The Effects of the Demolition of Vacant and Abandoned Houses on Adjoining Property Conditions and Assessed Values

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Vacant and abandoned houses have been a problem for urban areas for years and that problem has been exacerbated in the later part of the first decade of the 2000s due to shrinking urban populations and troubles in the housing market. Previous research has shown that demolishing vacant and abandoned houses improves public safety and health in neighborhoods. It also protects the value of other properties nearby and can help to keep a neighborhood from heading into decline. Finally, it can mollify voters living near a vacant and abandoned house that has fallen into disrepair. This exploratory project challenges the wisdom of complaint-driven demolition programs by examining the effects of demolitions on the condition and assessed value of adjoining properties in Fort Wayne, Indiana. Inspections were made of properties on which demolitions had occurred, on properties where water had been shut-off for at least 17 months, and the adjoining properties. Assessed values and other data from property record cards and the Allen County geographic information system were added to the data set. The nature of the effects on adjoining properties was consistent when comparing the demolition properties to the water shut-off properties, but the findings were inconclusive. In some ways the properties adjoining a demolition property fare better than the properties adjoining a shut-off property. In other ways the opposite is true, and in some cases there is no difference.

Vacant and abandoned houses have been a problem in urban areas for years. Those problems, to some degree, are the result of well-intended governmental policies that encouraged an outmigration of middle-class people and families to the suburbs after World War II. The encouragement came in the form of the Federal Housing Administration, Veterans Housing Administration, new interstate highways, and turning a blind eye to redlining (Bennett, 1990; Bluestone, 2008; Gelfand, 1975; Moore & Thorsnes, 1994; Myers, 1991; Rooney, 1995). Other governmental policies that have contributed to the vacant and abandoned housing problem include state and local laws regarding wills, land surveys, property descriptions, property assessment, and foreclosure on tax delinquent properties that can make transferring the ownership of property difficult (Arsen, 1992; Bright, 1995; Scafidi, et al, 1998; White, 1986). The various taxes and fees associated with owning and transferring property can be so onerous that some property owners decide that giving up ownership of the property is the best option (Accordino, 2000).

There is another well-intended governmental policy that might be having a detrimental effect on urban areas. Cities are choosing to deal with vacant and abandoned houses through complaint-driven demolition programs. This means that when someone complains to the municipal government about a vacant and abandoned house, the house is demolished. There are good reasons to do this. It removes an eyesore that is a health and safety hazard that can push a neighborhood into decline. It also can mollify voters. In a perfect world the demolition of vacant and abandoned houses would be followed by a comprehensive redevelopment plan that would consider the effects of the demolition on the adjoining property, but that does not always happen.

In Fort Wayne, IN, when major revitalization efforts have not been possible, there have been two competing schools of thought. One school was to stop the deterioration of the block and neighborhood by eliminating the vacant and abandoned houses that had fallen into disrepair. The other school was that demolition contributes to deterioration of a block and neighborhood by removing a piece of history, creating gaps in the landscape. Anecdotally, there is evidence in Fort Wayne to support both schools. A review of the literature regarding the effects of demolition is not particularly helpful in determining whether the effects of one school or the other is more beneficial to a community.

This research project asks whether it is better for a community to demolish homes through a complaint-driven demolition program or to leave vacant and abandoned houses standing. It does this by looking at the effects of the demolition of houses on the condition and assessed value of properties adjoining the property where the demolition

took place. The approach taken by this project recognizes that the property that adjoins the lot with the vacant and abandoned house feels the effects of demolishing or leaving the house standing most directly. The complaint-driven demolition program in Fort Wayne, Indiana was studied in an attempt to gain a better understanding of such programs. When the research focuses on the effects on adjoining property, the positive effects of demolition found in other research are far less clear.

LITERATURE REVIEW

Many cities in the United States experienced a renaissance in the 1990s and saw growth in their populations and tax bases. However, 55 percent of all large cities in the United States saw no growth, or even lost population (Schamess, 2006). As populations in urban areas decline and surplus housing appears, a fairly routine sequence of events has taken place according to Salins (1980) and Sternlieb and Burchell (1973): first, nonessential repairs on houses stop; second, mortgage payments stop; and third, property tax payments stop and ownership of the property is lost. This results in abandonment. The problem of vacant and abandoned houses has been exacerbated by the struggles in the housing market late in the first decade of the 2000s.

Fortunately, the effects of vacant and abandoned houses have been the focus of much research, but the field still is in its infancy. The research and highly-profiled programs show that urban areas are wise to deal with vacant and abandoned houses. Burchell and Listokin (1981) pointed out that abandonment indicates migration, loss of jobs, poverty, and a loss of revenue for municipalities. These are negative externalities that can feed on themselves and result in a perpetual decline of urban areas (Kraut, 1999). As early as 1973, the United States Department of Housing and Urban Development (HUD) concluded that when three to six percent of the structures in a neighborhood are abandoned, the neighborhood will have hit the tipping point for heading into decline (United States, 1973). Many cities have undertaken major redevelopment and revitalization projects to slow and reverse the decline of neighborhoods; however, if they do not address the problem of vacant and abandoned houses, they may just be wasting ever-increasingly scarce resources on these big projects (Accordino, 2000).

Unfortunately, along with depressing the value of properties, vacancies and abandonments can cause other vacancies and abandonments. Vacant and abandoned houses can create an environment that lowers confidence, discourages investment, and actually encourages homeowners to leave the neighborhood (Hughes, 1975; Immergluck, 2006; United States, 1973). Several studies have found that higher foreclosure rates are associated with higher vacancy rates and contribute to the problem (Baxter & Lauria, 2000; Laurie 1998; Lauria & Baxter, 1999).

The logical conclusion – and occasionally overtly stated recommendation – is to demolish abandoned houses. Some cities have devised specific plans for reducing the number of abandoned houses. Baltimore, MD, has accepted that its population will not return to levels seen in earlier decades. For this reason, the city and residents prioritize which obsolete housing will be demolished. Jacksonville, FL, boards up houses for 36 months. If no one begins working on the house during those 36 months, the boards are removed so that the structure will deteriorate faster and be eligible for demolition. Greensboro, NC, can take properties that have been vacant for at least 12 months before a special commission that can order repairs or demolition within 90 days. Other communities recognize that they must deal with vacant and abandoned houses, but have not developed a plan for doing so beyond demolishing the structures that receive the most complaints.

Research has fairly conclusively given cities five specific reasons to reduce or eliminate vacant and abandoned houses: doing so improves safety, improves health, slows the decline in the value of other properties, can keep additional abandonment from occurring, and helps to preserve and possibly enhance a city's tax base.

People are the eyes and ears of a neighborhood and help to regulate behavior (Jacobs, 1961). *Vacant and abandoned buildings decrease the number of eyes and ears which can send a message that no one cares about the neighborhood and that no one is in control* (Ross, 1999; Skogan, 1992). This perception encourages people to engage in criminal activities (Wilson, 1989). Vacant and abandoned buildings become staging grounds for criminal activities and the actual sites of criminal activities (Kraut, 1999; Mallach, 2006; Spelman, 1993). They are magnets for crime (Spellman, 1993) and increase the risk for vandalism and arson in urban areas (Fahy, 1989; Skarbek, 1989). Finally, vacant and abandoned houses can lead to a lack of confidence in neighboring property owners, discourage investment by those owners, and create a target for criminal activities (Immergluck, 2006).

People play their role as the eyes and ears of a neighborhood much better when they are outside and moving around their neighborhoods. However, people living in neighborhoods with vacant and abandoned buildings are less likely to go outside and, therefore, are more likely to be less physically active, which can result in depression and poorer physical health than those in neighborhoods without vacant and abandoned buildings (Ross, 1993). Vacant

and abandoned buildings contribute further to poorer health conditions by harboring rats and other vermin as well as by being dumping grounds for potentially hazardous waste (Mallach, 2006).

In addition to posing public safety and public health problems, vacant and abandoned houses pose a threat to the value of neighboring properties. A study done in Philadelphia, PA, has documented how dramatic the effect can be (*Blight Free Philadelphia*, 2001). The average value of houses within 150 feet of a vacant house decreased as much as $7,627. The average value of houses between 300 and 450 feet from a vacant house decreased as much as $3,542. The study also found that houses on blocks with an abandoned house sold for $6,715 less than houses on blocks with no abandoned houses. Studies in Chicago, IL, and Dallas County, TX, have documented negative effects for foreclosed properties. In Chicago it was found that each additional foreclosure within one eighth of a mile of a house is associated with an approximate one-percent decline in property value (Immergluck, 2006) and the effect could be felt up to 0.9 kilometer away and for up to five years after the foreclosure (Lin, 2008). In Dallas County each additional foreclosure within 250 feet of a sale was associated with an approximate one-percent decrease in sale price in neighborhoods with homeownership rates below 80 percent (Leonard, 2009). Foreclosed properties are in danger of becoming vacant and abandoned.

In virtually all of these cases, the research analyzed how vacant and abandoned houses affect a block, neighborhood, or other geographic area beyond the adjoining property. These effects are good to know, but it is important to examine specifically the effects on adjoining properties since these properties feel the effects most directly.

One place where research has put special emphasis on adjoining properties has been in fire research. Given the small lot sizes and side yards in many older, urban areas, fires in vacant and abandoned buildings can spread easily to neighboring buildings (Mallach, 2006). An increase in the number of fires can be a burden on city budgets. An estimated 12,000 fires happen in vacant structures in the United States each year (Vacant Properties, 2005).

Research on the budgetary effects of vacant and abandoned houses has focused on single lots. Tax revenue is lost when owners stop paying property taxes and money is spent to secure, clean, or demolish vacant and abandoned houses. A study done in Chicago, IL, found that the city spent as little as $30 for structures that sold quickly at auction and as much as $30,000 for structures that were vacant for a long period of time (Apgar, 2005). The cost of demolishing a house in 2002 averaged $5,000 to $8,000 (Kamin, 2003). Saint Louis, MO, spent $15.5 million over five years to demolish vacant buildings. Early in the 2000s, Detroit, MI, was spending $800,000 a year cleaning lots. In the late 1990s Philadelphia, PA, was spending $1.8 million a year cleaning vacant lots (Vacant Properties, 2005).

There are several arguments against complaint-driven demolition programs. Demolishing a house may eliminate a public health safety hazard, but it replaces it with another. Vacant lots can become dumping grounds for waste, harbor rats and other vermin, and be the site of illegal activities. Historic preservationists argue that demolishing houses removes a link to the past and destroys the historic value of a neighborhood (Fine, 2002; Wilts, 2007). Historic preservation has become an important tool in the revitalization of older urban areas (Listokin, 1998; Newman, 2001; Rypkema, 1995; Slaughter, 1997; Wonjo, 1991). These efforts have yielded positive results for property values within historic districts (Clark, 1997; Leichenko, 2001; Schaeffer & Millerick, 1991) and for properties in the same neighborhood as individually designated properties (Coulson, 2001) without displacing lower-income residents, but with little relationship to improving vacancy rates and the percentage of owner-occupied units (Coulson, 2004). Demolishing older homes limits the potential for this revitalization tool. There also is an environmental argument against complaint-driven demolition programs. Reusing the existing housing stock makes use of existing infrastructure such as roads, alleys, driveways, sidewalks, water mains, and sewers and retains the embodied energy in the materials found in the existing structures (Wilts, 2007).

OPERATIONAL DEFINITIONS AND DATA[1]

A simplistic version of the question this research is attempting to answer is whether it is better for a neighborhood for a vacant and abandoned house to be demolished or left standing. For this research *better* is defined as the condition of structures and land and assessed values of land and improvements for the subject properties and adjoining properties. *Land* is the physical ground of the property including grass, garden, trees, and shrubs. *Structure* is the house on the property. *Improvements* are all buildings on the property including the house, garage, and sheds. *Property* is a generic term for the land and structures. *Vacant lots* are lots without a structure.

It is easy to identify properties where a complaint-driven demolition has occurred, but there is not an easy way to find the properties where demolition could have taken place, but has not. For purposes of this research, properties

TABLE 1. PROPERTIES IN SAMPLE AND ANALYSIS

	Included in Sample		Included in Analysis	
	N	**Percent**	**N**	**Percent**
Demolition	603	57.9	330	45.2
Shut-off	439	42.1	400	54.8
Total	1042	100	730	100

NOTE: Data collected from July 1, 2009 through October 20, 2009.

for which water service had been shut off for at least 17 months were used as a proxy for structures that could have been demolished, but had not been. Water shut-off data is kept on a monthly basis, but demolition data is kept on a yearly basis. Seventeen months was used as the cut off because it aligned with the beginning of a calendar year and made it possible to have similar time periods for the two samples that were drawn.

Random samples were drawn from two populations. The first population was the properties within Fort Wayne corporate boundaries for which a demolition permit had been issued. The second population was the properties for which water service had been shut off. The data containing these populations was provided by the City of Fort Wayne. It categorized the demolition permits by the year in which the permit was issued and the water shut-off properties by the number of months since the water had been shut off. Water can be shut-off for a variety of reasons and Fort Wayne does not record the reason for shutting off the water. Water being shut off for a substantial period of time was used as an indicator of neglect. The data on the demolition permits went back to 1996. Shut-off properties where water had been shut off before 1996 were not included in the shut-off population. After these adjustments the time period covered by both populations was from 1996 to 2007. A random number generator was used to draw a sample of 603 properties from the list of 3,143 demolition properties. A random number generator was used to draw a sample of 439 properties from the list of 1,980 shut-off properties.

A team of inspectors[2] visited all 1,042 properties in the samples from July 1, 2009 through October 20, 2009. The inspections included the properties in the sample (subject properties) and the adjoining properties. To be considered an adjoining property, a property had to share a property line with the subject property. Inspection of the subject and adjoining properties was done from the public sidewalk or street in front of the property. Inspections were limited to the exterior of the building that was visible from the sidewalk or street.[3] The condition of the subject structure[4] and land[5] were noted along with whether or not the structure appeared vacant and if the structure appeared new (10 years or younger). The condition of the adjoining structure and land also was recorded. When the number of adjoining properties are added to the subject properties, a total of 2,387 properties were inspected.

The assessed value of the land, assessed value of improvements, total assessed value, occupancy limit, number of stories, and square footage of the finished area of the structure[6] for the subject and adjoining properties were added to the data set. The percentage of lots on the block face of the subject property that had no structures was included as well. For purposes of analysis, averages were calculated for all data concerning adjoining properties.

All non-residential properties were removed from the samples (N=185). All properties in the demolition population that were part of a major or minor revitalization project were removed from the sample (N=96). Properties in the water shut-off population that were occupied were removed from the sample (N=25). Six other properties were removed for other reasons. Table 1 includes a summary of the properties in the sample and those used in the analysis. The number of cases in tables from this point forward may vary slightly from one table to the next due to incomplete information for properties.

When examining the assessed values of the land and improvements, all zero values were removed along with the top and bottom 10 percent of the values. This was done to eliminate outlying values. An example of the outlying values that would have been removed by doing this includes commercial properties that adjoined subject properties.

FINDINGS

The subject properties in the two samples were much less likely than their adjoining properties to have a structure on them (46.0 percent to 10.7 percent) and much more likely to be vacant when there was a structure (89.3 percent to 31.4 percent). Only 23 subject lots and 20 adjoining lots had new structures on them.

The condition of the land of the subject properties was worse than that of the adjoining land (mean: subject = 2.9; adjoining = 2.5) with 27.9 percent of the subject land in poor condition and only 4.8 percent of the adjoining land in

TABLE 2. SUMMARY STRUCTURE STATISTICS

	N	Percent	N	Percent
Structure on:	**Subject Property**		**Adjoining Property**	
No	336	46.0	78	10.7
Yes	394	54.0	650	89.3
Total	730	100.0	723	100.0
Structure vacant on:				
No	42	10.7	445	68.6
Yes	349	89.3	204	31.4
Total	391	100.0	649	100.0
New structure on:				
No	368	94.1	629	96.9
Yes	23	5.9	20	3.1
Total	391	100.0	649	100.0

the same condition. It should be pointed out that 29 percent of the subject lands were in good or excellent condition while 39.2 percent of the adjoining lands were in the same condition.

The condition of the structures on the subject properties also was worse than that of the adjoining structures (subject structure mean = 2.6; adjoining structure mean = 2.0) with 10.5 percent of the subject structures in need of major repair or demolition and only 0.9 percent of the adjoining structures in the same condition. Over forty percent (41.2 percent) of the subject structures were in need of minor or no repairs while 72.0 percent of the adjoining structures were in the same condition.

The occupancy limit and square footage of finished space of the sample and adjoining structures were very similar. Over 88 percent of the subject and adjoining structures were classified as single family dwellings (subject = 89.3 percent; adjoining = 88.2 percent). The average finished square footage was 1,332 for the subject structures and 1,354 for the adjoining structures.

It was expected that the subject properties would have fewer structures and that the land and structures would be in worse condition than the adjoining properties. What is more important are differences between the properties in the demolition and shut-off populations.

The mean condition of the land in the demolition population is marginally better than that in the shut-off population (demolition land condition mean = 2.8394; shut-off land condition mean = 3.0350). The opposite is true for the condition of adjoining land. The land adjoining properties in the demolition population are in marginally worse condition than the land adjoining properties in the shut-off population (adjoining demolition land condition mean = 2.5851; adjoining shut-off land condition mean = 2.4236). Both results are significant at the .05 level.

There are only 22 cases of properties in the demolition population with structures that could be compared to structures in the shut-off population. Not surprisingly, since these are newer structures that have had less time to deteriorate, those 22 structures are in better condition than the properties in the shut-off population (demolition structure condition mean = 1.6364; shut-off structure condition mean = 2.6640). The difference in means for the structures adjoining demolition and shut-off properties are very small and not statistically significant at the .05 level (adjoining demolition structure condition mean = 2.0848; adjoining shut-off structure condition mean = 2.0175).

The mean assessed value of the land in the demolition population was lower than that in the shut-off population (demolition land value mean = $3,522.64; shut-off land value mean = $4,723.51). This result was significant at the .05 level. The mean assessed value of the land adjoining the demolition properties was slightly lower than the mean assessed value of the land adjoining the shut-off properties (adjoining demolition land value mean = $4,613.25; adjoining shut-off land value mean = $4,814.90). Not only was this result small, but it was not statistically significant at the .05 level.

The mean assessed value of the improvements in the demolition population was higher than that of the shut-off population (demolition improvement value mean = $25,212.50; shut-off improvement value mean = $20,006.93). Once again there were a small number of cases that could be analyzed (N = 24), but the results were statistically

TABLE 3. DIFFERENCE OF MEANS FOR CONDITION OF PROPERTIES

Condition of	Population	N	Mean	Standard Deviation	Standard Error of Mean
Subject Land*	Demolition	330	2.8394	0.84423	0.04647
	Shut-off	400	3.035	0.81574	0.04079
Adjoining Land*	Demolition	329	2.5851	0.66401	0.03661
	Shut-off	399	2.4236	0.65244	0.03266
Subject Structure*	Demolition	22	1.6364	1.0486	0.22356
	Shut-off	369	2.6640	0.73413	0.03822
Adjoining Structure	Demolition	277	2.0848	0.59666	0.03585
	Shut-off	372	2.0175	0.60576	0.03141

*Significant at the .05 level.

TABLE 4. DIFFERENCE OF MEANS FOR ASSESSED VALUES

Condition of	Population	N	Mean	Standard Deviation	Standard Error of Mean
Subject Land*	Demolition	159	3552.64	1698.69	134.72
	Shut-off	336	4723.51	1698.19	92.64
Adjoining Land	Demolition	234	4613.25	1605.66	104.97
	Shut-off	312	4814.90	1725.19	97.67
Subject Structure*	Demolition	24	25212.50	13450.18	2745.51
	Shut-off	303	20006.93	12290.08	706.05
Adjoining Structure	Demolition	219	20534.02	10976.38	741.71
	Shut-off	283	21861.84	12335.71	733.28

*Significant at the .05 level.

significant. As was the case with the mean assessed value of the land, the mean assessed value of the improvements on the properties adjoining demolition properties was lower than that of the improvements on the properties adjoining shut-off properties (adjoining demolition improvement value mean = $20,534.02; adjoining shut-off improvement value mean = $21,861.84), but was not statistically significant.

Pearson Correlations were run for the condition of the subject land, the condition of the subject structures, the assessed value of the subject land, the condition of adjoining land and structures, and the assessed value of adjoining land and improvements.

When looking at the correlations for all properties (demolition and shut-off), all but the correlation with the assessed value of the subject land value were statistically significant at the .05 level. There were positive relationships between the condition of the subject land and the condition of the subject structure and the condition of the adjoining land and structures. This means that the worse the condition of the subject land, the worse the condition of the subject structure and the adjoining land and structures. The relationships ranged in strength from .275 (adjoining structure condition) to .555 (subject structure condition). The relationships between the condition of the subject land and the assessed values were all negative. This means that the worse the condition of the subject land, the lower the assessed value of the subject improvements and adjoining land and improvements. These relationships were not as strong ranging from -.114 (adjoining land value) to -.193 (adjoining improvement value).

TABLE 5. CORRELATION WITH SUBJECT LAND CONDITION

Subject Land Condition Correlated with:	All Properties	Only Demolition Properties	Only Shut-Off Properties
Subject Land Condition	1	1	1
Adjoining Land Condition	0.448*	0.540*	0.410*
Subject Structure Condition	0.555*	0.700*	0.518*
Adjoining Structure Condition	0.275*	0.321*	0.259*
Subject Land Value	-0.003	-0.026	-0.059
Adjoining Land Value	-0.114*	-0.073	-0.162*
Subject Improvements Value	-0.179*	-0.348	-0.153*
Adjoining Improvements Value	-0.193*	-0.175*	-0.227*

*Significant at the .05 level.

The negative relationship between the condition of the subject land and the condition of the subject structures and the adjoining land and structures persisted when the demolition population and shut-off populations were examined independently. The relationships were consistently stronger among the demolition population (ranging from .321 to .700) than the shut-off population (ranging from .259 to 518). Once again the relationships between the condition of the subject lands and assessed value variables were negative; however, only one of them was statistically significant in the demolition population (value of adjoining improvements = -.175). Three of the assessed value variables were statistically significant in the shut-off population. The strongest relationship was with the value of the adjoining improvements (-.227). The next was with the value of the adjoining land value (-.162). The weakest was with the value of the subject improvements (-.153).

Pearson Correlations were also run for the length of time since the demolition was completed or since the water was turned off and the condition of land and structures and the value of land and improvements. These findings were much less conclusive than the previous correlations.

When both populations were examined together, only three variables were statistically significant and all values were fairly small. The strongest relationship was with the value of the adjoining land (-.147). As the number of years since the demolition or shutting off of the water increased, the value of the adjoining land decreased. The next strongest relationship was with the condition of the subject land (-.115). As the number of years increased, the condition of the subject land improved. Finally, as the number of years increased, the value of the land decreased (-.105).

When the analysis included only the demolition population, two variables were statistically significant. There was a negative relationship with the condition of the subject property (-.122). This means that as the number of years since the demolition increases, the condition of the subject property improves. There was a positive relationship with the value of the improvement on subject properties (.526). This means that as the number of years increases, the condition of the subject property improves. There were a small number of cases for this correlation. The two variables dealing with the assessed value of the subject and adjoining land were statistically significant when the shut-off population was examined. Both relationships were negative. The relationship with the adjoining land value was the stronger of the two (adjoining land value = -.175; subject land value = -.109).

Pearson Correlations were run for the percentage of vacant lots on each block face and the condition and assessed value of land and structures on the subject and adjoining properties.

All but one of the variables were statistically significant when all of the properties are included in the analysis. The only one that is not statistically significant is the condition of the subject structure. There are positive relationships with the condition of the subject land (.084) and with the condition of the adjoining land (.249) and adjoining structure (.120). As the percentage of lots that are vacant on the block face increases, the condition of the subject land, adjoining land, and adjoining structure worsens. There are negative relationships with all of the variables regarding the assessed value of land and improvements. The weakest is with the value of the subject improvements (-.208). The strongest is with the value of the subject land (-.347). As the percentage of vacant lots on the block face increases, the assessed value of the land and improvements decreases.

The findings are similar if the demolition population is examined by itself. Once again the condition of the subject structure is not statistically significant and neither is the assessed value of the subject improvements. There are positive relationships with the condition of the subject land (.241), adjoining land (.285), and the adjoining

TABLE 6. CORRELATION WITH TIME

Years Since Demolition or on Shut-Off List	All Properties	Only Demolition Properties	Only Shut-Off Properties
Subject Land Condition	-0.115*	-0.112*	-0.082
Adjoining Land Condition	0.033	0.043	-0.014
Subject Structure Condition	-0.042	-0.359	0.015
Adjoining Structure Condition	0.046	0.063	0.018
Subject Land Value	-0.105*	0.002	-0.109*
Adjoining Land Value	-0.147*	-0.080	-0.175*
Subject Improvements Value	-0.010	0.526*	-0.054
Adjoining Improvements Value	-0.014	0.072	-0.056

*Significant at the .05 level.

TABLE 7. CORRELATION WITH PERCENTAGE OF VACANT LOTS ON BLOCK FACE

Percentage of Vacant Lots on Block Face	All Properties	Only Demolition Properties	Only Shut-Off Properties
Subject Land Condition	0.084*	0.241*	0.047
Adjoining Land Condition	0.249	0.285*	0.154*
Subject Structure Condition	0.078	0.025	0.081
Adjoining Structure Condition	0.120*	0.134*	0.077
Subject Land Value	-0.347*	-0.185*	-0.315*
Adjoining Land Value	-0.316*	-0.328*	-0.327*
Subject Improvements Value	-0.208*	-0.251	-0.228*
Adjoining Improvements Value	-0.294*	-0.309*	-0.299*

*Significant at the .05 level.

structure (.134). There are negative relationships with the assessed value of the subject land (-.185), adjoining land (-.328), and adjoining improvements (-.309). Fewer relationships were statistically significant when the shut-off population was examined. There was a positive relationship with the condition of the adjoining land (.154). There were negative relationships with all of the assessed value variables (subject land value = -.315; adjoining land value = -.327; subject improvements value = -.228; adjoining improvements value = -.299).

DISCUSSION

It has been established that there is a correlation between the properties in the demolition and shut-off populations and the condition and assessed value of adjoining properties. The effect varies slightly between the two populations.

There were several findings that supported a complaint-driven demolition program. The land in the demolition population is cared for better than land in the shut-off population. This is not surprising since the structure that is left standing on the shut-off property can contribute to the poorer condition of the land. Plants can grow up next to the structure and are not removed during the infrequent bouts of lawn care the property receives.

The poor condition of the land in the shut-off population has a stronger correlation with decreasing values for adjoining land and improvements than the poor condition of land in the demolition population. This could be a sign of greater disinvestment in the properties adjoining the shut-off properties.

Over time the condition of land in the shut-off population deteriorates more than land in the demolition population. Also, over time shut-off land and the land adjoining shut-off land declines in value more than the subject land and adjoining land in the demolition population. This could be due to the immediate loss of value on demolition properties when the water and sewer taps are removed.

It is a rather infrequent event for someone to build a new structure on the lot where a complaint-driven demolition has taken place. If putting a home back on the land is the desired goal after a demolition has taken place, then this is

evidence that complaint-driven demolition programs are not meeting the goal. There are other findings that suggest that a complaint-driven demolition program does not leave adjoining properties better off than not demolishing the house.

The assessed value of land is higher in the shut-off population than in the demolition population because of the value assessors attribute to the mere existence of water and sewer taps. The higher assessed value helps city tax revenue, but only if someone is paying the taxes.

Even though the land in the shut-off population is not cared for as well as the land in the demolition population, the land that adjoins the properties in the shut-off population is marginally better cared for than the land adjoining the properties in the demolition population. In fact, we see that the condition of the subject land in the demolition population has a stronger correlation with the condition of land and structure conditions on the adjoining properties than in the shut-off population. So as the condition of the demolition population land deteriorates, so does the condition of the adjoining land and structure.

In the demolition population there are stronger correlations between declining conditions of land and structures and increasing percentages of vacant lots in the block face than in the shut-off population. The differences are rather large. This could be due to people being willing to care for a single lot next to their own, but not several lots in a row.

In the shut-off population there are stronger correlations between declining assessed values and increasing percentages of vacant lots in the block face than in the demolition population. The differences are not large except for the subject land value. This could be due to people seeing greater likelihood for redevelopment when the land is a blank slate.

Finally, this research supported the concept of a tipping point for neighborhoods. The higher the percentage of vacant lots on a block face, the worse the condition and lower the assessed value of subject and adjoining land and improvements. This could be because people do not want to stay on a block that is in decline.

There were several interesting findings that did not support either side of the argument. Not surprisingly, the subject land and structures in both populations are not cared for as well as the adjoining properties. It is logical to assume that the presence of an occupant would have a positive effect on how well cared for the land and the structures were. In spite of this difference, 29 percent of the subject lands were in good enough condition to receive an excellent or good rating.

There is no statistically significant relationship between time and the value of improvements on the adjoining properties. In other words the value of the improvements on the adjoining properties does not seem to be negatively affected by how long the property or house sit empty.

CONCLUSION

This research found mixed results for the effects of Fort Wayne's complaint-driven demolition program on the condition and assessed values of adjoining properties. If this is the case, then why do cities have such programs? The programs are not without merit. Demolishing a vacant and abandoned house helps to make a neighborhood healthier and safer. It can remove surplus housing. It can protect the value of properties. It can be an early step in a revitalization or redevelopment plan. It can pacify constituents. Also, this research found that land adjoining shut-off properties deteriorates more over time than land adjoining demolition properties. The value of the shut-off land and land adjoining shut-off properties decreases more in value over time than demolition properties and land adjoining demolition properties.

There are disadvantages to these programs that need to be recognized. Such a plan trades one health and safety hazard for another. It costs the community part of its history. It has an environmental cost. It does not improve the condition or assessed value of adjoining properties appreciably if at all. Also, this research found that land adjoining shut-off properties is better cared for than land adjoining demolition properties. Shut-off properties do not contribute to the vacant lots that move a block closer to the tipping point of decline.

The data analyzed by this project came from a midsized Midwestern city. It would be irresponsible to generalize these findings to all other cities. Fortunately, the methodology used can be applied to any city. The scales used and the information collected are described elsewhere in this article. In many instances there will be too many properties for which demolition permits were issued and too many properties with water service shut off to include all properties in the analysis. A random sample can be generated by conventional office software or by hand. The collection of the data might fit into the data collection activities already conducted by the city. If it does not, new resources will have to be found or resources will have to be reallocated. It might be possible for a faculty member

and students from an area college or university to help with the data collection. Students will get to see first-hand how their work is influencing public policy and that is a good learning experience. The data that is collected can be analyzed by statistical programs or by spreadsheet software. If the city staff is not comfortable doing this, a faculty member and students can be recruited to help out.

There are at three limitations to this methodology. The first is that there was no measure of public safety included. This could be done with secondary data from police and fire departments, but will not be without limitations. For example, the address of a crime may not be where the crime took place. It may be the address where the crime was reported. In addition, because there was not crime on a particular lot does not mean that the neighborhood is without crime. The second is that the assessed value of property is not necessarily the market value of that property. The negative effect of using assessed values is minimized in Indiana because the assessed values are based on sales and trending keeps the data from getting too far out of alignment with the market rate. Also, assessed values are consistent and available on all properties and that might be enough of a reason to use them instead of market values. The third is that the effects of a vacant and abandoned structure or vacant lot can be felt beyond the adjoining lot. In some ways this means that this project has the opposite problem of the research it is questioning.

Cities looking to undertake a similar project and scholars looking to add to this body of literature should consider the following steps. First, there should be a cost benefit analyses of demolishing a house and mothballing it. This has to include the cost of keeping up the property and any loss that is avoided in the value of adjoining properties. Second, there should be a model created for determining the environmental costs of demolishing an old building. Third, broader measures of the effects of vacant and abandoned houses should be incorporated into the analysis. This could be done by gathering secondary data for entire neighborhoods such as assessed values, size of lots and structures, land use patterns, and crime reports. Third, city officials should be thinking about how the vacant lots can be reused. They also should be especially interested in including a measure of the likelihood that the lot or lots can be redeveloped or reused. Finally, there should be a value assigned to the history that is lost when an old building is demolished. This may be the most subjective suggestion included in this list. While it will be a challenge to include all of these variables in an analysis, even using a part of this will provide cities with useful information for how to help revitalize its deteriorating neighborhoods.

NOTES

[1] The Department of Planning and Policy of the City of Fort Wayne was especially helpful in providing data and maps for this project. The Allen County Assessor, in partnership with the Allen County GIS Department and ATOS Origins, has made assessment and other taxation data available to the public through www.acimap.us/pati.

[2] Inspectors were trained prior to going into the field to collect data. A small number of inspections from each inspector were visited and reviewed by the principal investigator. Seventy-six percent (76.1%) of the inspections were completed by the principal investigator.

[3] This is a limitation of the research because the most significant damage may be visible only from the inside of the structure, but gaining entry to the properties was not possible under the current circumstances.

[4] Structure Rating Scale: 1 = No issues: A building kept in reasonably sound condition with regular maintenance. A building in this condition appears to be ready for occupancy. 2 = Minor rehab needed: A building that is obviously in need of minor repairs, such as gutter repair/replacement, painting of siding and trim, or other simple repairs. The building is in structurally sound condition. A building in this condition appears to be ready for occupancy; however a responsible property owner would make plans for minor repairs. Property owners or contractors with unskilled employees are capable of performing the needed repairs. 3 = Moderate rehab needed: A building in need of repairs, such as a new roof, siding replacement, or structural repairs. Examples of structural flaws would be failing soffits, failing porch supports, sagging roofs, or failing masonry. A building in this condition could be occupied; however a responsible property owner would feel an urgent need to perform the needed repairs. Typically the needed repairs are performed by a skilled contractor. 4 = Major rehab or demolition needed: A building that has not been maintained for a considerable length of time. The building is structurally unsound or is missing necessary elements. It may have missing windows or holes in the roof. There also may be missing or severely deteriorated soffits and siding, failing masonry, or an unstable porch or building foundation. The building is likely open to the elements in some way. A building in this condition should not be occupied due to the existing conditions. Typically a choice of rehabilitation or demolition must be made based on economics, existing area plans, or policies related to the location or historic status of the building. If rehabilitation is chosen, a skilled contractor and sub-contractors are needed to perform the extensive needed repairs.

[5] Land Rating Scale: 1 = Excellent: This is a property that receives regular maintenance. The lawn is cut and edged. If there are shrubs, they are well maintained. If there is a garden, it is well groomed and it is not overgrown or full of weeds. 2 = Good: This is a property that receives maintenance occasionally, but is not well kept. The lawn is not edged. If there are shrubs, they are slightly overgrown. If there is a garden, it is slightly overgrown or may have weeds. In less than one-day one or two people could clean the property up. 3 = Fair: This is a property that recently received maintenance, but does not receive it very often. The lawn obviously was overgrown when it was last mowed. The long grass was not removed from the lot and may not have been swept from the sidewalks. If there are shrubs, they are not maintained and overgrown or dead. If there is a garden it is overgrown and full of weeds. The plants in the garden may be dead. There are not currently piles of yard waste, garbage or other debris, but there may have been in the recent past. In one day a few people could clean up the property. 4 = Poor: This is a property that rarely, if ever, receives maintenance. The lawn is overgrown. If there are shrubs, they are overgrown or dead. They have not been maintained in a long time. If there is a garden, it is overgrown and full of weeds. The plants may be dead. There may be piles of yard waste, garbage or other debris. It would take the effort of a group of people to clean the property up in one day.

[6] Assessed value of the land, assessed value of improvements, total assessed value, occupancy limit, number of stories, and square footage of the finished area of the structure were obtained from the Allen County geographic information system (www.acimap.us/pati).

REFERENCES

Accordino, J. and Johnson, G. T. (2000). Addressing the vacant and abandoned property problem. *Journal of Urban Affairs, 22*, 301-315.

Apgar, W.C., Duda, M. & Gorey, R.N. (2005). The municipal cost of foreclosure: A Chicago case study. Minneapolis: Homeownership Preservation Foundation Research Paper Number 2005-1.

Arsen, D. (1992). Property tax assessment rates and residential abandonment: Policy for New York City. *American Journal of Economics and Sociology, 5*, 361-377.

Baxter, V & Lauria, M. (2000). Residential mortgage foreclosure and neighborhood change. *Housing Policy Debate, 11*, 675-699.

Bennett, L. (1990). *Fragments of cities: The new American downtowns and neighborhoods.* Columbus: Ohio State University Press.

Blight Free Philadelphia: A public-private strategy to create and enhance neighborhood value. (2001). Eastern Pennsylvania Organizing Project and Temple University Center for Public Policy.

Bluestone, B., Stevenson, M. H. & Williams, R. (2008). *The urban experience: Economics, society, and public policy*. New York: Oxford University Press.

Bright, E. M. (1995). *Taking without compensation in low-income areas: Turning tragedy into opportunity*. Arlington: The Center for Economic Development Research and Service.

Burchell, R. W. & Listokin, D. (1981). Property abandonment in the United States. In *The Adaptive Reuse Handbook.* Rutgers, NJ: Center for Urban Policy Research.

Clark, D.E. & Herrin W.E. (1997). Historical preservation and home sale prices: evidence from the Sacramento housing market, *The Review of Regional Studies*, 27, pp. 29-48.

Coulson, N.E. and Leichenko, R (2001). The internal and external impacts of historical designation on property values. *Journal of Real Estate Finance and Economics, 23*, 113-124.

Coulson, N.E. & Leichenko, R. M. (2004). Historic preservation and neighbourhood change, *Urban Studies, 41*, 1587-1600.

Fahy, R. F. (1989). How being poor affects the fire risk, *Fire Journal, 83*, 28-30.

Fine, A.S. & Lindberg, J. (2002). Taming the teardown trend, *Forum News*, National Trust for Historic Preservation.

Gelfand, M. I. (1975). *A nation of cities: The federal government and urban america, 1933-1965*. New York: Oxford University Press.

Gratz, R.B. (2009). Demolition a wrong answer for imperiled neighborhoods, Citiwire.net, posted on June 18, 2009.

Hughes, J.W. & Bleakly, Jr., K.D. (1975). *Urban Homesteading*. New Brunswick: Center for Urban Policy Research.

Immergluck, D, Smith, G. (2006). The external costs of foreclosure: The impact of single-family mortgage foreclosures on property values. *Housing Policy Debate, 17*, 57-79.

Jacobs, J. (1961). *The Death and Life of Great American Cities*. New York: Random House.

Kamin, B. & Reardon, P.T. (2003, January 13-15). A squandered heritage. *Chicago Tribune*.

Kraut, D. T. (1999). Hanging out the no vacancy sign: Eliminating the blight of vacant buildings from urban areas. *New York University Law Review*, *74*, 1139-1177.

Lauria, M. (1998). A new model of neighborhood change: reconsidering the role of white flight. *Housing Policy Debate*, *9*, 395-424.

Lauria, M. & Baxter, V. (1999). Residential mortgage foreclosure and racial transition in New Orleans. *Urban Affairs Review*, *34*, 757-786.

Lechenko, R., Coulson, E. & Listokin, D. (2001). Historic preservation and residential property values: An analysis of Texas cities. *Urban Studies*, *38*, 1873-1987.

Leonard, T. & Murdoch, J. (2009). The neighborhood effects of foreclosure. *Journal of Geographical Systems*, *11*, 31-332.

Lin, Z., Rosenblatt, E., & Yao, V. (2009). Spillover effects of foreclosures on neighborhood property values. *Journal of Real Estate Finance and Economics*, *38*, 387-408.

Listokin, D., Listokin, B, & Lahr M. (1998). The contributions of historic preservation to housing an economic development, *Housing Policy Debate*, *9*, 431-478.

Mallach, A. (2006). *Bringing buildings back: From abandoned properties to community assets*. Montclair, New Jersey: National Housing Institute.

Moore, T. & Thorsnes, P. (1994). *The transportation/land connection*. Chicago: American Planning Association.

Myers, D. (1991). *Housing markets: Linking demographic structure and housing markets.* Madison: The University of Wisconsin Press.

Newman, H. (2001). Historic preservation policy and regime politics in Atlanta. *Journal of Urban Affairs*, *23*, 71-86.

Reinventing Dayton and the Miami Valley: Through vacant property revitalization and reclamation. (2005). National Vacant Properties Campaign.

Rooney, J. (1995). *Organizing the South Bronx.* Albany: State University of New York Press.

Ross, C.E. (1993). Fear of victimization and health. *Journal of Quantitative Criminology*, *9*, 159-175.

Ross, C.E. & Mirowsky, J. (1999). Disorder and decay: The concept and measurement of perceived neighborhood disorder. *Urban Affairs Review*, *34*, 412-433.

Rypkema, D. (1994). *The economics of historic preservation: A community leader's guide*. Washington, DC: National Trust for Historic Preservation.

Salins, P. (1980). *The ecology of housing destruction.* New York: New York University Press.

Scafidi, B. P., Schill, M. H., Wachter, S. M. & Culhane, D. P. (1998). An economic analysis of housing abandonment, *Journal of Housing Economics*, *7*, 287-303.

Schaeffer, P.V. & Millerick, C. A. (1991). The impact of historic district designation on property values: An empirical study. *Economic Development Quarterly*, *5*, 301-331.

Schamess, L. (2006). Everything old is new again. *Planning*, *72*, 38-41.

Skarbek, J. (1989). Vacant structures: The sleeping dragon. *Fire Engineering*, *142*, 34-38.

Skogan, W. (1992). *Disorder and decline: Crime and the spiral of decay in American neighborhoods*. Berkeley: University of California Press.

Slaughter, H.B. (1997). Integrating economic development and historic preservation in Pittsburgh, Pennsylvania. *Historic Preservation Forum*, *11*, 41-44.

Spelman, W. (1993). Abandoned houses: Magnets for crime? *Journal of Criminal Justice*, *21*, 481-495.

Sternlieb, G. & Burchell, R. W. (1973). *Residential abandonment: The tenement landlord revisited*. New Brunswick, NJ: Center for Urban Policy Research.

Vacant properties: The true costs to communities. (2005). National Vacant Properties Campaign.

White, M. J. (1986). Property taxes and urban housing abandonment. *Journal of Urban Economics*, *20*, 312-330.

Wilson, J.Q. & Kelling, G.L. (1989). Making neighborhoods safe. *Atlantic Monthly*, *263*, 46-53.

Wilts, R. (2007). Rehab it: Making the most of existing resources. *Alternatives Journal*, *33*, 15-17.