with greater access to land and asset ownership. Urban CLTs emerged in the 1980s as a way to provide permanently affordable housing for low- and medium-income households (see Davis 2010). Since the 1990s, the number of CLTs has grown significantly in the United States, driven by the support of local governments and municipalities. A 2006 survey by the Lincoln Land Institute showed that the majority of CLTs serve urban areas, followed by rural or small towns. Though CLTs are diverse and form in response to specific local conditions, the majority share a mission of promoting affordable housing (Sungu-Eryilmaz and Greenstein 2007).

CLTs are usually governed by a board of CLT-properties residents, community residents and public representatives. They incorporate a variety of governance structures, policies, and practices to ensure community engagement and that community interests are prioritized (Thaden and Lowe 2014). They can carry out a variety of projects in a community (such as agriculture projects, affordable commercial spaces, green spaces conservation), but the heart of their work is the creation of homes that remain permanently affordable, providing homeownership opportunities for lower income families. While there is a lot of variability in the details of CLTs' activity, we describe the general structure of their program in the following subsection.

2.1 Overview of CLTs' program structure

The most common configuration of the program begins with the Community Land Trust (CLT) purchasing a lot of land with the purpose of retaining ownership forever. Any structure sitting on the lot is then sold to a qualified family or individual who leases the land from

4. While we do have some financial information on Community Land Trusts created after 2016, our CLT transaction dataset - and therefore our main analysis - stops in 2016.

the CLT in a long-term (usually 99 years) contract that can be renewed and inherited.⁵ The purchase price is therefore more affordable because the homeowner is buying the house but not the land. Homes are usually priced at a cost so that monthly mortgage payments are affordable to households with income below 80% of Area Median Income (AMI). Buyers will still need to be eligible for a mortgage from a third-party lender and a minimal down payment will be required from the home buyer, with the balance subsidized by a no- or low-interest gap loan. This means that the population that CLTs target for their homeownership programs is low-to moderate income residents.⁶

CLTs usually operate as a shared-equity homeownership program, with homeowners agreeing to re-sell the home at a restricted price to keep it affordable for future buyers. The property could be sold back to the CLT or sold directly by one homeowner to another with the resale price determined by a resale formula that varies across CLTs rather than by the property's market value.

Resale formulas are usually designed to allow homeowners to recover their original down payment and to realize a “reasonable return” on the home-owner's investment.⁷ In general, however, resale formulas set an upper limit and there is no guarantee that a homeowner will receive the formula-determined price: for instance if the property's value has plummeted, its condition has deteriorated, or if the formula itself has failed to keep the resale price within financial reach of the targeted, income-eligible population, the actual resale price may be lower.

Davis 2006 describes four common approaches to determining the resale price of a CLT home: indexed formulas, itemized formulas, appraisal-based formulas and mortgage-based formulas. Indexed formulas link upward adjustments in the original purchase price of a house to changes in a specified index, such as percentage change in Area Median Income. Itemized formulas adjust the original purchase price by adding or subtracting specific factors that change the value of the home, such as capital improvements or unusual damages made by the owner, inflation, maintenance, repair and depreciation. Appraisal-based formulas, adjust the original purchase price by giving the owner a specified percentage of market appreciation,

5. Some community land trusts also manage affordable rental housing. In this paper, we do not distinguish between properties acquired by a CLT for owner-occupancy and those acquired for renting.

6. According to the definition provided by the department of Housing and Urban Development, *low-income* refers to households earning less than 80% of the Area Median Income (AMI), *very low-income* to households earning between 31% and 50% and *extremely low-income* to households earning less than 30% of the AMI. While private nonprofits can provide affordable housing to low-income households, it is usually hard for them to serve very- and extremely low-income households without the deep subsidies of public housing assistance.

7. As Davis 2006 highlights, “What constitutes a return that is “reasonable” or “fair” is a subject of considerable debate among the organizers and supporters of shared equity housing”, (page 65).

as measured by appraisals that are done at the time of purchase and at the time of resale. Finally, mortgage-based formulas determine the resale price by calculating the maximum amount of mortgage financing that a home buyer at a targeted level of income can afford at current interest rates. All of these formula types are used by different CLTs, but it is outside the purpose of this paper to distinguish how they affect CLT residents' incentives.

3 Data

We use three main panel datasets for our analysis: a community land trust (CLT) panel, an address-level panel to study housing prices and one panel at the household level to study residential mobility. We build the panels by combining data from several different sources for the years 2000-2016.

3.1 Community Land Trusts Data

First, we scraped the CLT directory put together by the Schumacher Center for a New Economics to identify which CLTs are active in every state.⁸ CLTs are usually 501(c) nonprofit organizations but they do not have a dedicated subsection of the tax code allowing researchers to identify them from the national Tax Exempt Organization databases.

Once we identified the names of the organizations that fall into the CLT definition, we obtained their tax returns from the Nonprofit Explorer provided by ProPublica.⁹ The dataset reports each organization's financial details such as their executive compensation, revenues and expenses. This tool allows us to identify additional CLTs that do not appear in our initial list, mainly because they are no longer active.

We identified a total of 220 CLTs founded between 1969 and 2021.¹⁰ The founding date and location of these organizations are summarized in figures 1, 2 and 3. The establishment of CLTs accelerated in the 1980s, peaking in 1989 before declining over the next decade. The middle of the 2000's saw a rise in activity, a large proportion of which occurred in the aftermath of the housing crisis and recession of 2007-08. However, the year with the most CLTs founded is 2019. While many of these organizations are unlikely to have a large portfolio of properties so soon after their founding, this peak suggests growing interest in the CLT model in the US, as urban areas struggle to maintain a reliable stock of affordable

8. Source: <https://centerforneweconomics.org/apply/community-land-trust-program/directory/>

9. Accessible here: <https://projects.propublica.org/nonprofits/>

10. Thaden 2018 estimates that by 2018 there were 225 CLTs (60 of which had no units) with 12,000 homeownership units.

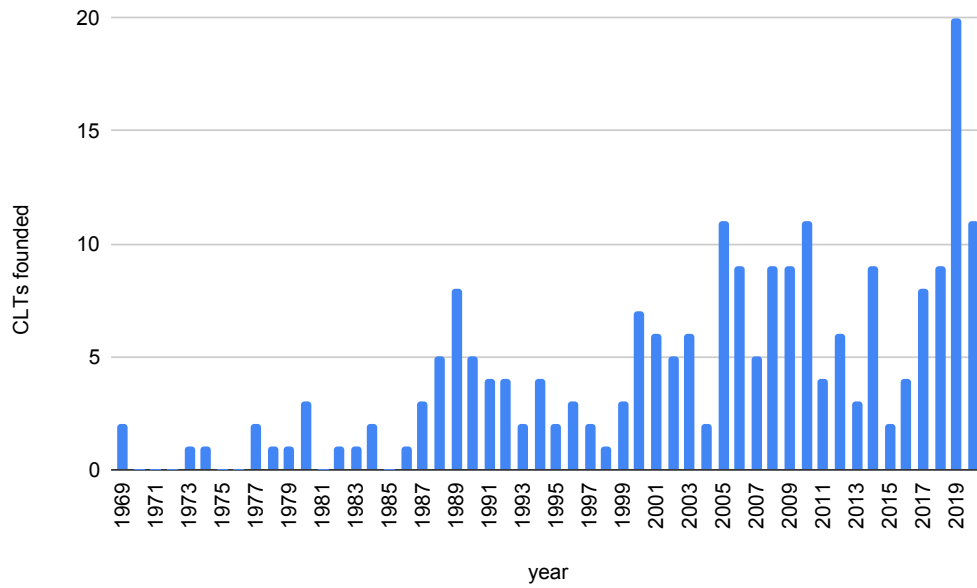


Figure 1: Number of community land trusts over time

housing. Figure 3 shows that the states with the most CLTs - Washington, Massachusetts, California, and New York - also happen to be those with the largest urban population centers.

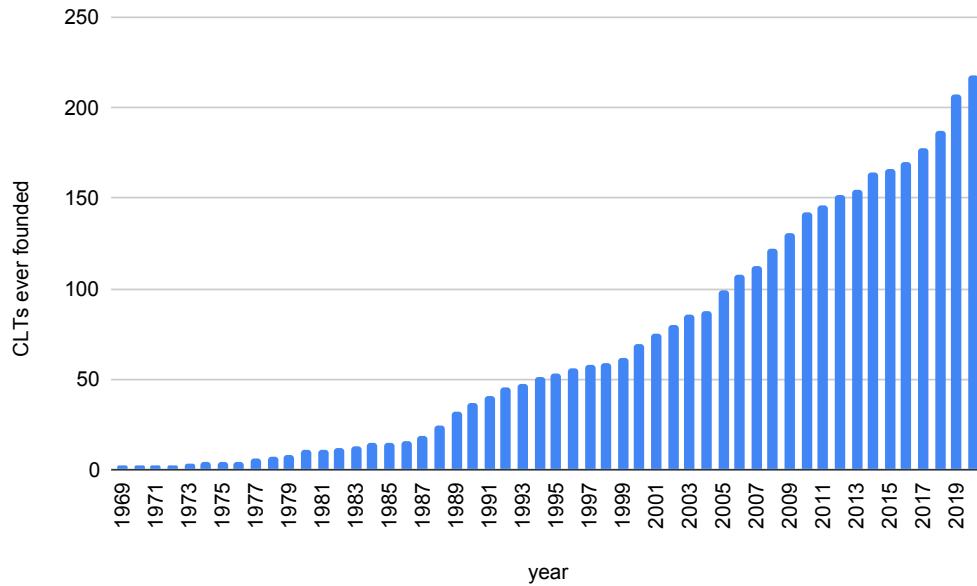


Figure 2: Cumulative number of community land trusts over time

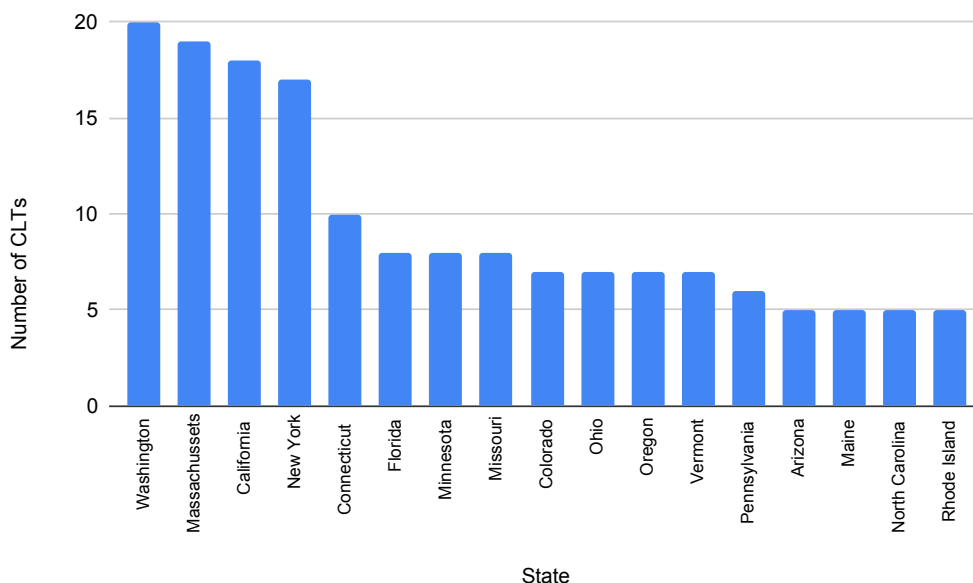


Figure 3: Number of community land trusts by state for those with more than 5 CLTs

3.2 Address-level Data

The second dataset that we use is provided by CoreLogic and includes detailed public records on housing characteristics and transactions data collected from county assessors and register of deeds officers. We merge this dataset with the CLT dataset, which allows us to identify exactly which homes were purchased by each organization and on what date. We are also able to identify subsequent sales of CLT properties and the price at which they are transacted.

The CoreLogic data are at the transaction level and provide us with a transaction’s price and date, as well as property characteristics, such as whether the property is a single-family or multifamily home, the year it was built, the property’s square footage and number of bedrooms. For each property, we are able to construct its transaction history for the period 2000-2016, including the buyer’s and seller’s names and transaction type (arm-length versus nominal transfer).

The quality of the data is not uniform across the counties in our sample for two main reasons. First, not all states have the same requirements in terms of what information must be included in public records. Second, coverage doesn’t start at the same time in all counties. While there are some transactions in the data as early as the 1990’s, it is only after the year 2000 that coverage allows for meaningful inference. For this reason, we focus on arm-length transactions that happened between 2000 and 2016. As explained in detail in section 4, we restrict our analysis to properties within 500 meters of a CLT home.

Constructing the analysis file requires identifying addresses¹¹ in the home sales data that were bought by CLTs. Unfortunately, CoreLogic data do not include identifiers for whether a transaction involves a CLT and idiosyncrasies in each CLT’s operating model generate patterns in the home sales data that may be unique.¹² As a result, relevant transactions must be identified by conducting a search for the CLT through the buyers’ names. CLTs may be recorded as parties in a transaction under a number of different iterations of their official name.¹³ This work must proceed one organization at a time, and to date has been completed for the 15 largest CLTs by number of units according to the information in the Schumacher Center for a New Economics’s directory.

Table 1 reports information for the transactions that took place between 2000 and 2016 for the CLTs in our current sample. Restricting our analysis to those properties within 500 meters of a CLT home leaves us with a sample of more than 47,000 transactions in a total of 19 counties in 11 states. Figure 5 in Appendix plots the location of CLT houses for four CLTs in our sample.

Table 1: Community land trusts included in the analysis to date

CLT Name	Location	Transactions	Unique Properties
Champlain	Brington, VT	204	98
Orange	Chapel Hill, NC	39	33
City of Lakes CLT	Minneapolis, MN	117	89
Community Partners for Affordable Housing	Highland Park, IL	11	11
Durham CLT	Durham, NC	48	43
Diamond State CLT	Dover, DE	11	9
First Homes	Rochester, MN	137	87
Guadalupe NDC	Austin, TX	43	27
Homes within Reach	Minnetonka, MN	55	49
Homestead	Seattle, WA	100	72
Newtown	Tempe, AZ	136	82
Oakland CLT	Oakland, CA	18	18
Pima County	Tucson, AZ	64	60
Proud Ground	Portland, OR	30	23
Rocky Mountain	Colorado Springs, CO	224	148

11. Throughout the paper, we use the term “address” as a synonym of “housing unit”, as we control for unit number in duplexes and multifamily buildings.

12. For example, in some cases, a CLT will subsidize the sale price of the home with the subsidy being recorded as a separate transaction. The sale of an address would then generate two records. In other cases, a sale is recorded in a more standard manner as a single record.

13. For example, “Durham Community Land Trustees”, “Durham Community Land Trust”, “Durham Cmnty Land Trust”, “Durham CLT”, or “DCLT”.

3.3 Household-level Data

Our third panel is from Data Axle USA (formerly known as Info USA), which provides information on the household residing at a given address in a every year from 2006 to 2019. The data is collected by Data Axle using records from over 100 different sources including real estate and tax assessments, voter registration files, utility connects, bill processors, behavioral data, integrated with “dozens of proprietary enrichment sources [*and*] proprietary ethnic research and thousands of linguistic rules to identify an individual’s affiliation with a particular racial or cultural group”.¹⁴

The Data Axle USA data provide a balanced panel of the demographic characteristics of residents around CLT properties, including estimates of their home’s value and income and the length of residence at their current address. To study the effects of CLT home purchases on surrounding residents’ mobility, we construct the variable “moved” to be equal to 1 if we observe a change in the residents’ names from the previous year.

Summary statistics are provided in Table 2. We see that the average transaction price of houses sold between 2000 and 2016 was 204,627\$, which is 23.5% higher than the average estimated value of throughout the period. This difference highlights the importance of thinking about the composition of houses that go on the market, a point that we discuss in more detail in section 5.1. We also see that 12.86% of the households in our sample move throughout our study period and the average household stays at the same address for almost 13 years. The average estimated income is slightly above 50,000\$. Table 7 in Appendix provides the same summary statistics at baseline, i.e. before the CLT purchases of a home within 500 meters.

4 Research Design

Our goal is to study the effect of Community Land Trusts’ (CLTs) activity on local house price and probability of moving. In order to causally identify such effects, we use a spatial difference-in-differences strategy commonly known as the “ring method”. Intuitively, we compare units very close to a CLT home before and after the home was purchased by the CLT to units slightly further away from the CLT home.

Figure 4 illustrates the intuition behind the method. The center of the figure is marked with a CLT home purchased in year t_0 , which represents the treatment. Two rings are then drawn around the treatment location: an inner ring of radius r_1 and an outer ring of

14. Source: <https://www.dataaxleusa.com/lists/ethnicity-marketing-list/>

Table 2: Summary statistics

Variable	All	Inner Ring	Outer Ring
Corelogic			
Transaction Price	204626.989	179558.576	225916.051
N	47202	19485	27717
Data Axle USA			
Estimated Home Value	156502.067	164546.702	148882.706
Moved	0.149	0.135	0.164
Length of Residence	12.861	14.442	11.342
Income	51213.326	56012.864	46591.175
N	192552	94551	98001

Note: The table reports the mean values and number of observations of the variables used in our analysis. The first panel reports data from Corelogic, so that each observation is a house transaction. The second panel reports data from Data Axle USA, so that each observation is an address in a given year. Column 1 reports the mean values for all observations, Column 2 reports the means for observations that are located in the inner ring of a CLT home and Column 3 reports the means for observations that are located in the outer ring of a CLT home.

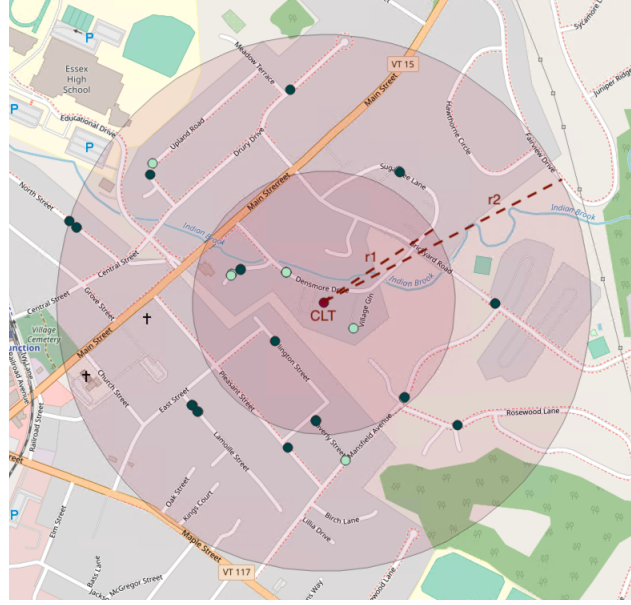
radius r_2 . Units within the inner circle, are considered treated due to their proximity to the CLT home, while units between the inner and outer circles are considered control units. The remaining units are removed from the sample. Observations across the two groups for periods $t < t_0$ constitute the “pre” period, while those for periods $t \geq t_0$ constitute the “post” period. Throughout the paper we use the term “microneighborhood” to indicate the area included within the larger ring around a CLT home.

4.1 Identification

The main identification challenge is that CLTs do not purchase their homes randomly. Instead, their activity is geographically targeted to specific neighborhoods. This selection implies that comparing outcomes across neighborhoods that have CLTs to neighborhoods that do not would produce biased estimates of the effect of CLT activity. We overcome this concern by exploiting the rich geocoded microdata on housing transactions and household characteristics described in Section 3. Our identification strategy relies on the fact that within a given neighborhood where CLTs are active, the *exact* location of the home that they purchase is exogenous. In particular, CLTs tend to be cash-constrained and the purchase location depends on what parcels are available for sale at the time when the organization can afford to make a purchase.

Butts [2021](#) formalizes the identifying assumptions that are needed for the estimated

Figure 4: Illustration of the ring method using a microneighborhood in Essex Junction, VT



Note: The red dot represents a home purchased by the Champlain CLT in year 2004. Homes located in the smaller ring of radius r_1 constitute the treatment group, while those located in the larger ring of radius r_2 are the control group. The light blue dots represent homes that were transacted in the 356 days before the CLT purchased the home, while the dark green dots represent homes transacted in the 365 days after.

average treatment effect to be unbiased. The first assumption is the usual parallel trends assumption for the treated and control units: the average change over time in outcomes in the treated ring had it not been treated is equal to the average change in outcomes in the control ring. The high spatial frequency of our data allows us to compare treated and control units that are proximate to one another, have access to the same local amenities and therefore are likely on the same house prices and household mobility trends. The second assumption requires that we correctly identify the radius of the inner ring, i.e. how far treatment effects are experienced. As highlighted by Butts 2021, when this assumption is not satisfied, the estimates of the treatment effect are biased.

4.2 Estimation

We estimate the following model for observation i in micro-neighborhood c and time period t :

$$Y_{i,c,t} = \beta_1 In - ring_{i,c} + \beta_2 Post_{i,t} + \beta_3 (In - ring_{i,c} \times Post_{i,t}) + \gamma_c + \tau_{YM} + \epsilon_{i,c,t} \quad (1)$$

$Y_{i,c,t}$ is the outcome of interest (detailed in the next section), $In-ring_{i,c}$ is a dummy variable equal to 1 if unit i is within 250m of a CLT home and $Post_{i,t}$ is a dummy variable equal to 1 for periods after the CLT purchases a house in the microneighborhood. We also include a vector of micro-neighborhood fixed effects, γ_c , and a vector of year-month fixed effects τ_{YM} . Like in a standard difference-in-differences specification, β_3 is the coefficient of interest and, under the assumptions articulated in the previous sections, captures the average treatment effect of proximity to a CLT home.

5 Results

This section presents the main results of the paper. Section 5.1 summarizes our results of the effect of CLT acquisitions on the sales prices and estimated home values of neighboring properties, while Section 5.2 summarizes the effect of CLT acquisitions on surrounding residents' mobility.

5.1 House prices

Table 3 presents results from estimating Equation (1), the main specification discussed above. The outcome variable is the logarithm of the public-records transaction price reported in the CoreLogic dataset. Columns (1) through (3) progressively add microneighborhood and year-month fixed effects. Throughout the analysis, we cluster standard errors by address.

The in-ring coefficient is negative, as expected, indicating that CLTs target the neighborhood's lowest-valued areas. The estimate in Column 3 implies that, on average, properties within 250 meters from a CLT property sell for 13.6% less than properties located slightly further away, between 250 and 500 meters.

The main coefficient of interest is the interaction of the in-ring and post variables. The positive sign means that a CLT's home purchasing activity increases property prices in the immediate surroundings. The coefficient in Column 3 indicates that this effect is a sizable and significant 10.14%.

A key concern using the CoreLogic transaction-level dataset is that the composition of properties that sell at a specific time and place may be selected along dimensions we cannot control for. In this case the estimate of the effect of CLT activity on sales prices would be biased. To ease this concern we could use address fixed effects, but this would lead us to throw out a large amount of data since not many of the houses in our sample sell twice within the relatively short period that we consider. Moreover, the houses that do sell twice

Table 3: Effect of CLT acquisitions on sales prices (% change)

Dependent Variable:	log(Transaction Price)		
Model:	(1)	(2)	(3)
<i>Variables</i>			
In-ring	-0.1367*** (0.0304)	-0.1457*** (0.0206)	-0.1359*** (0.0191)
Post	-0.0263 (0.0340)	-0.0632*** (0.0236)	-0.0692*** (0.0193)
In-ring \times Post	0.0592 (0.0396)	0.1282*** (0.0283)	0.1014*** (0.0249)
<i>Fixed-effects</i>			
Microneighborhood		Yes	Yes
Year-Month			Yes
<i>Fit statistics</i>			
Observations	47,202	47,202	47,202
R ²	0.00238	0.28584	0.30979
<i>Clustered (address) standard-errors in parentheses</i>			
<i>Signif. Codes: ***: 0.01, **: 0.05, *: 0.1</i>			

in a short time frame could themselves be systematically different from those that don't. Instead, we use the Data Axle USA dataset to run a robustness check.

Table 4: Effect of CLT acquisitions on estimated home values (\$)

Dependent Variable:	Estimated Home Value		
Model:	(1)	(2)	(3)
<i>Variables</i>			
In-ring	5,581.0** (2,420.8)	7,235.7*** (2,309.3)	-11,916.7*** (2,039.9)
Post	-13,178.7*** (1,442.9)	-8,534.4*** (1,458.8)	-1,088.6 (1,288.3)
In-ring \times Post	16,839.5*** (1,684.7)	13,034.5*** (1,606.2)	14,282.8*** (1,686.1)
<i>Fixed-effects</i>			
Year		Yes	Yes
Microneighborhood			Yes
<i>Fit statistics</i>			
Observations	192,552	192,552	192,552
R ²	0.00237	0.02037	0.46429
<i>Clustered (address) standard-errors in parentheses</i>			
<i>Signif. Codes: ***: 0.01, **: 0.05, *: 0.1</i>			

Table 4 reports results from estimating Equation (1) using the estimated home value variable from Data Axle USA. The signs and magnitudes of the coefficients are reassuringly

consistent with the results we found in Table 3.¹⁵ The main advantage of this exercise is that we have a balanced panel: all addresses are observed every year, independently of whether or not they are transacted. This minimizes our concerns about the different composition of houses that sell in a given time frame. However, the main shortcoming is that the dependent variable is an estimate provided by the company, rather than the true market value. Moreover, our time-of-sale fixed effects are less precise because we only observe the year in which the observation was collected instead of the exact date.

Overall, Table 3 and Table 4 together provide strong support for the hypothesis that CLT acquisitions lead to sizeable increases in the home values in their immediate surroundings in the 5 years following the purchase.

5.2 Resident Mobility

Our second set of results focuses on the effect of CLTs home purchases on the mobility of residents living in the surrounding properties. Table 5 presents results of a linear probability model estimated using Equation (1). The outcome variable is a binary variable equal to one if the household has moved from the previous year. Column (1) through (3) progressively add year and microneighborhood fixed effects. Throughout the specifications, we cluster standard errors by address and we control for the length of residence of a household at its current address.

The coefficient on length of residence is unsurprisingly negative, suggesting that the longer a household has been living in its current location, the more likely it is to be found in the same location the following year. To be precise, for each year that the household has been living at its current address, the probability of moving decreases by almost 1 percentage point.

As in the previous section, the main coefficient of interest is the interaction of the in-ring and post variables. The negative sign means that a CLT's home purchasing activity decreases the probability of moving for households living in the immediate surroundings. The coefficient in Column 3 indicates a decrease by 1.4 percentage points in the probability of moving for households located within 250 meters of a newly purchased CLT home compared to households located slightly further away.

CLTs seem to have a positive impact in the likelihood of a neighborhood to retain current residents. To assess possible mechanisms, we look at whether we observe any change in

15. Given the baseline estimated home value of \$156,602, the \$ 14,203 increase suggests an impact of CLT activity on housing prices slightly lower than 10%.

Table 5: Effect of CLT acquisition on likelihood of moving

Dependent Variable: Model:	(1)	Moved (2)	(3)
<i>Variables</i>			
In-ring	-0.0017 (0.0036)	-0.0028 (0.0035)	-0.0008 (0.0037)
Post	0.0065* (0.0035)	-0.0022 (0.0035)	-0.0272*** (0.0044)
In-ring \times Post	-0.0036 (0.0041)	-0.0072* (0.0041)	-0.0140*** (0.0046)
Length of Residence	-0.0098*** (0.0001)	-0.0097*** (0.0001)	-0.0090*** (0.0001)
<i>Fixed-effects</i>			
Year		Yes	Yes
Microneighborhood			Yes
<i>Fit statistics</i>			
Observations	164,385	164,385	164,385
R ²	0.13348	0.13923	0.16491
<i>Clustered (address) standard-errors in parentheses</i>			
<i>Signif. Codes: ***: 0.01, **: 0.05, *: 0.1</i>			

homeownership rates in the area. Table 6 this channel using the probability that a household owns the house in which it resides provided by Data Axle USA. The variable takes values between 1 (confirmed renter) and 9 (confirmed homeowner), with intermediate values different levels of certainty about the household’s tenure¹⁶.

Unsurprisingly, households that have lived at the same address for longer are more likely to be homeowner. The coefficient of interest, the interaction between in-ring and post, suggests that CLT activity increases the likelihood that households own the home they are living in. This effect seems consistent with CLTs making a neighborhood more desirable for people to live in long-term and therefore buying a house, but it also indicates that further analysis on whether renters can benefit from such increase in desirability is a necessary next step.

6 Conclusion

Community land trusts seek to remove residential properties from the private market in order to maintain a permanent stock of affordable housing for low-income households. Eligible

16. We are currently in the process of obtaining a more precise measurement by comparing the household’s names in Data Axle USA to the administrative transaction records in CoreLogic.

Table 6: Effect of CLT acquisition on tenure

Dependent Variable: Model:	Ownership Index		
	(1)	(2)	(3)
<i>Variables</i>			
In-ring	0.4369*** (0.0365)	0.4449*** (0.0358)	0.1659*** (0.0312)
Post	-0.1913*** (0.0227)	-0.1780*** (0.0236)	0.1145*** (0.0184)
In-ring \times Post	0.1965*** (0.0277)	0.1307*** (0.0276)	0.1391*** (0.0226)
Length of Residence	0.1284*** (0.0011)	0.1275*** (0.0011)	0.0840*** (0.0011)
<i>Fixed-effects</i>			
Year		Yes	Yes
Microneighborhood			Yes
<i>Fit statistics</i>			
Observations	192,552	192,552	192,552
R ²	0.29427	0.29799	0.54027

Clustered (address) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

members lease these properties as the trust continues to own the land underneath.¹⁷ The governance structure of CLTs ensures that relevant stakeholders, including the surrounding community and local government, participate in the trust’s decision-making. Typically, one third of an organization’s board will be composed of CLT property owners, another third of local community members, and the remaining third of local government representatives.

Despite widespread concerns about the provision and maintenance of affordable housing in urban areas across the US, the CLT model has only been sparingly used. It is estimated that only around 230 CLTs have emerged since the first organization was founded in the 1960s, and that they control roughly 12,000 residential units. Should the community land trust be more widely adopted as a tool to address the affordable housing challenge? One key consideration that must be taken into account to answer this question is the spillover effect of CLT activity. While properties managed by trusts remain perpetually affordable, their impact on neighboring properties is less clear. Indeed, CLTs tend to improve neighborhood amenities, which may serve as upward pressure on house prices. Furthermore, the fact that CLTs remove housing units from the private market may exacerbate housing supply shortages (Glaeser and Gyourko 2018). On the other hand, residents of CLT properties typically earn lower incomes than the area median. To the extent that house prices are affected by the

17. This arrangement stems from philosophical objections over the private ownership of land per se.

socioeconomic composition of residents, and prices of surrounding homes may decline in response to CLT activity.

This paper estimates the effect of CLT activity on neighborhood outcomes. More specifically, we study the impact of CLT purchases on sales prices and displacement in the micro-neighborhood surrounding an address. The method we employ effectively compares the outcomes of homes within 250 meters of a CLT property, to those of homes between 250 and 500 meters of the same property. The proximity of the treatment group to the control group allows us to credibly assign changes in sales prices and displacement to CLT activity, since all properties in the micro-neighborhood are subject to the same local trends. Estimates are derived through a difference-in-differences specification, in which we control for time, and neighborhood fixed effects.

We find that CLT acquisitions lead to an increase of \$14,300 in estimated home value, and 10.14% increase in the sales price of surrounding properties. These effects are economically meaningful, as the baseline estimated home value in our sample is \$159,300. At the same time, acquisition reduces the likelihood of a relocation from the surrounding neighborhood by 1.4 percentage points over a baseline relocation likelihood of 14.5%. Taken together, these results suggest that CLT activity makes properties in target neighborhoods more valuable, but that does not precipitate the relocation of residents. One interpretation of these findings is that CLTs arrest the decline of neighborhoods where they operate, thereby making existing residents more likely to remain while pushing property values upwards. In line with this conclusion, we find a positive effect on the likelihood that a household is a homeowner, while incomes increase by 2.4 % over a baseline of \$50,000.

Our findings suggest that community land trusts may be a valuable tool to deploy in neighborhoods with declining home values and a net outflow of residents, with the expectation that these trends would be ameliorated by the CLT's activity. However, in neighborhoods where house prices have already risen to levels that make them affordable for low income residents, CLT activity may generate negative spillovers by making surrounding properties even more expensive.

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A Appendix

A.1 Tables

Table 7: Summary Statistics at Baseline

Variable	All	Inner Ring	Outer Ring
		Corelogic	
Transaction Price	225916.051	176230.487	228097.888
N	27717	6254	15954
		Data Axle USA	
Estimated Home Value	159306.936	163001.886	155635.535
Moved	0.145	0.133	0.158
Length of Residence	12.878	14.154	11.512
Income	50978.3	54721.102	46998.435
N	192552	51949	48258

Note: Table reports the mean values and number of observations at baseline of the variables used in our analysis. The first panel reports data from Corelogic, so that each observation is a house transaction. The second panel reports data from Data Axle USA, so that each observation is an address in a given year. Column 1 reports the mean values for all observations, Column 2 reports the means for observations that are located in the inner ring of a CLT home and Column 3 reports the means for observations that are located in the outer ring of a CLT home.

Table 8: Effect of CLT acquisition on incomes (% change)

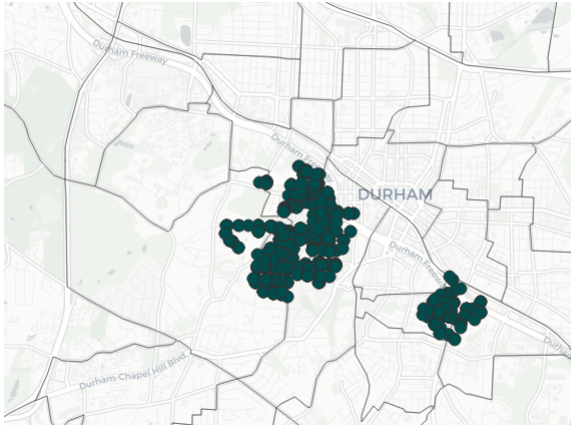
Dependent Variable:	I(log(income))		
Model:	(1)	(2)	(3)
<i>Variables</i>			
In-ring	0.1557*** (0.0137)	0.1554*** (0.0134)	9.25×10^{-6} (0.0096)
Post	-0.0305*** (0.0094)	-0.0194** (0.0096)	0.0135* (0.0069)
In-ring \times Post	0.0772*** (0.0111)	0.0822*** (0.0108)	0.0240*** (0.0085)
Length of Residence	0.0228*** (0.0005)	0.0227*** (0.0005)	0.0080*** (0.0003)
<i>Fixed-effects</i>			
Year		Yes	Yes
Microneighborhood			Yes
<i>Fit statistics</i>			
Observations	192,552	192,552	192,552
R ²	0.09836	0.10430	0.53622

Clustered (address) standard-errors in parentheses

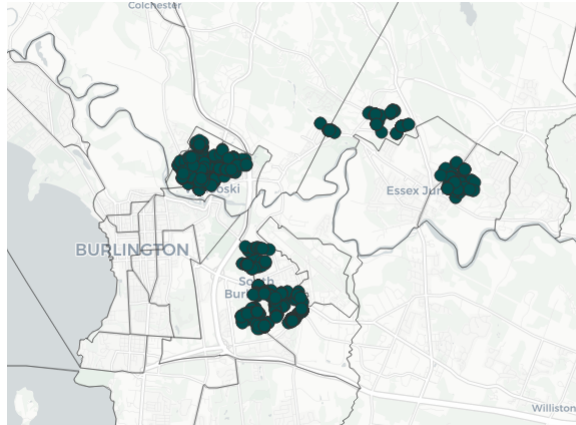
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

A.2 Figures

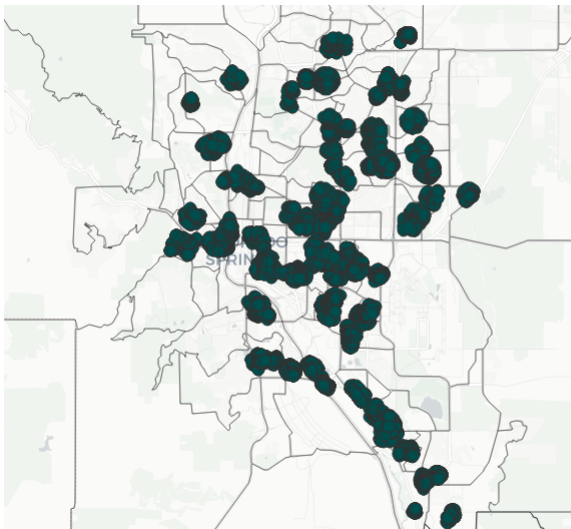
Figure 5: Properties of 4 Community Land Trusts



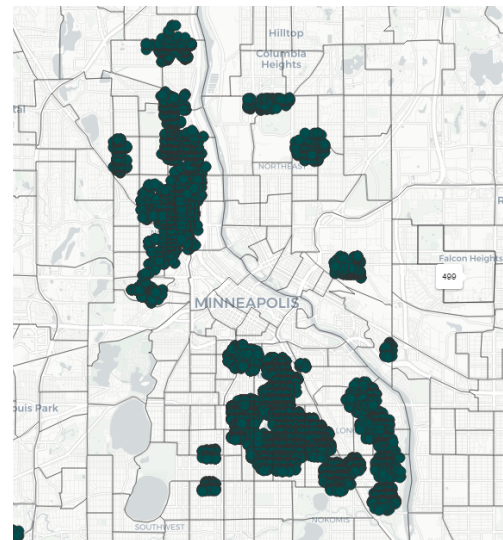
(a) Durham CLT, Durham NC



(b) Champlain, Burlington, VT



(c) Rocky Mountain CLT, Colorado Springs, CO



(d) City of Lakes CLT, Minneapolis, MN