



Western Reserve Land Conservancy  
Thriving Communities Institute

FROM VACANCY TO VITALITY

## Summary Findings for the Study “Estimating the Effect of Demolishing Distressed Structures in Cleveland, OH, 2009-2013: Impacts on Real Estate Equity and Mortgage-Foreclosure”

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### *Summary*

The study “Estimating the Effect of Demolishing Distressed Structures in Cleveland, OH, 2009-2013: Impacts on Real Estate Equity and Mortgage-Foreclosure” by Nigel Griswold, Benjamin Calnin, Michael Schramm, Luc Anselin, and Paul Boehniein examined the economic effects of demolition activity that occurred between 2009 and 2013 in Cleveland and Cuyahoga County. Just over 6,000 demolitions were completed, costing roughly \$56.3 million. Part 1 findings estimate a \$22.6 million net benefit (\$1.4 per \$1 invested) attributed to demolition activity. Benefits from demolition activity were primarily in high and moderately functioning markets. Findings suggest little real estate equity return from demolition activity in weak real estate markets. The results and their implications are discussed in the Summary Response below.

Part 2 of the analysis uses a pattern-based approach to investigate the relationship between demolition activity and mortgage-foreclosure rates. Findings show a clear trend of decreasing mortgage-foreclosure rates in areas where demolition intervention activity took place. This is true for the study area as a whole as well as in low, moderate and high distress neighborhoods.

### *Acknowledgements*

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## ***Introduction***

When macroeconomic systems break, the pieces show up in the struggles of everyday citizens. Such is the case in many Cleveland-area communities after the nation’s housing bubble burst.

There are approximately 16,000 vacant houses in the City of Cleveland, with thousands more in the inner-ring suburbs of Cuyahoga County. These eyesores affect lives. Vacancy attracts crime and devalues nearby properties, making communities less desirable places to live. Eventually, depopulation speeds up, as residents do “the flight from blight”. The presence of vacant houses is thus a contagion for more vacant houses. When left unchecked, vacancy creates a cycle of devaluation that proves stubborn to market correction.

The burden of blight often falls onto the shoulders of the public sector. Costs are immense and wide ranging, involving expenditures related to maintenance, public safety, and demolition. This is a problem, as the cost of blight remediation—coupled with decreased tax revenue related to property devaluation—creates untenable scenarios for cash-strapped cities. Put simply, more revenue is needed to deal with blight, yet blight erodes the availability of more revenue.

To bring awareness to this challenge plaguing the Rust Belt, key stakeholders in Cuyahoga County have focused on allocating and leveraging state and federal funds to help cities with the cost of vacancy abatement. The efforts have been met with some success. Since mid-2009, roughly \$56 million has been invested in demolition in Cuyahoga County, with over 6,000 problem properties taken down. It is hypothesized this investment in demolition retained millions in nearby property values.



**Photo: Vacant house in Cleveland's Slavic Village**

The objective of the recent study “Estimating the Effect of Demolishing Distressed Structures in Cleveland, OH, 2009-2013” by Nigel G. Griswold , Benjamin Calnin, Michael Schramm, Luc Anselin & Paul Boehnlein was to examine the economic impacts of this \$56 million dollar demolition investment. What follows is a brief summary and interpretation of the study’s key findings.

## *The Study*

Griswold et al. set out to answer three basic questions:

1. What are the property value impacts of nearby distressed properties?
2. What is the impact that demolition of distressed properties has on neighboring real estate equity?
3. What impact does demolition have on localized mortgage-foreclosure rates?

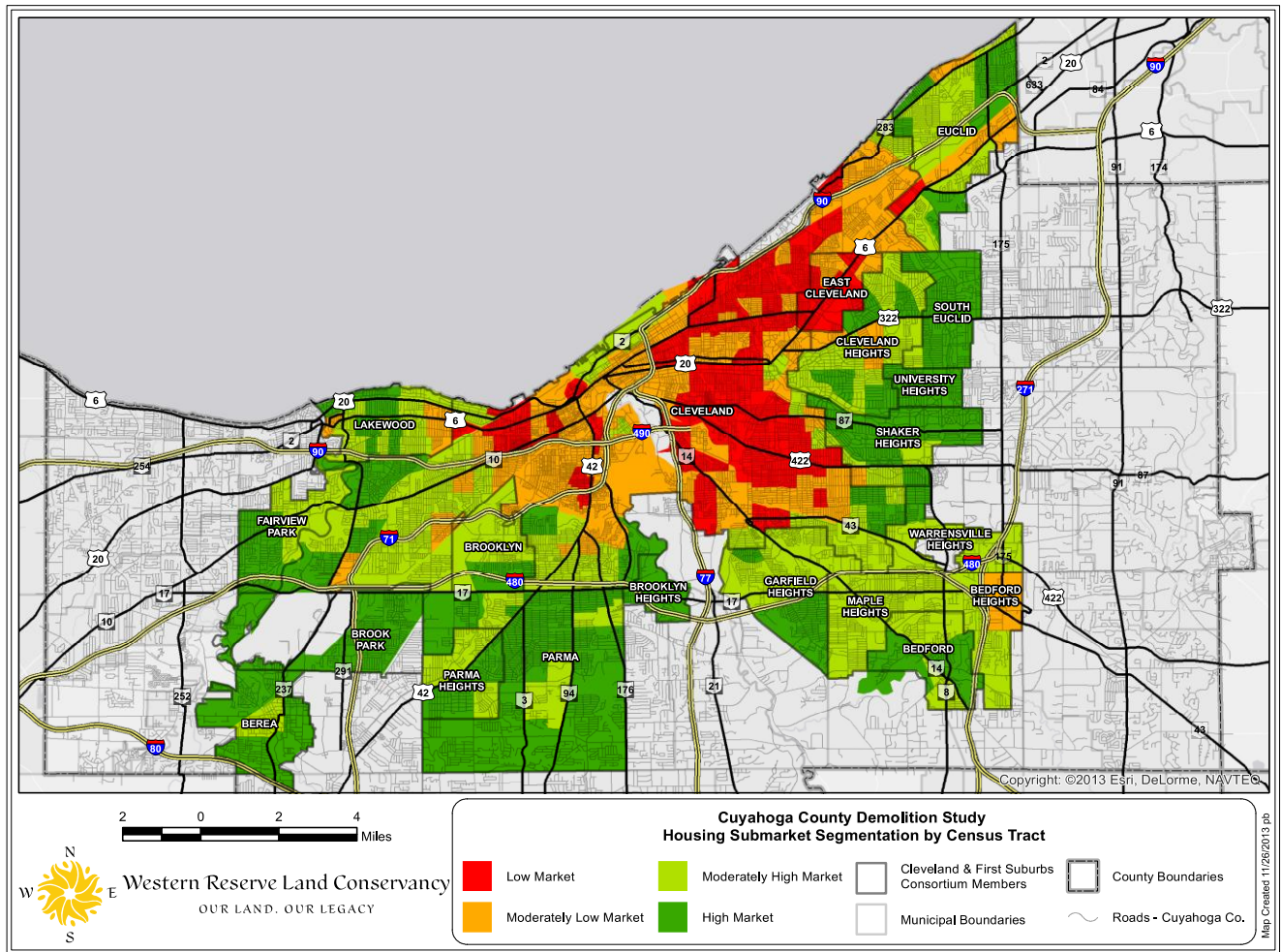
Before detailing the authors' findings, a short description of key methodological components will help<sup>1</sup>. First, "distressed properties" in the analysis included residential vacant lots, vacant homes, tax-delinquent homes, and foreclosed homes. These distressed properties act as a "disamenity" to nearby property values much like a park acts as an "amenity", except a disamenity is associated with a decrease in home value. The calculation of that decrease drives question 1.

Second, determining how much home equity a given demolition helped retain in nearby properties (i.e., within 500 ft.) meant comparing the devaluation caused by a vacant lot with the devaluation caused by a distressed property. After all, demolition as a vacancy abatement intervention is ultimately the removal of a distressed structure to create a vacant lot. The effect of demolition on nearby home values is then calculated rather simply: subtracting the devaluation caused by a distressed property with the devaluation caused by a vacant lot. For example, if a vacant lot causes a 1% decrease on a property's price, and a vacant house causes a 4% decrease, the value retention is 3%. The calculation of this retention drives question 2.

Lastly, the timeline for the study is between 2009 and 2013. The study area includes census tracts in the City of Cleveland and the inner-ring suburbs that make up Greater Cleveland's Vacant and Abandoned Properties Action Council (VAPAC). For the analysis, the area was divided into submarkets that are differentiated by real estate market strength (see Figure 2). This was done because distressed properties will affect home prices differently depending on the strength of a given market. This means demolition's impact on home value retention will also vary by market.

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<sup>1</sup> For a more thorough descriptions of the authors' methods, including a breakdown of the main econometric analysis used in the study, see <http://www.wrlandconservancy.org/pdf/FinalReportwithExecSummary.pdf>



**Figure 1: Map of Study Area and Submarkets**

***Results and Interpretation of Findings for Questions 1 and 2 (Part 1 of Analysis)***

**High Functioning Market Areas:** The High Functioning Market largely consist of suburbs such as Parma Hts., Berea, Shaker Hts., University Hts., and the more affluent parts of Fairview Park, Lakewood, and Cleveland Hts. The market also contains large sections of the outlying Cleveland neighborhoods of Kamm’s Corners and Lee Harvard. These communities have traditionally housed the region’s professional and upper middle-income working classes. The areas are aspirational geographies for residents with increasing socioeconomic status, keeping the neighborhood demand “churning”.

But these communities are not immune to distressed properties. The average home in the High Functioning Market neighborhoods will have 2 vacant lots within 500 ft., as well as 4 vacant homes, 3 mortgage-foreclosed homes, and 2 tax-delinquent homes (see Table 1). The distressed properties devalued homes in these neighborhoods significantly. Each additional vacant lot decreased a home value by 1%, vacant houses by 2.6%, mortgage-foreclosed houses by 2.6%,

and tax delinquent homes by 3.8%. To put these results into pocketbook terms, a vacant house decreased a home priced at \$100,000 by \$2,600.

<b>Table 1: Descriptive Statistics From the Four Housing Submarket Regimes</b>				
	Extremely Weak Market	Weak Market	Moderate Market	High Market
<b>Variable</b>	<b>Mean</b>	<b>Mean</b>	<b>Mean</b>	<b>Mean</b>
Price	\$22,402.52	\$32,834.03	\$57,914.38	\$85,887.69
Age	97.45	91.88	71.74	65.88
<b>Distress Type (within 500 ft.)</b>	<b>Mean</b>	<b>Mean</b>	<b>Mean</b>	<b>Mean</b>
Vacant Lots	17.84	9.77	4.19	2.22
Vacant	8.43	6.94	5.29	3.49
Mortgage Foreclosed	3.25	3.94	3.84	2.69
Mortgage Foreclosed and Tax Delinquent	0.47	0.35	0.22	0.15
Mortgage Foreclosed and Vacant	0.65	0.60	0.63	0.43
Mortgage Foreclosed and Vacant and Tax Delinquent	0.39	0.24	0.09	0.03
Tax Foreclosed	0.63	0.34	0.10	0.05
Tax Foreclosed and Vacant	0.52	0.31	0.07	0.02
Tax Delinquent	14.58	10.03	3.81	1.89
Tax Delinquent and Vacant	7.34	4.25	1.01	0.31

The study finds that demolition has proven to be an extremely cost-effective intervention in High Functioning Market areas. Specifically, \$3.1 million dollars was spent to demolish 335 distressed properties in these communities, enabling the retention of \$45.4 million dollars in home equity—with a cost-benefit calculation checking in at \$42.2 million (See Table 2). In the age of cries against government waste, this is anything but. As such, continued strategic demolition in these communities is a must. The cost of the intervention is modest—the number of demolitions in this market accounts for only 5.5% of all demolitions in the study area—while the benefits help safeguard against rising rates of distress and future costs.

**Moderately Functioning Market Areas:** Moderately Functioning Market areas are decidedly blue collar, containing the working class suburbs of Brooklyn, Euclid, Garfield Hts., Warrensville Hts., and Maple Hts., as well as the Cleveland neighborhoods of Old Brooklyn, West Boulevard, and Bellaire Puritas. Minority upward mobility from the urban core, particularly Latinos to points south and southwest and African Americans to points southeast,

has fueled demand in these communities. Still, the market area is depopulating, losing over 20,000 residents from 2000 to 2010, an 8% decrease.

This population trajectory is reflected in the increase in distressed properties compared to the High Functioning Market area. The average home in the Moderately Functioning Market will have 4 vacant lots, 5 vacant houses, 4 mortgage-foreclosed houses, and 4 tax-delinquent houses in its vicinity, which is associated with a devaluation ranging from a 1% depreciation for every vacant lot to a 4% depreciation for every tax-delinquent property. The distress profile “pulls” value from people’s purse strings and public investment. The mean sales price is nearly \$30,000 lower than in the High Functioning Market according to study figures.

Again, the analysis showed demolition to be a potent policy intervention in terms of preserving home equity. Specifically, \$7.3 million was spent to demolish 776 distressed properties. The value retention from these demolitions was calculated at \$38.3 million. In other words, if those demolitions had not occurred, another \$38 million would have been lost to the disamenity that is blight. In many ways, the area represents a “frontline” of sorts in that the communities separate higher and lower functioning markets. Additional funds are thus needed so removal of distressed properties can help stop the spread of distress, with the hope that area leaders can focus on an offensive strategy aimed at growing value appreciation back into the urban core.

**Table 2: Summary of Findings from Simulation for Cost-Benefit Analysis of Demolition Investments**

<b>Submarkets</b>	<b>Total Demos</b>	<b>Hedge Per Demo</b>	<b>Total Demo Cost</b>	<b>Cost Benefit</b>
Extremely Weak Market	2,944	\$754.16	\$27.6M	-\$25.4M
Weak Market	1,951	-\$3,585	\$18.3M	-\$25.3M
Moderate Market	776	\$49,367	\$7.3M	\$31.0M
High Market	335	\$135,475	\$3.1M	\$42.2M
<b>TOTALS</b>	<b>6,006</b>	<b>\$13,140</b>	<b>\$56.3M</b>	<b>\$22.6M</b>

**Weak Functioning Market Areas:** The Weak Functioning Market areas are mostly clustered closer to the urban core, in neighborhoods such as Ohio City, Tremont, Brooklyn Centre, Clark-Fulton, Goodrich-Kirtland Park, and parts of Central and Hough. The areas also include parts of outer edge neighborhoods such as Collinwood, Buckeye, and Shaker Square that border higher functioning markets. While there’s variation in the market trajectories of various neighborhoods, the area as a whole has been hit hard by depopulation—losing nearly 50,000 residents from 2000 to 2010, a 10% decline. The resultant oversupply—coupled with the discounting of bank-owned properties—enabled a market where the median home sales price was only \$33,000.

The distress profile for the area was significant. For the average resident, one could expect to be living within 500 ft. of 10 vacant lots, 7 vacant homes, 4 mortgage-foreclosed homes, 10 tax-delinquent homes, and 4 tax-delinquent vacant homes. That said, the analysis found that these distressed properties *did not* significantly affect a home's price. Therefore, demolishing a distressed property in the Weak Functioning Market area was not shown to retain neighboring home equity.

While surprising to some, the results were not entirely unexpected. Specifically, the authors anticipated that the weaker markets' home values may be "inundated with distress to a point of price non-responsiveness" when demolition occurred. Put simply, in order for demolition to retain value there needs to be a certain level of value to be retained. Now, does this mean demolitions should not occur in areas where there is no immediate fiscal return? No. The role of local government is to ensure the well-being of its residents, which—in the case of blight abatement—means removing distressed properties that are a consistent and/or immediate threat.

Translation: a focus on private equity should not usurp the right of the public good.

This also does not mean that limited demolition dollars cannot be more strategically dispersed. In fact one interesting finding in Griswold et al.'s analysis showed that demolishing a mortgage-foreclosed home actually decreased nearby property values by 2.4%. Here, the presence of a distressed property *added value* as opposed to the presence of a vacant lot.



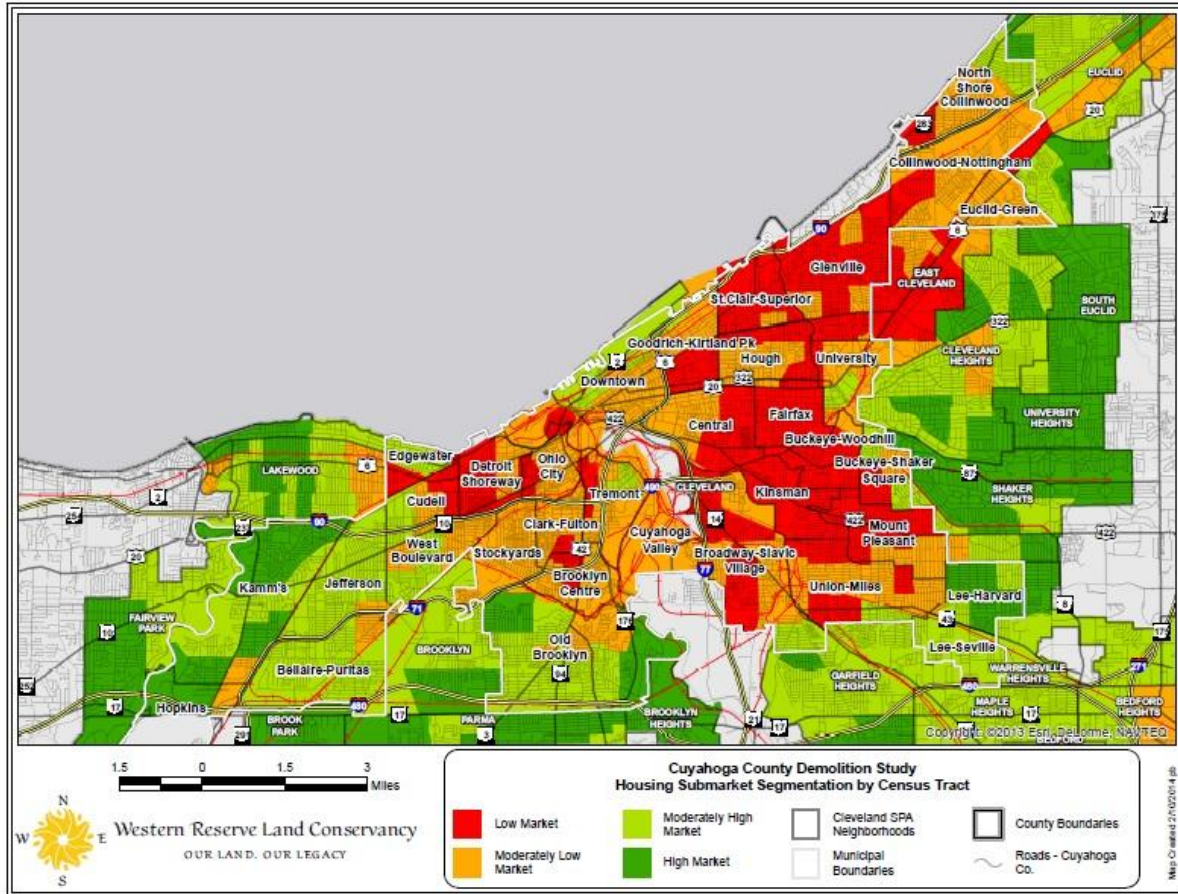
**Photo: Home in Ohio City, Courtesy of Plain Dealer**

While the reasons for this remain unclear, one possible interpretation relates to the market turnaround happening in select Weak Functioning Market neighborhoods. Specifically, the area is comprised of census tracts within the revitalizing districts of Ohio City, Tremont, University Circle, Detroit Shoreway, Asia Town, Collinwood, Downtown, Shaker Square, and Lakewood (See Figure 2). The population decline has leveled off in these tracts, going from 50,663 in 2000 to 48,798 in 2010. Conversely, the number of residents 25 and older with at least a bachelor's degree has increased by 25%. The median gross rent has climbed from \$440 to \$600.

For those on the ground, the revitalization has meant rehabilitations have become the norm, not the exception. "Over the last several years market demand has sped up substantially," notes Ohio

City Inc. director Eric Wobser. “Now, when distressed property comes on line, we see it is as an opportunity for housing stock upgrading, not a liability”.

Returning to the study’s finding, it is possible that demolitions in areas of emergent demand are removing equity because the value of rehabilitated housing is being replaced by a vacant lot, or "blight light". While this interpretation is not verified by the data, the study opened the door to the possibility that areas of Cleveland’s urban core can and should be stewarded by market strength.



**Figure 2: Map of Submarkets for Cleveland Neighborhoods**

**Extremely Weak Functioning Market Areas:** The Extremely Weak Functioning Market areas largely consist of predominantly African American neighborhoods on Cleveland’s East Side, including the areas of St. Clair-Superior, Kinsman, Fairfax, Glenville, Broadway/Slavic Village, and the suburb of East Cleveland. The communities in the market have experienced significant population decline from 2000 to 2010, with a loss of nearly 43,000 people—a decline of 38%. This outmigration, coupled with predatory lending practices, has created for an oversupply of housing that has become resistant to market correction. The average sales price for a home in the market was approximately \$22,000.



The amount of housing distress within the Extremely Weak Functioning Market is an indication of this market failure. For example, the study showed that the average citizen is surrounded by 18 vacant lots, 8 vacant homes, 3 mortgage-foreclosed homes, 15 tax-delinquent homes, and 7 tax-delinquent vacant homes. Again, the amount of distress has devalued the market's area to a "floor" point, meaning the distressed properties *did not* significantly affect a home's price. Thus, the 2,944 demolitions that took place—accounting for nearly half of all demolitions in the study area—did not retain nearby equity in the market. Again, the results were not unexpected.

Stepping back for a moment, it is important to revisit the demographic and housing dynamics that has led to this devaluation in the Extremely Weak Functioning Market. What has happened is outmigration from the urban core without population "backfill". The concept of "backfill" is important, as all cities, even successful ones, experience outmigration, but growing metros have arrivers that re-occupy older, core stock. When this doesn't occur, as in the Rust Belt, oversupply occurs, prices adjust, and the best housing stock fills first. This process leaves the oldest and lowest-quality housing to be "filtered" out of stock into vacancy, disrepair, and, if funds are available, eventual demolition.

To stop decline in hardest-hit communities means, to a large extent, reducing supply. "[D]emolition is a painful, but necessary reality in America's older cities," writes Brookings housing expert Alan Mallach. "The excess of building supply over demand, and the harm done by the continuing presence of vacant, abandoned buildings, admits of no other solution"<sup>2</sup>.

While demolition does not provide an immediate fiscal pay-off in the lower markets, it likely will in the long run given that it is the oversupply that has dragged down the market. Economics 101 shows as supply increases the price point declines. Also, as was stated, when oversupply tips to rampant abandonment it affects a community's desirability, meaning more outmigration, more supply, etc. This hardly means that the future of the area is an urban prairie. That is hardly the case. After all, the market exists in the region's burgeoning health tech corridor: *the driver in the region's emerging knowledge economy*. As such, the communities are in many respects primed for economic growth. Smart, strategic reinvestment in the area's urban fabric will help these communities get there.



**Photo: Hough resident and urban farmer Mansfield Frazier near cleared land in the Health Tech Corridor, Courtesy of Plain Dealer**

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<sup>2</sup> See: Mallach (2013). Laying the Groundwork for Change: Demolition, urban strategy, and policy reform. A Brookings report.

This gets at a fact often misunderstood in policy circles: demolition is a tactic, not a strategy. It is an effective, needed tactic, but one that needs to be nested into a strong, regional vision. Continues Alan Mallach:

*“The goal of every legacy city with respect to its land inventory should be to achieve a balance of supply and demand to ensure a productive use—whether through development or green uses such as open space or farming—for every parcel in the city, and that those uses compliment the city’s overall strategy for revitalization”.*

In other words, demolition, while a prerequisite in many areas, is part and parcel of a revitalization framework, not revitalization in itself. Pairing demolition with initiatives that match the asset landscape of each of the Cleveland markets is the challenge of the decade for Cleveland-area leaders. To see this challenge clearly we need to invest in a Cleveland for tomorrow, and not be chained to the ideas of a Cleveland in the past. The study by Griswold et al. is a necessary step to get there.

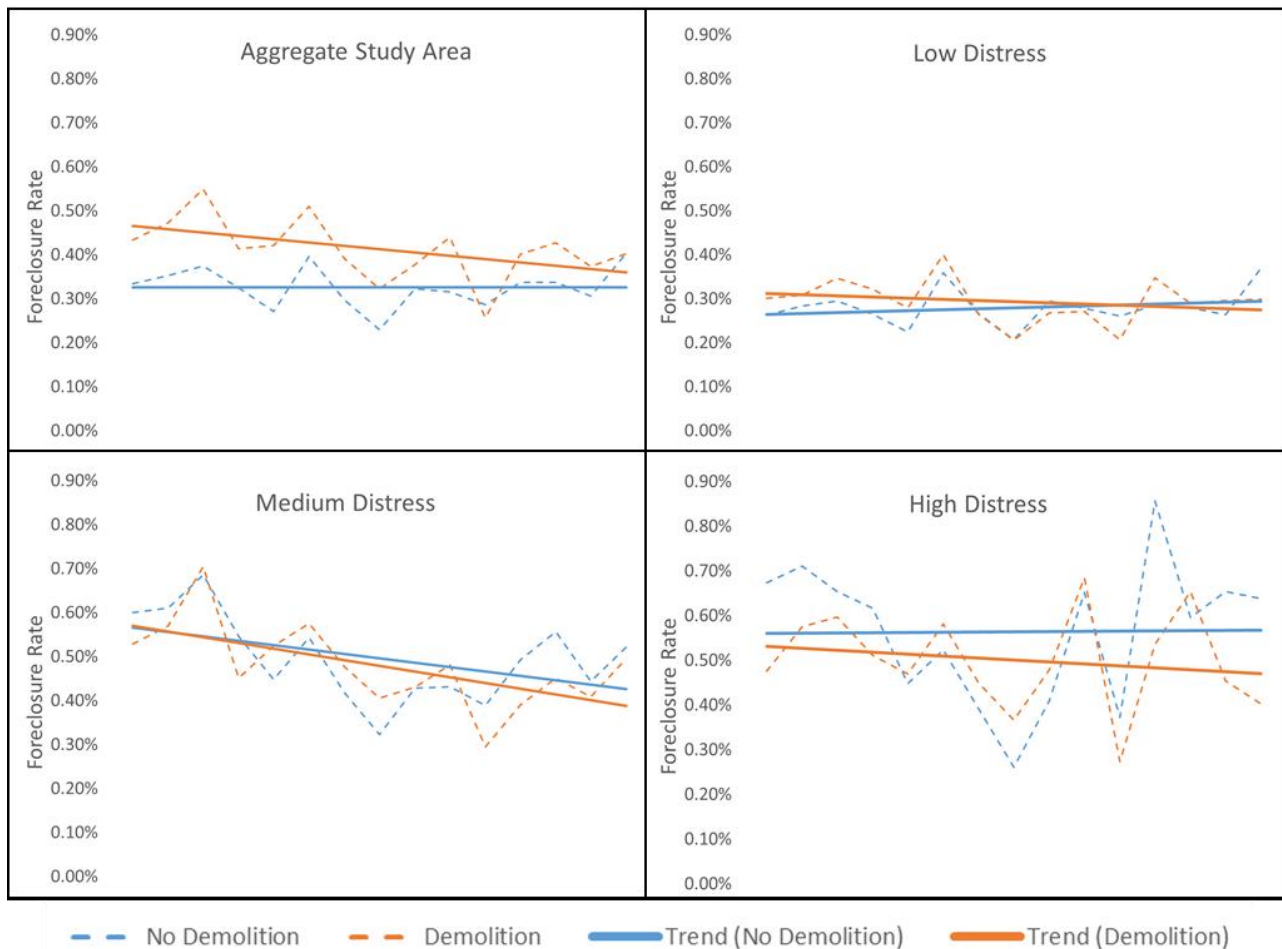
### Results and Interpretation of Findings for Question 3 (Part 2 of Analysis)

The final question examined by Griswold et al. looked at whether or not demolition of distressed properties had an intervening effect on a neighborhood’s mortgage foreclosure rate.

Why would this be the case?

In the recent study “Why Are Foreclosures Contagious?”<sup>3</sup>, the author showed that people tend to let homes fall into disrepair when prices fall and the risk of mortgage foreclosure increases. Increased distress can act a disincentive to others when it comes to home improvement, thus depressing area home prices further. Eventually, a feedback loop happens where distress leads to devaluation which can lead to an increased risk of falling behind on one’s mortgage. The logic behind question 3, then, is this: can demolition act as an intervention to “cut” this feedback loop?

Figure 3 Cleveland Area Foreclosure Rates with and without Demolition



In their examination, the authors, using a technique called “pattern-based analysis”, tested to see if foreclosure rates declined at a faster rate in neighborhoods where demolition of distressed properties occurred as opposed to neighborhoods where no demolition took place was

<sup>3</sup> See: [http://www.fsurealestate.com/downloads/5\\_FSU-UF%20Why%20Are%20Foreclosure%20Contagious%20-%20Li.pdf](http://www.fsurealestate.com/downloads/5_FSU-UF%20Why%20Are%20Foreclosure%20Contagious%20-%20Li.pdf)

undertaken. Griswold et al. found that an increase in demolition activity was associated with a decrease in an area's mortgage foreclosure rate. Also, as evidenced by Figure 5, the analysis showed that, in contrast with Part 1, the largest impacts were found in neighborhoods with the highest distress. The authors conclude that the "findings suggest that demolition activity in a given area is likely to be a preventative measure of future mortgage foreclosure in that area", but caution that this "cause and effect relationship [while] reasonably implied...is not proven".

Nonetheless, the preliminary findings proved beneficial during recent high-level proceedings between Greater Cleveland land use specialists and political representatives with officials from the White House and Federal Treasury. At stake was access to federal funds for demolition to deal with a regional crisis that has been referred to as the Rust Belt's "slow motion Katrina". The data, paired with intense lobbying efforts, facilitated administrative action to free up millions of dollars from the more than \$29 billion that remains unspent from the Troubled Asset Relief Program's (TARP) Hardest Hit Fund. To date, Michigan will receive \$100 million for demolition, whereas Ohio's seventeen county land banks will split \$60 million<sup>4</sup>.

Of course, given the glut of distressed properties, the latest allocation of funds is not enough. Hopefully, information gleaned from the current analysis can further advance a regional cause that can get our communities out from this "sea of distress"—and the mortgages out from "underwater".

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<sup>4</sup> See: <http://www.ohiohome.org/newsreleases/rlsHHFvacantproperties.aspx>