

# Measuring the Effect of Vacant Lots and Green Infrastructure Improvements on Home Values in Allegheny County, 2012-2014

Tri-COG Collaborative



# Acknowledgements

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## Executive Summary

For decades regions of Allegheny County served as economic engines that drove the national economy. In the early 1900's the region was responsible for half of the nation's steel production and was a leader in coal production. In the latter half of the twentieth century, many different communities throughout Allegheny County began to lose their industrial base with the closure of steel plants and coal product facilities. Beginning in the 1960's the population of Allegheny County sharply declined. Many communities lost over 50% of their population since the peak with some having lost as much as 70%. The exodus of industry and people led to a decline in municipal tax revenue. After decades of disinvestment, the spread of blight created strain on municipal services to address decaying infrastructure.

The Tri-COG Collaborative (TCC) is a group comprised of the 40 municipality members of the Steel Rivers Council of Governments (formerly Steel Valley and Twin Rivers COGs) and Turtle Creek Valley Council of Governments in Allegheny County. Due to the significant problems created by vacant, blighted and abandoned properties in the region, the first project of the TCC was to quantify the costs of blight in their communities. In 2013, the collaborative released an analysis titled, *The Financial Impacts of Blight*, which determined that the effect vacant and blighted residential structures have on communities is staggering. In 2012, the direct costs to municipal services, which include police, fire, public works, and code enforcement, was approximately \$10.7 million per year and the revenue lost due to tax delinquency was approximately \$8.6 million. Additional millions of dollars are lost each year due to property devaluation as a result of proximity to blighted properties. This loss in value was estimated to be \$220 million in the TCC region in 2012. Demolition has become a primary strategy to deal with residential blight brought on by decades of disinvestment. While demolition may have removed the decaying property, new health and safety issues as a result of unmaintained land, such as rodents and invasive weeds, need to be addressed by communities.

The *Financial Impacts of Blight* revealed the negative effects blighted properties have on residential property values; however the quantifiable effect of blighted residential lots has not yet been analyzed in Allegheny County. This study seeks to determine the effects of stable vacant lots, blighted vacant lots, and green infrastructure improvements on residential property values in Allegheny County. Vacant lots were identified using Allegheny County parcel data and filtered to ensure the lots studied were residential. Tax delinquency through Allegheny County's Treasures' data was used as a proxy for the blighted vacant lot study variables. Lastly, a number of community groups were surveyed to gather data related to green infrastructure improvements locations throughout the county.

A hedonic regression analysis was employed, using regional sales data, to determine the three study variables effects on residential sales prices. The results indicate that these three study variables affect residential property values differently in different submarkets. The analysis looks at five submarkets, High, Moderately High, Average, Moderately Low and Low. In every model, except the High submarket which had too few sites to adequately measure an effect, stable vacant lots are estimated to **increase** surrounding home values between 1.1% in Low submarkets and as high as 2.8% in Moderately Low submarkets. **On average across Allegheny County, stable vacant lots are estimated to increase surrounding home values by 1.6%** which suggests that maintaining properties has a positive effect on communities.

### Stable Vacant Lots

Submarket	Effect on Home Values
High Submarket	Not statistically significant
Moderately High Submarket	+ 1.5%
Average Submarket	+ 2.2%
Moderately Low Submarket	+ 2.8%
Low Submarket	+ 1.1%
Pooled	+ 1.6%

In every model, blighted vacant lots are estimated to **decrease** surrounding home values between 3.8% in Low submarkets and as high as 11.5% in Average submarkets. **On average across Allegheny County, blighted vacant lots are estimated to decrease surrounding home values by 6.0%.** Therefore, efforts to eliminate blight will financially benefit communities.

### Blighted Vacant Lots

Submarket	Effects of Home Values
High Submarket	- 7.6%
Moderately High Submarket	- 5.3%
Average Submarket	- 11.5%
Moderately Low Submarket	- 10.6%
Low Submarket	- 3.8%
Pooled	- 6.0%

Unfortunately there was a lack of a conclusive trend on property values for green infrastructure improvements within individual sub-markets. This lack of observed trend might stem from the limited number of sites included in the models, because there is limited data available. However, a statistical test was completed which concludes across Allegheny County green infrastructure improvements have a more positive effect than blighted vacant lots in terms of housing values, meaning that **installing green infrastructure on a blighted vacant lot will increase nearby property values.**

These results were then expanded to determine the compounding effects of the study variables throughout Allegheny County. The expanded studies indicate that across Allegheny County stable and maintained residential vacant lots add an estimated \$234,394,760 in property values to surrounding homes, while blighted and unmaintained lots decrease values by an estimated \$424,162,631. At the end of 2014, there were 5,466 blighted residential vacant lots affecting 88,952 or 22.9% of households throughout Allegheny County. These affected homes are assessed at \$6,021,317,048 and are currently undervalued due to the surrounding blighted lots. **Across Allegheny County, on average, efforts to simply stabilize these blighted lots would increase home values by 7.6%. Differently stated, if these blighted lots were turned into stable residential lots there would be an estimated increase of \$457,620,095 in property value created which translates to roughly \$5,145 per affected house.**

This analysis has demonstrated that positive increases in neighboring residential property values occur when vacant lots are simply maintained. The study also revealed that blighted vacant lots have negative effects on residential property values. Therefore, green improvements to a blighted vacant lot will have a positive effect. Furthermore, investment in green infrastructure on blighted lots in low, moderately low, and average submarkets has the highest financial benefit to communities.