Is home maintenance contagious? Evidence from Boston

By Erin Graves*

Community Development Issue Brief 4, 2013**
December, 2013

Introduction

In disadvantaged neighborhoods, the condition of the housing stock can vary from block to block. On one block, homes appear well kept and in good condition, while on another, many homes show signs of physical distress. Since the blocks within the same neighborhood are often similar in terms of home values, what accounts for this pattern? The physical condition of the parcels could correspond to the level of home ownership, so that blocks with higher levels of home ownership are better maintained. It could also be that home maintenance is contagious and neighbors' efforts toward exterior home maintenance influence other neighbors. Self-selection could also be a factor: some households may choose to move to a block because they too want to engage in home maintenance, while others may choose to move to a block where home upkeep appears to be less important, because they themselves place less value on home maintenance.

The potential impact of a housing investment that improves the appearance of a housing parcel is also unknown. When a blighted property is improved, this investment could encourage neighbors to maintain their own parcels better. That is, a contagion effect could operate whereby one neighbor's efforts to improve the physical appearance of his or her housing parcel influence other neighbors to take similar action. We investigated the potential for home-maintenance contagion by tracking the physical condition of residential parcels before and after an abandoned abutting home underwent significant renovation. Using a tool that assessed the level of physical distress of housing parcels, we found no evidence of the contagion effect, and the renovation of an abandoned home had no measurable effect on the abutting neighbors' level of maintenance of their parcels in the short run. Of the variables investigated—proximity to a renovated property, inclusion in the NSP program, and home ownership—only home ownership was significantly associated with better home maintenance.

* Erin Graves is a Senior Policy Analyst in the Community Development Department.

Methods

The scale of the 2007–2011 housing crisis allowed for a test of the potential contagion effects of home rehabilitation on neighborhood home conditions. We identified 16 abandoned foreclosed homes in two disadvantaged Boston neighborhoods that were likely to undergo renovation the following year.[1] We will use the term "target properties" when referring to the abandoned, foreclosed homes that underwent rehabilitation during our study period. To test the contagion thesis—that improvements to the target property would lead to improvements on neighboring parcels—we collected short-term observational data regarding the physical conditions of the parcels in Year 1 and Year 2. We assessed the condition of the abutting housing parcels using a parcel-condition assessment form that we based on standard assessment forms used in the urban planning field. We considered abutting housing parcels to be lots that contained a dwelling structure and had a clear view of the target property from the front door. We excluded vacant lots from our analysis.

This study was conducted longitudinally: the first round of data collection occurred prior to the rehabilitation of the foreclosed homes, and the second round of collection took place one year later, after the rehabilitation had been completed. Thus, we had parcel-condition ratings for both prior to the intervention and one year post intervention. The target parcels consisted of two- and three-family properties in the neighborhoods of Dorchester and Roxbury. The study included 16 total target properties and 122 abutting housing parcels (see Table 1).

Table 1: Number and kind of properties

	Target properties	Abutting properties	Percent of abutters owner occupied	Total Properties
Treatment	8	57	58.5	65
Control	8	65	42.5	73
Total	16	122	50.0	138

Source: Author's calculations and City of Boston Assessing Department

Again, our concern was the impact that the rehabilitation would have on residents' maintenance of nearby parcels. We reasoned that the rehabilitation would have the greatest impact on housing parcels closest to the abandoned buildings; therefore, we included in our universe of parcels all housing parcels that directly abutted an abandoned property, all housing parcels that were one house away from the abandoned house, and all housing parcels that were directly across the street from these houses. Figure 1 illustrates a typical block and the houses that would have been considered in our sample. In certain instances we included houses that did not fit these rules. This occurred if, upon visiting the block, we noted that a house outside this area had a very clear view of the house, thus suggesting that the residents of the building would be aware of and potentially influenced by the abandoned building. Upon identifying the target properties, we visited every street and assessed the condition of every housing parcel both before the rehabilitation in 2011 and after, in 2012.

[1] These properties were part of a larger study we conducted on the social impact of home rehabilitation. See Graves and Shuey (2013).

Findings

We rated 122 abutting parcels in both 2011 and 2012. The difference between 2011 and 2012 scores was nonsignificant except when we examined only low-cost parcel-condition items (see Table 2 for a full list of items). Further, in both years, owner-occupied parcels were in significantly better condition than non-owner-occupied parcels, and owners made slight improvements in low-cost items from 2011 to 2012. Interactions between renovation status and ownership status were also nonsignificantly associated with changes in parcel condition. (Complete results are available upon request.)

Conclusion

Through this data we attempted to test the hypothesis that improving the physical condition of one property influences the neighbors' level of upkeep in their properties. Our data suggests that in the short run, significant housing investments in the form of converting abandoned homes into rehabilitated ones were not associated with improvements to nearby properties. Item analysis showed significant change for low-cost items, and those grouped together did show a marginally significant positive effect. The change in parcel scores from 2011 to 2012 was the same regardless of whether the neighboring property had been renovated or not, and the change in low-cost items was the same regardless of rehabilitation status. In other words, residents of all blocks engaged in marginally significantly more low-cost upkeep, such as planting flowers or keeping the yard tidy, whether or not a renovation was taking place on their block. This could be because as the neighborhood began to exit the foreclosure crisis and the recession, residents in general started engaging in more low-cost upkeep. But this increase in upkeep was not associated with major renovations taking place nearby. Our data also underscore a more well-established finding: properties occupied by home owners are in significantly better physical condition than non-owner-occupied properties. All of the properties in our sample were two- and three-family structures, suggesting that owner occupiers of multifamily properties invest in more home maintenance than non-owner occupiers of small multifamily properties. It is likely that overall levels of physical distress in a neighborhood are influenced more by structural variables such as the level of home ownership or increases in home prices than by social mechanisms of signaling and contagion.

Figure 1: Typical Study Neighborhood

Source: Federal Reserve Bank of Boston

Table 2: Parcel data for 2011 and 2012

	2011 – Total	2012 – Total	Mean Difference (2011 – 2012)	2011 – Low-cost[1]	2012 – Low-cost[1]	Mean Difference (2011 – 2012)
All Abutters *N* = 122	27.7 (19.3)	26.3 (15.5)	1.4	16.7 (11.9)	15.0 (10.3)	1.7*
Renter *N* = 54	33.7 (18.5)	32.5 (14.8)	1.2	21.0 (9.6)	19.8 (8.6)	1.2
Owner-occupied *N* = 68	23.0 (18.7)	21.4 (14.5)	1.6	13.3 (12.5)	11.1 (9.9)	2.2^{+}
Mean Difference (Renter – Owner)	10.7**	11.1***		7.7***	8.7***	
No Target Renovation *N* = 39	26.3 (17.3)	27.8 (14.8)	-1.5	16.2 (12.2)	14.9 (9.9)	2.2
Target Renovation *N* = 83	28.4 (20.2)	25.6 (15.9)	2.8	17.0 (11.8)	15.0 (10.5)	2.0^{+}
Mean Difference (No Renovation – Renovation)	-2.1	2.2		-0.8	-0.1	

Source: Author's calculations

N = 122; ***$p < .001$; **$p < .01$; *$p \leq .05$; $^{+}p < .10$; all significance tests compare 2012 to respective 2011 values.

[1]Included low-cost items are front porch maintenance, yard maintenance, presence of trash in the yard, presence of flowers, and presence of decorative signs.

References

Graves, E., and Shuey, E. (2013). The social impact of home rehabilitation in low-income neighborhoods. *Social Science Research Network:* http://ssrn.com/abstract=234767.